Presented by J. Fleming —
his friend Kirkman Finl

THE
GARDENER'S AND BOTANIST'S
DICTIONARY;

CONTAINING
THE BEST AND NEWEST METHODS OF CULTIVATING AND IMPROVING THE
KITCHEN, FRUIT, AND FLOWER GARDEN, AND NURSERY;
OF PERFORMING THE
PRACTICAL PARTS OF AGRICULTURE;
OF MANAGING VINEYARDS,
AND
OF PROPAGATING ALL SORTS OF TIMBER TREES.

BY THE LATE
PHILIP MILLER, F.R.S.
GARDENER TO THE WORSHIPFUL COMPANY OF APOTHECARIES AT THEIR BOTANIC GARDEN IN CHELSEA,
AND MEMBER OF THE BOTANIC ACADEMY AT FLORENCE.

TO WHICH ARE NOW FIRST ADDED,
A COMPLETE
ENUMERATION AND DESCRIPTION OF ALL PLANTS HITHERTO KNOWN,
WITH THEIR
GENERIC AND SPECIFIC CHARACTERS,
PLACES OF GROWTH, TIMES OF FLOWERING, AND USES BOTH MEDICINAL
AND ECONOMICAL.
THE WHOLE CORRECTED AND NEWLY ARRANGED,
WITH THE ADDITION OF ALL THE MODERN IMPROVEMENTS IN LANDSCAPE GARDENING, AND IN THE
CULTURE OF TREES, PLANTS, AND FRUITS,
PARTICULARLY IN THE VARIOUS KINDS OF HOT HOUSES AND FORCING FRAMES:
WITH PLATES EXPLANATORY BOTH OF THEM, AND THE PRINCIPLES OF BOTANY.

BY
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IN TWO VOLUMES.

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ABELE-TREE. See *Populus.*

Abelmoschus. See *Hibiſcus.*

Abĭes. See *Pinus.*

[Ablanĭa. See *Trichocarpus.*

ABRŌMA (α and βρωμα, *no food, not fit for food.* In oppoſition to *Theobroma,* with which it ranks in the ſyſtem.)

Lin. gen. edit. Schreb. n. 1217. *Jacqu. hort.* 3. *t.* 1. *Gærtn. t.* 64. *Juſſ.* 276.

Ambroma *Lin. ſuppl.* 54.

Claſſ. 18. 2. Polyadelphia Dodecandria.

Nat. order of *Columniferæ. Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* lanceolate, acute, ſpreading, permanent.

Cor. *Petals* five, larger than the calyx: *claws* obovate, arched, concave, obtuſe, hairy at the end, erect, inſerted at the baſe into the nectary: *borders* oval, obtuſe, ſpreading, ciliate, contracted at the baſe into very ſhort, ciliate, recurved little claws, on which the principal claws are placed.

Nectary, ſhort, ſmall, pitcher-ſhaped, divided into five ſegments, which are obcordate, hairy, erect, recurved and arched, alternate with the claws of the petals.

Stam. *Filaments* five, membranaceous, very ſmall, growing on the nectary between the ſegments, emarginate-trifid. *Anthers* on each filament three, twin, kidney-form.

Pist. *Germ* ſubcylindrical. *Styles* five, ſubulate, approximating. *Stigmas* acute.

Per. *Capſule* ovate, membranaceous, veined, five-winged, five-beaked, five-celled, gaping at top into five parts between the beaks: *partitions* folded.

Seeds very many, ſubovate, within an oblique membranaceous aril, fixed in a double row to the central edge of the partitions, which is thickened and longitudinally bearded. *Receptacle of the ſeeds* none.

ESSENTIAL CHARACTER.

Piſtils five. *Capſule* five-celled, one-valved, gaping at top. *Seeds* ſubovate, incompletely arilled.

SPECIES.

1. Abroma auguſta. *Maple-leaved Abroma.*
Lin. ſyſt. 696.
A. faſtuoſum. *Jacqu. hort.* 3. *t.* 1. *Gærtn. fruct.* 307.
Ambroma auguſta. *Lin. ſuppl.* 341. *Ait. hort. kew.* 3. 99.
Theobroma auguſta. *Lin. ſyſt. ed.* 13. 580. *Mill. illuſtr.*
Althæa Luzonis peregrina altera. *Camel. luz.* 12. *n.* 23. in *Ray hiſt.* 3. *app. Petiv. gaz. t.* 102. *f.* 8.
Leaves cordate, or *angular, ſharply ſerrulate.*

2. Abroma Wheleri. *Wheler's Abroma.*
Retz. obſ. 5. *n.* 72.
Leaves ovate-lanceolate acuminate ſlightly toothed.

DESCRIPTIONS, &c.

1. *Maple-leaved Abroma* is a tree, with a ſtraight trunk, yielding a gum when cut, and filled with a white pith, like the Elder. Some of the leaves are heart-ſhaped and acuminate; others, eſpecially almoſt all of the firſt year, are angular, and have five or ſeven lobes, which are acute, and the anterior ones moſt produced; they are all veined, alternate, green on both ſides, but paler underneath, and the petioles are round. The whole plant is covered with ſtiff, whitiſh, ſhining, decumbent briſtles, ſcarcely viſible to the naked eye, eaſily ſeparating, and ſticking to the hands, but harmleſs. The peduncles are generally bifid, and bear two flowers. There is one ſtipule on each ſide to every petiole; but four at the diviſion of the peduncles, lanceolate and acute. The flower nods, is elegant, but has little ſmell. The corolla is of a dark purple. The time of flowering is from june to october. In ſeptember and october the fruit ripens, and the peduncle is erect *.

It is a native of New South-Wales and the Philippine iſlands; and was introduced here about 1770 †.

* Jacquin.

† Hort. kew.

2. The ſecond is a ſhrub with a brown bark; the extreme branches tomentoſe. Leaves alternate, ſome having a few teeth about the edge, others entire; the nerves are tomentoſe. Peduncles oppoſite to the leaves, having one joint, curved back and woody when bearing fruit: they have an involucre conſiſting of ſeveral lanceolate, deciduous leaflets. The flowers are of a duſky purple colour. Nectary bearded on each ſide with parallel hairs; the inner one conſiſting of obcordate ſcales. Anthers in threes, ſitting in the ſinuſes between the diviſions or ſcales of the inner nectary. Capſule large, with five membranaceous valves. Receptacle five-parted, bearded, faſtened to the ſutures of the valves. Seeds ovate, dark coloured, ſcabrous with raiſed points. Native of the Eaſt-Indies, where it was obſerved by Koenig[*], who gave it the trivial name in compliment to Edward Wheler, Eſq. Member of the Supreme Council in Bengal.

PROPAGATION AND CULTURE.

The firſt ſort requires the protection of a hot-houſe; and is propagated here by cuttings. The ſeeds will not eaſily ripen with us, and ſeldom arrive in a ſtate fit for vegetation, unleſs great care be taken of them. The plant requires a ſtrong heat, and abundance of water. The ſecond is not known in Europe.]

Abrotanoīdes. See *Artemiſia*, *Protea*, and *Seriphium*.

Abrotănum. See *Artemiſia*, *Eriocephalus*, *Santolina*, and *Tanacetum*.

ABRUS (Αϐρος, *ſoft, delicate*; from the extreme tenderneſs of the leaves. Hence Prior has invented the name of *Abra* for Solomon's favourite miſtreſs.) *Lin. gen. Reich. n.* 924. *Schreb. n.* 1162. *Juſſ.* 357. *Gærtn.* 151.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Leguminoſæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, obſcurely four-lobed: *teeth* blunt, the upper one broader than the reſt.

Cor. Papilionaceous. *Banner* roundiſh, entire, aſcending, flatted at the ſides, longer than the wings and keel. *Wings* oblong, blunt. *Keel* oblong, ſickle-ſhaped, gibbous, longer than the wings.

Stam. *Filaments* nine, united into a ſheath, cloven above, free at the end, unequal, riſing. *Anthers* oblong, erect.

Pist. *Germ* cylindrical, hairy. *Style* ſubulate, riſing, ſhorter than the ſtamens. *Stigma* in form of a head, and ſmall.

Per. *Legume* like a rhomb, compreſſed, coriaceous, bivalved, four or five-celled, acuminate, with a little, ſubulate, deflex claw.

Seeds ſolitary ſubgloboſe.

ESSENTIAL CHARACTER.

Cal. obſcurely four-lobed: the upper lobe broadeſt. *Filaments* nine, united into a ſheath at bottom, gaping at the back. *Stigma* blunt. *Seeds* ſubgloboſe.

SPECIES.

1. Abrus precatorius. *Jamaica Wild Liquorice.*
Lin. ſyſt. p. 641. *Reich.* 3. 393. *Loureiro cochinch.* 428. *Gærtn. fruct.* 2. 328.
Glycine Abrus. *Lin. ſpec.* 1025. *Mill. dict. n.* 3. *Brown. jam.* 297. 1.
Abrus *Rumph. amb.* 5. *p.* 57. *t.* 32.
Konni *Rheed. malab.* 8. *p.* 71. *t.* 39.
Phaſeolus *Sloan. jam.* 1. *p.* 180. *t.* 112. *f.* 4, 5, 6. *Pluk. alm. t.* 214. *f.* 5, 6.
Ph. ruber, Abrus vocatus. *Alp. ægypt. t.* 32, and 76. *t.* 77.
Orobus americanus, fructu coccineo, nigra macula notato. *Tourn. inſt.* 393.

DESCRIPTION, &c.

The *Abrus* grows naturally in both Indies, Guinea and Egypt. [It was alſo found by the late circumnavigators in the Society iſlands, about the year 1769.] This is a perennial plant, with ſlender ſhrubby, twining, branching ſtalks, by which it will riſe to the height of eight or ten feet. The leaves are pinnate, ending abruptly, and have from twelve to ſixteen pairs of ſmall, ſmooth, oblong, blunt leaflets, ſet cloſe together; theſe have the taſte of liquorice, whence the inhabitants of the Weſt-Indies have given it the name of Wild Liquorice, and they uſe the herb for the ſame purpoſe as we do the liquorice in Europe. The flowers are produced from the ſide of the ſtalks in ſhort ſpikes or bunches; they are of a pale purple colour, and ſhaped like thoſe of the kidney-bean; theſe are ſucceeded by ſhort ſmooth pods, each containing three or four hard ſeeds, very ſmooth, of a glowing ſcarlet colour, with a black ſpot or eye on that ſide which is faſtened to the pod.

[The legume or pod is ſometimes of an oblong form, and contains ſix ſeeds, ſcarce apparently divided by a membrane, which indeed frequently diſappears as the pods ripen[*].]

There are two varieties, one with a white, and the other with a yellow ſeed; but theſe do not differ from the former in leaf or ſtalk.

The ſeeds of this plant are commonly ſtrung, and worn as ornaments by the natives of thoſe countries where the plant grows wild: they are frequently brought to Europe from Guinea, and the Eaſt and Weſt-Indies, and wrought into various forms with other hard ſeeds, and ſhells. [A few years ſince an attempt was made, both at London and Paris, to introduce them into ear-rings and other female ornaments, but without much ſucceſs. This, like moſt others, was only the revival of a faſhion which prevailed for a ſhort time in Holland, at the latter end of the laſt century. In their native countries they are commonly uſed for weighing precious commodities; they are alſo ſtrung as beads for roſaries; whence the trivial name of *precatorius*. They are frequently thrown, with other Weſt-Indian ſeeds on the north-weſt coaſt of Scotland. Linneus affirms that they are extremely deleterious. I cannot find any authority for an aſſertion very improbable in itſelf, if we conſider the nature of legumes in general. They are eaten in Egypt; but authors agree that they are the hardeſt and moſt indigeſtible of the pulſe tribe, occaſioning violent flatulencies in the bowels. Abrus was accounted a ſpecies of Glycine, until Linneus made it a ſeparate genus in the twelfth edition of his *Syſtema Vegetabilium*, on account of a difference in its ſtature and appearance from the other ſpecies. The Abrus was cultivated before 1680, by Biſhop Compton, at Fulham[†].]

PROPAGATION AND CULTURE.

This plant is propagated by ſeeds, which muſt be ſown upon a good hot-bed in the ſpring; but as the ſeeds are very hard, unleſs they are ſoaked in water twelve or fourteen hours before they are ſown, they frequently lie in the ground a whole year before they vegetate; but when ſoaked, the plants will appear in a fortnight, if the ſeeds be good, and the bed in a proper temperature of heat. When the plants are two inches high, they ſhould be tranſplanted each into a ſeparate pot, filled with light earth, and plunged into a hot-bed of tanner's bark, where they ſhould be ſhaded from the ſun until they have taken new root; after which they muſt be treated in the ſame manner as other tender plants from the ſame countries, always keeping them in the bark ſtove. They will flower the ſecond year, and ſometimes ripen their ſeeds in England.

Absinthĭum. See *Artemiſia*, *Achillea*, *Anthemis*, *Parthenium*, *Senecio*, *Tanacetum*.

Absus. See *Caſſia*.

Abutĭlon. See *Hibiſcus*, *Melochia*, *Malva*, *Napæa*, *Sida*.

Acacĭa. See *Guilandina*, *Guaiacum*, *Mimoſa*, *Poinciana*, *Spartium*.

Acacia, falſe. See *Robinia*.

Acacia, three-thorned. See *Gleditſia*.

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[*] Retz. obſ.

[*] Gærtner.

[†] Hort. kew.

[ACÆNA. (Ακαινα, *a thorn.*)
Lin. Gen. Reich. n. 173. *Schreb. n.* 218. *Juſſ.* 336.
Claſſ. 4. 1. Tetrandria Monogynia.

GENERIC CHARACTER,

CAL. *Perianth* four-leaved: *leaflets* ovate, concave, equal, permanent.

COR. none, *unleſs the calyx be termed as ſuch.*

STAM. *Filaments* equal, of middle length, oppoſite to the calyx. *Anthers* quadrangular, twin, erect.

PIST. *Germ* inferior, obovate, hiſpid. *Style* very ſmall, bent in on one ſide. *Stigma* a ſmall, many-cleft, thickiſh, coloured membrane.

PER. a dry, obovate, one-celled *berry*, beſet with ſpines bent backwards.

SEED ſingle.

OBS. *According to the* Syſtema, *the corolla is four-petalled: and if the two bractes under the germ be taken for the calyx, then the calyx may be conſidered as the corolla.*

ESSENTIAL CHARACTER.

Cal. four-leaved. *Cor.* four-petalled. *Berry* dry, inferior, one-ſeeded, with ſpines bent backwards.

SPECIES.

1. Acæna elongata.
Lin. mant. 200. *ſyſt. p.* 165. *Reich.* 1. 345.

DESCRIPTION.

Acæna is a Mexican plant. Perennial, woody, very branching; branches very long. *Stems* many, ſhrubby, rather erect, two feet high. *Leaves* pinnate, ſcattered, ſheathing; leaflets ſeſſile, approximating, pubeſcent underneath: the firſt pairs very ſmall, linear, acute, quite entire; from four to eight large pairs, oblong, ſerrate; the ſerratures bearded at the end. *Spikes* axillary, ancipital, erect, a little rigid, ſix or ſeven inches long. *Bractes* ovate-oblong, concave, ſo near the calyx as eaſily to be taken for a part of it. Flowers ſubſeſſile, alternate *.

ACAJOU and ACAJUBA. See *Anacardium.*]

ACALYPHA. (Ακαλήφη *Theophr.* and *Dioſcor.* παρὰ τὸ μὴ ἔχειν καλὴν αφὴν: *not being pleaſant to handle.*)
Roy. Lin. gen. 1082. *Reich.* 1180. *Schreb.* 1461. *Gærtn. t.* 107. *Juſſ.* 390.
Ricinocarpos (*Tick-fruit*) *Boerh.* and *Burm.*
Claſſ. 21. 8. Monoecia Monadelphia.
Nat. order of *Tricoccæ. Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male* flowers crowded above the females.

CAL. *Perianth* three or four-leaved: *leaflets* roundiſh, concave, equal.

COR. none.

STAM. *Filaments* eight to ſixteen, ſhort, crowded, connected at the baſe. *Anthers* roundiſh.

* *Female* flowers fewer, below the others, received into a large divided involucre.

CAL. *Perianth* three-leaved: *leaflets* ſubovate, concave, converging, ſmall, permanent.

COR. none.

PIST. *Germ* roundiſh. *Styles* three: branching, uſually three-parted, long. *Stigmas* ſimple.

PER. *Capſule* roundiſh, three-furrowed, three-celled: the valves gaping two ways.

SEEDS ſolitary, roundiſh, very large.

ESSENTIAL CHARACTER.

MALE. *Cal.* three or four-leaved. *Cor.* none. *Stam.* eight to ſixteen.

FEMALE. *Cal.* three-leaved. *Cor.* none. *Styles* three. *Capſule* three-grained, three-celled. *Seed* one.

SPECIES.

1. Acalypha virginica. *Virginian Acalypha.*
Lin. ſpec. 1423. *Reich.* 4. 182. *Hort. upſ.* 290. *Fl. zeyl. n.* 342. *Gærtn. fruct.* 2. 116.
Mercurialis tricoccos hermaphroditica. *Pluk. phyt. t.* 99. *f.* 4. *Herm. lugdb. t.* 687.
Female involucres heart-ſhaped gaſhed: leaves ovate-lanceolate longer than the petiole.

2. Acalypha virgata. *Jamaica Acalypha.*
Lin. ſpec. 1423. *Reich.* 4. 182. *Amæn.* 5. 410.
A. humilior, &c. *Brown. jam.* 346. *t.* 36. *f.* 2.
Female ſpikes with involucres heart-ſhaped, ſerrate; male ones diſtinct, naked: leaves lanceolate-ovate.

3. Acalypha indica. *Indian Acalypha.*
Lin. ſpec. 1424. *Reich.* 4. 183. *Fl. zeyl. n.* 341.
Merc. zeylanica tric. cum acetabulis. *Herm. lugdb. t.* 687. *Raii hiſt.* 1854. *ſuppl.* 107, 108.
Cupameni. *Rheed mal.* 10. *p.* 161. *t.* 81.
Female involucres heart-ſhaped ſlightly notched: leaves ovate ſhorter than the petiole.

[4. Acalypha villoſa. *Villous Acalypha.*
Lin. ſuppl. p. 422. *Jacqu. amer. p.* 254. *hort.* 3. *p.* 26. *t.* 47.
Female involucres very ſmall, toothed and extremely villous; ſpikes elongate: leaves ovate pointed ſerrate, longer than the petiole.

5. Acalypha auſtralis. *South-American Acalypha.*
Lin. ſpec. 1424.
Ricinoides caſtaneæ folio. *Plum. ſpec.* 20.
Female involucres quite entire: leaves lanceolate obtuſe.

Species from Swartz prodr. 99.

6. Acalypha hernandifolia.
Female ſpikes very long, involucres cordate ſerrate; males diſtinct naked: leaves ſubcordate ſerrate, on very long petioles.

7. Acalypha corenſis.
Jacqu. amer. 254. *t.* 161.
Female flowers terminating diſtinct, involucres three-leaved; male ſpikes axillary, involucred: leaves ovate ſerrate.

8. Acalypha lævigata.
Female ſpikes with many-parted involucres; male ſpikes lax naked: leaves wedge-ovate acuminate ſerrulate very ſmooth.

9. Acalypha elliptica.
Female ſpikes with involucres ſhorter than the germs, ovate toothed hirſute; males naked lax: leaves elliptic acuminate toothed.

10. Acalypha reptans.
Urtica minor iners ſpicata, &c. *Sloan. jam.* 1. 125. *t.* 82. *f.* 3.
Spikes terminating erect, flowers mixed, females lower; involucres cordate ſerrate; males leafleſs: leaves ovate ſerrate: ſtem creeping.

11. Acalypha tomentoſa.
Female ſpikes terminating ſolitary, involucres many-parted; males erect: leaves ovate-lanceolate ſerrate ſcabrous villous-tomentoſe underneath.

12. Acalypha anguſtifolia.
Female flowers ſubſeſſile terminating, involucres ſerrate; males in ſpikes: leaves linear ſerrate.

13. Acalypha ſcabroſa.
Female ſpikes with cordate gaſhed involucres: leaves oblong-lanceolate ſerrate ſcabrous.

14. Acalypha betulæfolia.
Female flowers axillary ſeſſile, involucres cordate crenate; males in ſpikes: leaves roundiſh crenate ſmooth.]

DESCRIPTIONS, *&c.*

1. The firſt ſort grows naturally in Virginia, and ſeveral other parts of North-America; alſo in Ceylon. It is an annual plant, ſeldom more than a foot high, ſending out ſeveral ſide-branches towards the bottom: the leaves are very like thoſe of broad-leaved Pellitory of the wall: the flowers are produced in ſmall cluſters in july and auguſt: theſe make but a poor appearance, and reſemble thoſe of Pellitory ſo much, that they may eaſily be miſtaken for them at a little diſtance. [Cultivated 1759, by Mr. Philip Miller *.]

2. The ſecond is a native of the warmeſt countries, and grows plentifully in Jamaica. This is alſo an annual plant, which in England ſeldom exceeds the former in ſtature. The leaves greatly reſemble thoſe of the annual Nettle, and ſting full as much when touched.

3. Diſcovered in great plenty by Dr. Houſtoun, at La Vera Cruz. It is an inhabitant of marſhy places, and grows about three feet high, with an herbaceous ſtalk: leaves alternate, differing much in their figure; ſome plants having them long and narrow, others broad like thoſe of the Cheſtnut-tree,

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* Mant. from Mutis's MSS.

* Hort. kew.

and deeply veined. Theſe varieties ariſe from the ſeed of the ſame plant.

[Found alſo in the Eaſt-Indies upon dunghills, whence it has the name of *Kupamenija* (dung-loving.) It is annual. The ſtems are round, ſtriated, branching, a foot high: at the joints are roundiſh ſmooth leaves, which are ſlightly notched, and reſemble thoſe of Mercury; whence, and from the tricoccous capſule, theſe plants are called by ſome *Three-ſeeded Mercury* *.

A ſpike comes out from the axils with ſix, ſeven, or eight female flowers. The involucres are ſtem-claſping, each having one female flower, with male flowers terminating the ſpike †.

It was cultivated 1759, by Mr. Philip Miller, and flowers in july ‡.

4. Found by Mutis in the woods about Carthagena, where it flowers from may to auguſt. It is an erect branching ſhrub, often fifteen feet high. The flowers are very ſmall, in axillary ſpikes, thoſe of different ſexes on diſtinct branches: the male ſpike cloſe, cylindric, erect: the female very looſe; calyx five-leaved; three ſtyles, each bifid to the baſe §.

5. Is a native of South America.

6. &c. Are all natives of the Weſt-Indies. 11 and 12 are found in Hiſpaniola. 10 is found both there and in Jamaica. 7 was diſcovered by Jacquin.

The reſt are inhabitants of the iſland of Jamaica.

Some of theſe have probably been conſidered as varieties of the former ſorts. The *tenth* is variety β of Linneus's *Acalypha indica*. It is thus deſcribed by *Sloane*. Root large. Stems ſeveral, ſmall, procumbent. Leaves ſmall, without order, petioled. Flowers purple, with little white ones intermingled, in a ſpike an inch in length. After theſe follow ſeveral tricoccous heads, from green becoming reddiſh, rough on the outſide. In each of theſe are three roundiſh ſeeds, every one covered with a membrane.

The *ſeventh* is a ſhrub of ſix feet in height, upright, ſmooth and having runners. Leaves ſharp, ſmooth, alternate, two or three inches long, on very ſhort petioles. Spikes of male flowers looſe, erect, ſolitary, an inch in length: involucre tubulous, one-leafed, entire, uſually putting forth four one-flowered peduncles ſucceſſively. Calyx of the flowers, or proper involucre three-leaved; filaments uſually eight. Female flowers three or four, diſpoſed raceme-wiſe on a terminating, very ſhort, thick, common peduncle; without any common involucre. Perianth five-leaved. Styles three, bifid, permanent. Seeds angular.

Native of Domingo and Martinico; but moſt frequent on the confines of woods in Venezuela ‖.

The *fourteenth* is a ſhrub having very much the appearance of *Betula nana*. The leaves are about half an inch in length, and ſome of them almoſt as broad.

Retzius has a ſpecies which he names *Acalypha betulina*, found by Koenig in Ceylon, and planted in India for medical purpoſes. It is *Cauda felis agreſtis* of *Rumph. amb.* 4. 84. *t.* 37. The leaves of this are larger than thoſe of the common Birch, two inches long, and an inch and half broad, acuminate and deeply ſerrate, whereas thoſe of the former are only ſlightly crenate. They are placed on petioles from half an inch to an inch in length; which in the *betulæ folia* of Swartz are very ſhort.

Retzius's ſpecific character is this — *Shrubby; female involucres cordate crenate; leaves ovate acute ſerrate.* It grows to the height of a man; the branches are round, with a brown bark inclining to aſh-colour. The aments axillary and tomentoſe; the involucre, where there is any, embraces the rachis; and within this are two or three tomentoſe female flowers, having three long ſtyles, which are many-parted, not three-parted; and ſeveral male flowers above the females. It has an aromatic odour *.]

PROPAGATION AND CULTURE.

Theſe plants have no beauty to recommend them, and are preſerved only in ſome botanic gardens for the ſake of variety.

1. If the ſeeds are permitted to ſcatter, the plants will come up in the ſpring, better than if ſown by hand; and if they are not put into the ground in autumn, they rarely grow the firſt year. All the culture this plant requires, is to keep it clear from weeds, and to let it remain where it was ſown, for it does not bear removing well. It flowers in auguſt, and the ſeeds ripen in october.

2. Is too tender to thrive in the open air in England, therefore the ſeeds ſhould be ſown in pots, plunged into a hot-bed; and if the plants do not come up the firſt year, which often happens, the pots ſhould be put under ſhelter in winter, and the following ſpring plunged again into a hot-bed, which will bring up the plants: theſe muſt be tranſplanted into other pots, and brought forward in hot-beds, otherwiſe they will not produce ripe ſeeds.

[3. May be treated like the ſecond: in a ſtove it will flower, and in ſeptember perfect the ſeeds.

4, 5, &c. Have not yet been introduced, but will require the ſame treatment with the ſecond and third.

ACANGA. See *Bromelia*.

ACĂNOS. } See *Onopordum*.
ACANTHĬUM. }

ACANTHOĪDES. See *Carlina*.

ACANTHUS. (Aκανθα, *a thorn.*)

Tournef. 80. *Lin. gen. n.* 793. *Reich.* 857. *Schreb.* 1065. *Gærtn. t.* 54. *Juſſ.* 103.

Claſſ. 14. 2. Didynamia Angioſpermia.

Natural order of *Perſonatæ*. *Acanthi* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* with leaflets in three alternate pairs, unequal, permanent.

COR. one-petalled unequal: *tube* very ſhort, cloſed with a beard: *upper lip* none: *under lip* very large, flat, ſtraight, very broad, three-lobed, obtuſe, the length of the upper lip of the calyx.

STAM. *Filaments* four, ſubulate, ſhorter than the corolla, the two upper rather longer, recurved, incurved at the top. *Anthers* oblong, compreſſed, obtuſe, the lateral ones parallel, villous before.

PIST. *Germ* conical. *Style* filiform, length of the ſtamens. *Stigmas* two, acute, lateral.

PER. *Capſule* ſubovate with a point, two-celled, two-valved; with a contrary partition: *claws* alternate, curved, faſtened to the partition.

SEED ovate, gibbous, ſingle; ſometimes two.

ESSENTIAL CHARACTER.

Cal. two-leaved, bifid. *Cor.* one-lipped, bent down, trifid. *Capſ.* two-celled.

SPECIES.

1. Acanthus mollis. *Smooth Acanthus.*
   Lin. ſpec. 891. *Reich.* 3. 202. *hort. cliff.* 326. *upſ.* 181. *mat. med. n.* 346. *Gærtn. fruct.* 253. *Sabb. hort.* 3. *t.* 13.
   A. ſativus. *Bauh. pin.* 383. *Ger.* 986. *emac.* 1147. *f.* 1. *Park. parad. t.* 331. *f.* 1. *Raii hiſt.* 1326.
   Acanthus. *Riv. mon. t.* 87.
   A. Branca urſina. *Blackw. herb. t.* 89.
   Carduus Acanthus s. Branca urſi. *Bauh. hiſt.* 3. *p.* 75.
   β. A. nigra. *Portugueſe Acanthus. Mill. dict. n.* 2.
   A. luſitanicus. *Mill. dict. edit. qu. n.* 2.
   γ. A. rarioribus & brevioribus aculeis munitus. *Tournef. inſt.* 176. *Mill. fig. t.* 7.
   Leaves ſinuate unarmed.

[2. Acanthus carduifolius. *Thiſtle-leaved Acanthus.*
   Lin. ſuppl. p. 294. *ſyſt. p.* 580.
   Leaves ſinuous-toothed thorny, ſpike of flowers radical.]

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* Ray. † Lin. zeyl. ‡ Hort. kew. § Jacquin. ‖ Jacqu. amer.

* Retz. obſ. 5. 30. n. 85.

3. Acanthus ſpinoſus. *Prickly Acanthus.*
Lin. ſpec. 891. *Reich.* 3. 202. *hort. cliff.* 326. *Sabb. hort. rom.* 3. *t.* 14.
A. ſilveſtris. *Park. parad. t.* 331. *f.* 2. *Ger. emac.* 1147. *f.* 2.
A. aculeatus. *Bauh. pin.* 383. *Raii. hiſt.* 1326.
Leaves pinnatifid thorny.
4. Acanthus Dioſcoridis. *Acanthus of Dioſcorides.*
Lin. ſpec. 891. *Reich.* 3. 202. *Rauw. itin.* 285. *Gron. orient. n.* 192. *Mor. hiſt.* 3. 604. *Raii ſuppl.* 636.
Leaves lanceolate quite entire, thorny on the margin.
5. Acanthus ilicifolius. *Holly-leaved Acanthus.*
Lin. ſpec. 892. *Reich.* 3. 203. *Lour. cochinch.* 375.
A. malabaricus agrifolii folio. *Pet. gaz. t.* 94. *f.* 15.
Aquifolium indicum. *Rumph. amb.* 6. *p.* 163. *t.* 71.
Paina-ſchulli. *Rheed. mal.* 2. *p.* 93. *t.* 48. *Raii hiſt.* 1766. *Pluk. phyt.. t.* 261. *f.* 4.
Leaves repand tooth-thorny, ſtem ſhrubby prickly.
[6. Acanthus integrifolius. *Entire-leaved Acanthus.*
Lin. ſuppl. p. 294. *ſyſt.* 580.
Leaves oblong entire, ſtem herbaceous procumbent.
7. Acanthus procumbens. *Procumbent Acanthus.*
Lin. ſuppl. p. 294. *ſyſt.* 580.
Leaves oblong ſerrate and ciliate, ſtem procumbent ſhrubby.
8. Acanthus furcatus. *Forked Acanthus.*
Lin. ſuppl. p. 195. *ſyſt.* 580.
Leaves oblong tooth-thorny, ſtem ſhrubby, bractes terminated by a three-forked thorn.
9. Acanthus capenſis. *Cape Acanthus.*
Lin. ſuppl. p. 295. *ſyſt.* 580.
Leaves oblong toothed thorny, ſtem ſhrubby erect, bractes terminated by a ſimple thorn.
10. Acanthus maderaſpatenſis. *Madras Acanthus.*
Lin. ſpec. 892. *ſyſt.* 580. *Reich.* 3. 203.
A. ciliaris. *Burm. ind.* 139. *t.* 42. *f.* 2.
Melampyro affinis tetraphylla, &c. *Pluk. phyt. t.* 99. *f.* 3.
Leaves fourfold, flowers axillary, calyxes ciliate.

DESCRIPTIONS, *&c.*

The plants of this genus are generally large, with a ſingle herbaceous ſtalk, and great pinnatifid leaves. The flowers are produced in terminating ſpikes. Some of the ſpecies are ſhrubby and thorny; with undivided leaves, toothed, and having a thorn at the end of the teeth.

1. *Smooth Acanthus* has the ſtem from two to three feet in height. The leaves oblong, ſmooth on both ſides and ſhining, from a ſpan to a foot in length, divided deeply into oppoſite ovate lobes, which are bluntly toothed and finely ciliate about the edges: they are placed on roundiſh petioles, with a flat channel running along the upper ſurface. Though the leaves are ſaid to be ſmooth, yet they are not without white briſtles on both ſides, eſpecially along the nerves. The flowers are white, and come out from about the middle to the top of the ſtalk.

This is the ſpecies which is uſed in medicine, under the name of *Branca urſina*. The roots and leaves abound with a mucilage, which is readily extracted by boiling or infuſion. The roots are the moſt mucilaginous. Where this plant is common, they employ it for the ſame purpoſes to which *Althæa* or Marſh-mallow, and other vegetables poſſeſſing ſimilar qualities are applied among us *.

Heracleum Sphondylium or Cow-parſnep, a plant with properties very different from this, is ſaid to be ſubſtituted for it in foreign countries †. With us there is very little danger of this miſtake being made, for *Brankurſine* is ſeldom if ever uſed medicinally in England.

Virgil has two very different plants with the name of *Acanthus*. One a tree deſcribed by Theophraſtus, under the name of Αϰανθος, which is undoubtedly the Egyptian Acacia, or *Mimoſa nilotica* of Linneus, and produces the Gum Arabic: this is mentioned in the fourth Eclogue and ſecond Georgick. The other a garden herb, deſcribed by Dioſcorides under the name of Αϰανθα or Ερπαϰανθα; which is commonly ſuppoſed to be this plant, though Linneus takes it to be the fourth ſpecies. Virgil adorns the handles of Alcimedon's cups with it, in the third Eclogue; and places it in the Corycian's garden, in the fourth Georgick *.]

The leaves found accidentally growing round a baſket covered with a tile, gave occaſion to Callimachus to invent the Corinthian capital.

It is native of Italy about Naples, of Sicily, [Provence, and the iſlands of the Archipelago.

This ſpecies was cultivated in Sion garden, ſo long ſince as the year 1551 †.

β. The ſecond ſpecies of Miller is nothing more than a variety of this,] with the leaves much larger, and leſs jagged, the ſegments more pointed, and the upper ſurface lucid. It was diſcovered by Bernard de Juſſieu in Portugal, and called by him *Acanthus luſitanicus ampliſſimo folio lucido.* He ſent the ſeeds to Mr. Miller in 1725, and they conſtantly produced the ſame plants as the parent, in Chelſea garden.

[γ. Mr. Miller has given another variety in the ſeventh plate of his figures. The leaves of this are much jagged, and the inciſures are terminated by ſoft inoffenſive ſpines; they are a foot and half long, and about nine inches broad; with a petiole ſpringing immediately from the root. The flower-ſtems are commonly three feet high, with flowers almoſt the whole length. Theſe begin to come out in may, and continue to auguſt.

Mr. Miller is of opinion that this is the *Acanthus* which gave occaſion to the foliage in the capital of the Corinthian column.

This ſeems to be the ſame with the *Acanthus Dioſcoridis* of Miller, in the quarto edition of his Dictionary. He was probably unacquainted with the genuine plant of Rauwolff.

2. The ſtem is extremely ſhort. Many leaves proceed almoſt immediately from the root, reſembling thoſe of the Thiſtle; whence it derives the trivial name: the diviſions terminate in a tomentoſe, or naked ſpine. The ſpike of flowers is oblong, of the ſame length with the leaves, or longer; and furniſhed with imbricate, nerved, ſtiff, ſix-ſpined bractes. The calyxes are thornleſs and membranaceous. Sparrmann found this at the Cape of Good Hope.‡]

3. *Prickly Acanthus* has the leaves deeply jagged, in very regular order, and each ſegment is terminated with a ſharp ſpine; as are alſo the petioles, and the calyx of the flowers; ſo that this plant is troubleſome to handle.

It grows wild in Italy and Provence; and flowers from july to ſeptember. [In 1629 it was cultivated in England §.

Theſe plants were formerly called *Brank-urſine*, from the officinal name *Branca-urſi*; and alſo by the vulgar appellation of *Bear's-breech*, from the roughneſs of this ſpecies. But theſe have now become obſolete; and the ſofter, more claſſical name of *Acanthus* is generally adopted in Engliſh.

4. This, which Linneus ſuppoſes to be the genuine ſpecies of Dioſcorides, grows naturally in the Eaſt, on Lebanon, *&c.* It reſts at preſent entirely on the authority of Rauwolff, whoſe ſpecimen Bobart had ſeen.]

5. *Holly-leaved Acanthus* is an ever-green Shrub, riſing about four feet high, and dividing into many branches; with leaves very like thoſe of the common Holly, both in ſize and ſhape; and armed with ſpines in the ſame manner. The flowers come out ſingly in an upright raceme at the end of the ſtalk; they are white, and ſhaped like thoſe of the Common Acanthus, but ſmaller.

[The calyx conſiſts of ſix imbricate leaflets, according to Linneus. *Loureiro* deſcribes it as having an upright border, divided into four parts; the ſegments acute, and the two outer ones larger than the others.

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* Lewis mat. med.

† Lin. mat. med.

* Profeſſor John Martyn's notes on Virgil.

† Turner's herbal, in Hort. kew.

‡ Lin. ſupplem.

§ Parkinſon in Hort. kew.

others. The corolla has the tube truncate in front, and extending backwards into an ovate, upright ſegment, which is ſlightly trifid. The ſtigma is ſimple; and there are two ſeeds. He obſerved it near Canton in China, differing from that of Cochin-china, in having two ſmall, concave leaflets at the baſe of the calyx; and the truncate part of the corolla emarginate. Native of the Eaſt and Weſt-Indies, and ſome of the iſlands in the South-Seas.

6—9. The ſixth, ſeventh, eighth and ninth ſpecies are natives of the Cape of Good Hope.

The laſt of theſe has round, oppoſite, aſh-coloured branches; oppoſite, ſublanceolate, ſeſſile, ſtiff leaves, with two ſpines on each ſide, and one at the end; the axillary leaves are petioled, longer, ſofter, but thorny as well as the others. Spikes of flowers terminal, ſolitary and ſeſſile: the bractes reſemble the leaves, but are moſtly without ſpines. Calyx bivalve and ſmooth, the upper valve longeſt: the corolla has one trifid lip*.

10. The tenth has an herbaceous dichotomous ſtem: elliptic thornleſs leaves: the outer calyx imbricated, with four pairs of obovate leaflets inclining to wedge-ſhaped, and ciliate; the inner four-leaved, the two outer leaflets of which are lanceolate and longer than the others; the two inner leſs and linear. Capſule red. It is a native of the Eaſt-Indies †.]

PROPAGATION AND CULTURE.

1. 3. The *Smooth* and *Prickly Acanthus* are laſting plants, which may be propagated either by ſeeds, or parting of their roots; if by the former method, the ſeeds ſhould be ſown in a light dry ſoil, towards the end of march: when the ſeaſon proves favourable, the plants will appear in may, and all the culture they require, is to keep them clean from weeds, and where the plants are too cloſe, to thin them, ſo as to leave them about ſix inches aſunder, which will be room enough for them to grow 'till autumn, when they ſhould be tranſplanted where they are deſigned to remain. The firſt ſort, and eſpecially the Portugueſe variety, being more tender, ought to be planted in a warm border near a wall; and as theſe do not multiply ſo faſt by their roots, they do not require more room than three feet; but the third ſpreads its roots to a great diſtance, therefore muſt have more than twice that room. This being hardy, may be planted between ſhrubs, to fill up vacant ſpaces, where it will thrive faſt enough, provided the ground be light, and not over wet; and when it is in flower, will make an agreeable variety. If this ſort be propagated by its roots, the operation may be performed either in ſpring or autumn; but the others muſt only be removed in the ſpring; for if they are tranſplanted in the autumn, and the following winter ſhould prove cold, they will run the hazard of being loſt. Theſe plants take root very deep, ſo that when they are planted in wet ground, their roots will rot in winter: I have frequently traced them more than four feet, therefore they ſhould not be removed after they have been growing long in a place, but the ſide ſhoots may be annually taken off, otherwiſe they will ſpread ſo far, as to overbear any neighbouring plants or ſhrubs. When they are once eſtabliſhed in a garden, they are with difficulty eradicated.

5 and 10. Are too tender to thrive out of a ſtove in England, and can only be propagated by ſeeds, which do not ripen in Europe.

[The other ſorts muſt be placed among Cape plants, and treated in the ſame manner as they are.]

Acarna. See *Atractylis*, *Carduus*, *Carlina*, *Cnicus*.

ACER (According to ſome from *Acris*, on account of the hardneſs of the wood: according to others, from *Acre ingenium*, becauſe it was much employed by ingenious artificers in fine works. *Aceroperum elegantia ac ſubtilitate Citro ſecundum.* Plin. 16. 15. Theſe properties are peculiar to the *Common Maple* only, of all the ſpecies.)

Engl. *The Maple-tree.* Fr. *Erable.*
Lin. gen. n. 1155. *Reich.* 1266. *Schreb.* 1590. *Tournef. t.* 386. *Juſſ.* 251. *Gærtn. t.* 116.
Claſſ. 23. 1. Polygamia Monœcia.
Nat. order of *Trihilatæ*. *Acera* Juſſ.

GENERIC CHARACTER.

* *Hermaphrodite flowers.*

Cal. *Perianth* one-leafed, five-cleft, acute, coloured, flat and entire at the baſe, permanent.

Cor. *Petals* five, ovate, broader outward, obtuſe, ſcarcely larger than the calyx, ſpreading.

Stam. *Filaments* eight, ſubulate, ſhort. *Anthers* ſimple: *pollen* cruciform.

Pist. *Germ* compreſſed, immerſed in a convex perforated large receptacle. *Style* filiform, advancing in height daily. *Stigmas* two (or three) pointed, ſlender, reflex.

Per. *Capſules* the number of the ſtigmas, coaleſcent at the baſe, roundiſh, compreſſed, each terminated by a very large membranous wing.

Seeds ſolitary, roundiſh.

* *Male flowers,*

The ſame with the Hermaphrodites, except that they have neither germ nor ſtyle, but only a bifid ſtigma.

Obs. *On the firſt unfolding of the flower, the ſtigma only appears; and a few days after, the ſtyle.*

In Acer Pſeudoplatanus *the corolla is ſcarcely diſtinguiſhable from the calyx, and the ſtamens are long.* A. Negundo *has no corolla, and 4 or 5 ſtamens. This and* A. rubrum *are diœcous.*

Hermaphrodite flowers in the ſame umbel are often of two kinds: the lower ones feminine hermaphrodites, of which the anthers do not burſt, but the piſtil grows into a fruit; the upper ones maſculine hermaphrodites, of which the anthers ſcatter their duſt, and the piſtils do not grow, but fall off.

ESSENTIAL CHARACTER.

Cal. five-cleft. *Cor.* five-petalled. *Stam.* eight (or ten.) *Germs* two (or three) ſuperior. *Style* ſimple. *Capſ.* two (ſometimes three) with one ſeed in each, terminated by a wing.

Males without germ or ſtyle.

SPECIES.

[1. Acer ſempervirens. *Evergreen Maple.*
Lin. ſyſt. 911. *Reich.* 4. 330. *mant.* 128. *Mill. dict. edit.* 7. *n.* 11. *Lauth. diſſ. n.* 14.
Leaves ovate quite entire evergreen.]

2. Acer tataricum. *Tartarian Maple.*
Lin. ſpec. 1495. *Reich.* 4. 330. *Mill. dict. ed.* 7. *n.* 12. *Gærtn. fruct.* 2. 166. *Lauth. diſſ. n.* 13. *Kraſch. comm. Petrop.* 2. *t.* 13. *Pallas roſſ.* 9. *t.* 3.
Leaves heart-ſhaped undivided ſerrate, lobes obſcure; flowers in racemes.

3. Acer Pſeudoplatanus. *Great Maple.*
Lin. ſpec. 1495. *Reich.* 4. 331. *Hudſ. angl.* 445. *Wither. arr.* 1147. *Lightf. ſcot.* 639. *Lauth. diſſ. n.* 6. *Duham. arb.* 1. *t.* 36. *Evel. Hunt.* 200—193. *Hall. helv. n.* 1029. *Pollich. pal. n.* 944. *Villars dauph.* 803.
Acer major. *Dod. pempt.* 840. 1.
A. majus, multis falſo Platanus. *Bauh. hiſt.* 1. 8. 168. *f.* 2. *Raii hiſt.* 1701. *Ger. emac.* 1484. 1. *Park. theat.* 1425. 1.
Leaves five-lobed unequally ſerrate, flowers in racemes.

4. Acer rubrum. *Scarlet-flowering Maple.*
Lin. ſpec. 1496. *Reich.* 4. 331. *Kalm itin.* 2. 288. *Gærtn. fruct.* 2. 167. *Lauth. diſſ. n.* 1.
Acer virginianum, &c. *Herm. par. t.* 1. *Pluk. alm. t.* 2. *f.* 2. *Cateſb. car.* 1. 62. *Mill. fig. t.* 8. *f.* 4. *Trew ſelect. t.* 85. 86.
Leaves five-lobed, ſlightly toothed, glaucous underneath; peduncles very ſimple and aggregate.

5. Acer ſaccharinum. *American Sugar Maple.*
Lin. ſpec. 1496. *Reich.* 4. 332. *Lauth. diſſ. n.* 5.
Leaves five-parted-palmate, point-toothed, pubeſcent.

[6. Acer diſſectum. *Cut-leaved Maple.*
Lin. ſyſt. 911. *Thunb. jap.* 160.
Leaves many-parted-palmate, the diviſions ſubpinnatifid and ſerrate.

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* Lin. ſuppl.

† Lin. ſyſt.

7. Acer japonicum. *Japoneſe Maple.*
Lin. ſyſt. 911. *Thunb. jap.* 161.
Leaves many-parted gaſhed and villous, flowers ſubumbelled.

8. Acer palmatum. *Hand-leaved Maple.*
Lin. ſyſt. 911. *Thunb. jap.* 162.
Leaves palmate ſerrate ſmooth, flowers in umbels.

9. Acer ſeptemlobum. *Seven-lobed Maple.*
Lin. ſyſt. 912. *Thunb. jap.* 162.
Leaves ſeven-lobed ſmooth, lobes pointed, regularly and ſharply ſerrate.

10. Acer pictum. *Painted Maple.*
Lin. ſyſt. 912. *Thunb. jap.* 162.
Leaves ſeven-lobed ſmooth, lobes pointed entire.]

11. Acer platanoides. *Norway Maple.*
Lin. ſpec. 1496. *Reich.* 4. 332. *fl. ſuec. n.* 924. *Lauth. diſſ. n.* 3. *Hall. helv. n.* 1029. *Scop. carn. n.* 1248. *Pollich pal. n.* 945. *Pluk. alm. t.* 252. *f.* 1. *Mill. fig. t.* 8. *f.* 1. *Trew ſelect. t.* 91. *Villars dauph.* 803.
Leaves five-lobed pointed ſharply toothed ſmooth, flowers in corymbs.

[12. Acer montanum. *Mountain Maple.*
Ait. hort. kew. 3. 435.
A. penſylvanicum. *Du Roi harbecc.* 1. 22. *t.* 2. *Lauth. diſſ.* 33.
Leaves ſlightly five-lobed acute ſerrate, racemes compound, calyxes hairy.]

13. Acer penſylvanicum. *Penſylvanian Maple.*
Lin. ſpec. 1496. *Reich.* 4. 333. *Ait. hort. kew.* 3. 435. *Mill. fig. t.* 7. *Duham. arb.* 1. 28. *t.* 12, 13. *f.* 11.
A. ſtriatum. *Du Roi harbecc.* 1. 8. *t.* 1. *Lauth. diſſ.* 35.
Leaves three-lobed acuminate, ſharply double ſerrate, racemes ſimple, calyxes ſmooth.

14. Acer campeſtre. *Common* or *Small Maple.*
Lin. ſpec. 1497. *Reich.* 4. 333. *fl. ſuec. n.* 925. *Lauth. diſſ. n.* 7. *Gærtn. fruct.* 2. 166. *Hudſ. angl.* 445. *Wither. arr.* 1148. *Lightf. ſcot.* 640. *Hall. helv. n.* 1029. *Scop. carn. n.* 1247. *Pollich pal. n.* 946. *Neck. gallob.* 419. *Leers herborn. n.* 774. *Villars dauph.* 801.
Acer minus. *Dod. pempt.* 840. *Ger. emac.* 1484. 2. *Raii hiſt.* 1700.
A. vulgare minori folio. *Bauh. hiſt.* 1. 166.

15. Acer Opalus. *Italian Maple.*
Mill. dict. n. 8. *Ait. hort. kew.* 3. 436. *L'Herit. ſtirp. nov.* 2. *t.* 98.
A. italum. *Lauth. diſſ.* 32.
A. opulifolium. *Villars dauph.* 802.
A. major folio rotundiore minus laciniato, an Opalus Italorum. *Raii hiſt.* 1701.
Erable printanier. *Reynier, mem. Lauſ.* 1. 71.
Leaves roundiſh five-lobed, looſely ſerrate, capſules ovate, ſmooth, almoſt upright.

16. Acer monſpeſſulanum. *Montpelier Maple.*
Lin. ſpec. 1497. *Reich.* 4. 333. *Lauth. diſſ. n.* 12. *Scop. carn. n.* 1246. *Villars dauph.* 801.
Acer trifolium. *Bauh. pin.* 431. *Pluk. alm. t.* 251. *f.* 3. *Duham. arb.* 1. 28. *t.* 10. *f.* 8. *Raii hiſt.* 1701.
Leaves three-lobed very entire ſmooth annual.

17. Acer creticum. *Cretan Maple.*
Lin. ſpec. 1497. *Reich.* 4. 334. *Lauth. diſſ. n.* 11. *Alp. exot.* 9. *t.* 8. *Duham. arb.* 1. 28. *t.* 10. *f.* 9.
Acer orientalis hederæ folio. *Tournef. cor.* 43. *Pocock orient.* 191. *t.* 85.
Leaves three-lobed very entire pubeſcent perennial.

[18. Acer trifidum. *Trifid-leaved Maple.*
Lin. ſyſt. 912. *Thunb. jap.* 163.
Leaves undivided and trifid, without indentations on the edge.]

19. Acer Negundo. *Virginian Aſh-leaved Maple.*
Lin. ſpec. 1497. *Reich.* 4. 334. *Lauth. diſſ. n.* 2.
Acer maximum, fol. trifidis & quinquefidis, virginianum. *Pluk. alm. t.* 123. *f.* 4, 5. *Duham. arb. t.* 11. *f.* 10.
Leaves compound, flowers racemed.

[20. Acer pinnatum. *Wing-leaved Maple.*
Loureiro cochinch. 649.
Leaves pinnate; leaflets oblong quite entire.

DESCRIPTIONS, USES, *&c.*

The genus *Acer* or *Maple* conſiſts entirely of Trees, moſt of them yielding a ſaccharine juice from the trunk, branches and leaves. All, except the two laſt, have ſimple leaves, generally palmate, or elſe divided into three or five lobes. The flowers are either in racemes or corymbs, commonly from the ſides of the twigs; of an herbaceous or yellowiſh green colour (except in the fourth): there are males and imperfect hermaphrodites, either mixed with, or diſtinct from the perfect flowers. Sometimes the petals are wanting, or elſe they reſemble the leaflets of the calyx ſo as ſcarcely to be diſtinguiſhed from them. Two united winged capſules generally ſucceed to each perfect flower; but ſometimes there are three.

1. Mr. Miller (in his ſeventh edition) deſcribes the *Evergreen Maple* as a ſhrub, with the leaves of the colour and conſiſtence of box. It was ſent him from the Duke d'Ayen's garden; and he had the ſeeds from the Levant. Linneus retains this as a diſtinct ſpecies: it is entirely left out in the laſt edition of the dictionary: and appears to be but a variety, though a remarkable one of the Cretan Maple, n. 17.

2. The *Tartarian Maple* has the leaves oppoſite, two or three pairs on the flowering branches; the lower ſubovate, leſs, often ſcarcely ſerrate; many cordate-ovate, unequally ſerrate, ſometimes ſublobate on long petioles. Flowers in terminating thyrſes, twenty or thirty in a thyrſe, about half males, and half hermaphrodites. Corolla white, more than twice the length of the greeniſh calyx. Anthers twin; filaments much longer than the corolla. Wings of the ſeeds blood-red, nearly in a line, or diverging at an acute angle. It is an inhabitant of ſouthern Ruſſia; by the Tanais, Volga, *&c.* The wood is whitiſh, with ſome browniſh veins. The ſeeds are uſed as aſtringents by the Calmuc Tartars, boiled with milk and butter *.

Linneus deſcribes this as a lofty ſhrub, or rather a low tree, not exceeding twenty feet in height; with leaves like thoſe of Hornbeam, having ſcarcely any apparent lobes: with flowers in racemes, as in the Great Maple, but the raceme compound, and the flowers petaloid. They appear early, and are ſometimes followed by ripe ſeeds in our gardens. Cultivated 1759 by Mr. Philip Miller †.]

3. The *Great Maple* is wild in Switzerland, Germany, Auſtria and Italy: in mountainous ſituations. [With us it is vulgarly called the *Sycomore-tree*, and by ſome *Mock-Plane*. In Scotland it is known by the appellation of *Plane-tree*. Such is the inevitable confuſion of vernacular names.] The leaves are divided into three large lobes, and two ſmaller ones towards the baſe. The racemes hang down, and are pubeſcent; as are alſo the unripe fruits, and the nerves of the leaves underneath. The flowers are yellowiſh green. The wings of the capſules erect. [The pollen appears globular in the microſcope, but if it be touched with any thing moiſt, the globules burſt open with four valves, and then they appear in form of a croſs ‡.

This tree grows to a great height, has frequently a clean ſtraight bole and a ſpreading top. It is in leaf by the middle of april; and on their firſt appearance the leaves are of a pleaſant green, but they exude a clammy juice ſo abundantly, that they attract a variety of inſects, which ſoon perforate and disfigure them. The bunches of flowers are in full blow, within a fortnight after the appearance of the leaves; but being of an herbaceous colour, they make no great appearance.

The great Maple was formerly much planted for walks and avenues, but has lately given way to better or more ſightly trees.] This, however, the Norway, and ſome of the reſt, are peculiarly proper to make plantations near the ſea, or to ſhelter other trees in that ſituation; for they reſiſt the ſpray better than moſt trees. [They alſo do leſs damage to graſs in paſtures.

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* Pallas.

† Hort. kew.

‡ Lin.

An enormous tree of this ſort is ſaid to have been growing before the Duke of Dorſet's ſeat at Knowle in Kent. It is repreſented in Badeſlade's view of that ſeat, and is preſerved in Dr. Harris's Hiſtory of the county. It was twelve or fourteen feet in girth. The original plantations of Vauxhall and Marybone Gardens were chiefly of this tree *.

Before earthen-ware came into uſe at the table, the wood of the great Maple, which is ſoft and white, was in much requeſt for trenchers. It is ſtill uſed by the turners for bowls, diſhes, *&c.* by the ſadlers for ſaddle-trees; and is recommended by Mr. Evelyn as excellent for cart and plow timber, being light and tough. It is however inferior to the Aſh for theſe purpoſes.

Walter Blith recommends the Sycomore as a very quick-growing and thriving wood; on warm, ſound, rich land as thriving wonderfully, and riſing to gallant ſhade, excellent to make walks and ſhadow-bowers, uſeful for inward building, where better is wanting, and for firing where wood grows ſcarce.

It is generally looked upon as proper for underwood, becauſe it ſhoots faſt from the ſtool, and makes good fuel.

It is conſidered as a quick grower, and not of long duration, and yet there are ſeveral large, flouriſhing trees, ſome of them indeed now tending towards decay, (1792) in the Maſter's piece, at Sidney-Suſſex College in Cambridge, which were planted there in 1607.

In ſpring and autumn, this ſpecies will pour forth from the wounded ſtem, in the ſame manner as the Birch, abundance of ſaccharine juice; from which a good wine may be made, as Mr. Ray affirms, from the information of Dr. Martin Liſter.

There are two varieties of this tree common in the nurſeries; one which has only broader leaves and larger keys; the other with variegated leaves, producing a pleaſing variety in the tints of large plantations.

4. *Scarlet Maple* is a dioecous tree. The leaves of the male are cut to the baſe, ſo that it might eaſily be miſtaken for a diſtinct ſpecies †. The flowers come out before the leaves; and have not more than ſix ſtamens. There are two varieties in the nurſeries: 1. Virginian ſcarlet-flowering Maple. 2. Sir Charles Wager's flowering Maple.

[This ſort was cultivated in 1656 by Mr. John Tradeſcant, jun. ‡. It is propagated with us for the ſake of the ſcarlet flowers, which come out early in the ſpring. In Penſylvania, where it grows in the ſwamps, the natives uſe it for almoſt all ſorts of wood-work; with the bark they dye a dark blue, and make a good black ink. The Canadians tap the tree for the juice, of which they make ſugar and treacle.]

5. The *American Sugar Maple* will grow to the height of forty feet. It has ſome reſemblance to the Norway, when the plants are young; but as they grow up, the leaves of this are more deeply divided, and their ſurfaces leſs ſmooth, ſo that the two ſpecies are then eaſily diſtinguiſhed.

[This is very diſtinct from the ſcarlet-flowering Maple, in having the leaves divided more deeply and towards the baſe, veined alſo and of a ſea-green colour underneath §.

The Flowers are apetalous, in pendulous racemes, ſhort and compound, compoſed of imperfect hermaphrodite and perfect male flowers, the anthers being abortive in the firſt, and fertile in the laſt. It was introduced in 1735, by Peter Collinſon, Eſquire. ‖]

USES.

From this tree the inhabitants of North-America make a very good ſort of ſugar, in large quantities, by tapping the trees early in the ſpring, and boiling the juice. But I am of opinion that they make ſugar from more than one ſort of Maple in America; for I have found that the Aſh-leaved Maple abounds with a ſaccharine juice, in full as great plenty as any other ſort. Mr. Ray and Dr. Liſter prepared a tolerably good ſort of ſugar from our Great Maple; and I have obſerved upon cutting off branches from the Scarlet Maple in february, a great quantity of a very ſweet juice has flowed out for ſeveral days together. [Large tracts in North-America are covered with the Sugar Maple; this tree yields a Sugar equal to the beſt from the Cane, and in great quantity, with no other labour than what women and girls can beſtow, in drawing off and boiling the liquor; and when ſkilfully tapped will laſt many years. It is therefore believed by judicious perſons that the country can not only ſupply their own demand, but even make Sugar for exportation *.

We are aſſured by Dr. Ruſh, that this tree is ſo far from being injured by tapping, that it yields the more ſyrup the oftener it is tapped; and that a tree flouriſhed after forty-two annual operations.

From twenty-three gallons and one quart of ſap procured in twenty-four hours from two trees, four pounds and thirteen ounces of good grained ſugar have been obtained. But a tree of an ordinary ſize yields in a good ſeaſon from twenty to thirty gallons of ſap, from which are made from five to ſix pounds of ſugar. It is ſuppoſed that by tranſplanting to an open expoſure, the quantity of ſap may be increaſed, and its quality improved. For a farmer in Pennſylvania having planted a number of theſe trees above twenty years ago in his meadow, he obtains every year a pound of ſugar from every three gallons of the ſap.

The ſeaſon for tapping is in february, march and april, according to the weather. Warm days and froſty nights are moſt favourable to a plentiful diſcharge of ſap. The quantity obtained in a day from one tree is from five gallons to a pint: but twenty-three gallons were procured from a ſingle tree on the fourteenth of April, 1789.

The perforation is made with an axe or an auger; but the latter is preferred. The auger is introduced about three-quarters of an inch, in an aſcending direction; and is afterwards deepened gradually to the extent of two inches. A ſpout is introduced about half an inch, and projects from three to twelve inches; it is generally made of the Sumach (*Rhus*) or Elder (*Sambucus canadenſis.*) The tree is firſt tapped on the ſouth ſide, and afterwards on the north ſide. The ſap flows from four to ſix weeks, according to the temperature of the weather. Troughs large enough to contain three or four gallons are placed under the ſpout, to receive the ſap, which is carried every day to a large receiver; from which it is conveyed, after being ſtrained, to the boiler.

The ſugar is improved by ſtraining the ſap through a blanket or cloth, either before or after it is half boiled. Butter, hog's lard, or tallow, are added to the ſap in the kettle to prevent its boiling over; and lime, eggs or new milk, are mixed with it, in order to clarify it. A ſpoonful of ſlacked lime, the white of one egg, or a pint of new milk, are the uſual proportions to fifteen gallons of ſap: the latter ſeems to be the beſt; but clear ſugar may be made without any of them.

The ſugar after being ſufficiently boiled, is grained, clayed and refined, nearly in the ſame manner with the cane ſugar in the Weſt-Indies. The ſooner the ſap is boiled, the better. It ſhould never be kept longer than twenty-four hours. The larger the boiler, the more ſugar is obtained from it. A copper veſſel affords a ſugar of a fairer colour than an iron veſſel.

For a number of years many hundred private families in New-York and Pennſylvania have ſupplied themſelves plentifully with this ſugar. Many have made from 200 to 400 pounds in a year. One man ſold 600 pounds, all made with his own hands in one ſeaſon; another made 640 pounds, without any aſſiſtance, in leſs than four weeks, beſides attending to the other buſineſs of his farm, for which he received ſixteen pounds in money; and a family conſiſting of a man and his two ſons, made 1800 pounds weight in one ſeaſon.

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* M. S. Orde. † Munch. in Reich. ‡ Hort. kew. § Lin. ſpec. ‖ Hort. kew.

* MSS. information from Thomas Jefferſon, Eſq. jun. 1790.

The quality of this ſugar is ſuperior to that which is made in the Weſt-Indies from the cane; and it depoſits leſs ſediment when diſſolved in water *.

A perſon who had been many years acquainted with the uſual method of making this article, having obtained the inſtructions of a ſugar refiner in Philadelphia, began his experiments in february 1790, at Stockport, on the river Delaware, and ſent ſugar to Philadelphia, equal in the opinion of good judges to the beſt ſugars imported from the Weſt-India iſlands. He is clearly of opinion that four active men, well provided with materials and conveniences, may turn out, in a common ſeaſon, which laſts from four to ſix weeks, 40 cwt. of good ſugar.

In all ſugar plantations, it will be advantageous to cut out the different ſorts of timber which grow intermixed with the Maple-tree, and even ſuch of that ſpecies as are not thriving trees. The timber ſo cut out will ſerve as fuel for the boilers, and leave openings for the rays of the ſun to enter, which will improve and enrich the ſap †.

The Indians of Canada have practiſed the making of ſugar from the Maple time out of mind, and they gained a pound of ſugar from eight pints of liquor. The French began to refine it in that country towards the cloſe of the laſt century; and Dr. Robinſon ſent ſome of the ſugar to Mr. Ray in 1684. A friend of Mr. Ray's tried the experiment with our Great Maple, and obtained a ſugar from the juice, but in ſmall quantity ‡.

The five following ſpecies, and alſo the ſeventeenth, were found by Thunberg in Japan.

6. Branches dichotomous and trichotomous, ſomewhat angular, ſmooth and ſpreading. Leaves oppoſite petioled and ſmooth. The flowers come out at the ends of the branches in ſimple umbels. Corolla ſmall and purple. It flowers in may §.

7. Branches round purple and ſmooth. Leaves oppoſite petioled roundiſh ſerrate, cut into thirteen parts and villous on both ſides, eſpecially the veins. Flowers terminal, with the leaves in ſimple umbels: corolla purple and the ſeeds woolly. It flowers in april and may ‖.

8. A middling ſized tree wholly ſmooth, branches oppoſite round purpliſh ſpreading. Two palmated petioled leaves at the extremity of the twigs, marked with five or ſeven nerves, and ſmooth on both ſides; conſiſting of five or ſeven lanceolate ſharp lobes regularly and ſharply ſerrate; nerves ſometimes hairy. Flowers produced with the leaves and peduncled. May is the time of flowering ¶.

9. Leaves petioled and ſeven-nerved, the lobes ovate. **

10. Branches round aſh-coloured ſmooth. Leaves collected at the ends of the twigs, alternate petioled ſeven-nerved variegated; the lobes oblong: petioles ſmooth, longer than the leaves ††.]

11. The *Norway Maple* grows to a large ſize. The leaves being ſmooth and of a ſhining green, as large or larger than thoſe of the Sycomore, and being ſeldom eaten or defaced, becauſe the tree abounds in a ſharp milky juice diſliked by inſects; they have a much better appearance than thoſe of the Sycomore; and in the ſpring, when the flowers are out, which are of a fine yellow colour, this tree has great beauty.

[Hanbury obſerves, that in the autumn the leaves die to a golden yellow colour, which produces a good effect at that ſeaſon, when the different tints of the decaying vegetable world are diſplayed. He ſays farther that it is a quick growing tree, arrives at a great bulk, and is one of the beſt trees for ſheltering habitations.

Linneus recommends it for walks and plantations; as yielding a juice from which ſugar may be made, if it be wounded in the winter; and as cutting out into a white ſmooth wood, fit for the ſtocks of guns, the joiner and the turner *. Dr. Hunter obſerves, that as it is a quick grower, arrives at a great bulk, and anſwers all the purpoſes of the Sycomore; the raiſing it for uſe, as well as ornament and variety, ſhould not be neglected.

This ſpecies varies very much in its leaves; inſomuch that Scopoli affirms, that it approaches gradually to the *Pſeudoplatanus*. He alſo remarks, that the flowers are never in corymbs, but always in racemes. This is found in the nurſeries with variegated leaves as well as that: but the two principal varieties are, the common Norway Maple, with lobed leaves, and the Cut-leaved Maple, with laciniate or jagged leaves. There is a more remarkable variety, if it be one, obſerved near Port Mahon in the iſland of Minorca, and named by Lauth, in his theſis on this genus, n. 4. *Acer criſpum*, or *curled-leaved Maple*. The leaves are very irregularly palmated, and reſemble the feet of hawks; the lobes are curled and end in briſtles. The bark is a dark gray, with large whitiſh ſpots.

Norway Maple is found on mountains in the northern countries of Europe, Germany, Switzerland, Stiria, Carniola and Savoy.

It was cultivated with us in 1724.

12. Leaves four inches and an half long, ſcarcely three broad, three-lobed with the veſtige of a fourth and fifth lobe, but ſeldom really five-lobed, very ſharp, unequally and ſharply ſerrate, veined, wrinkled, bright green above, paler underneath, and tomentoſe. The whole raceme, with the flowers, yellow and ſomewhat erect; pedicels often branched, with ſometimes very ſlender bractes. Calyx ſcarcely linear, ſharp and roſe-coloured at the end, hairy. Petals twice the length of the calyx and narrower. Stamens eight, the length of the corolla. Capſules globular, bearing the wings at an obtuſe angle; theſe ſwell out little at the end, ſo that the ſides are nearly parallel. Native of North-America. † Cultivated 1750 by Archibald Duke of Argyle ‡.

13. *Penſylvanian Maple* is a ſmall tree, which in ſome ſituations may be conſidered rather as a ſhrub. It will grow to the height of about fifteen feet, with a ſlender ſtem, covered with a whitiſh bark, and ſending forth ſeveral red branches. The flowers are on long pendulous racemes, of a greeniſh yellow colour. The ſeeds generally fall off before they are ripe. It is a native of Penſylvania, Virginia and Canada, and was introduced here 1755, by Meſſrs. Kennedy and Lee §.

The Striped-bark Maple of Bartram's catalogue, is ſuppoſed to be the ſame with this; and ſo, I apprehend, is the *Acer canadenſe* of Gordon's. It is thus deſcribed by Lauth, in his theſis. Bark ſmooth, beautifully varied with green and white ſtripes, the boughs of a ſhining red in winter. Leaves nine inches long, not quite ſo wide. Raceme long, with flowers on ſimple pedicels, and diſtant. Diviſions of the calyx, only half the width of the petals in the corolla. Stamens eight, ſhorter by half than the corolla. Capſules oblong, compreſſed, not joined in a right line, but forming an angle.

The thickneſs of the ſhade, the beauty of the bark, and the tree not being liable to inſects, would make it deſirable for plantations, were it not for the litter occaſioned by the abundance of the leaves and fruits which it produces, and its being ſubject to be torn by ſtorms.

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* Dr. Ruſh's account of the Sugar Maple-tree, in the third volume of the American Tranſactions.

† Remarks on the manufacturing of Maple Sugar, by a Society of Gentlemen at Philadelphia, 1790.

‡ Ray's Philoſ. Letters, publiſhed by Derham, p. 177, 179.

§ Thunb. ‖ Ibid. ¶ Ibid. ** Ibid. †† Ibid.

* Suec. † Lauth. diſſ. de Acere.

‡ Hort. kew. § Ibid.

14. The *Common Maple*, though it does not become a large tree, ſhould not however have been degraded by Linneus to a ſhrub; nor does it make a bad figure in plantations. Evelyn ſays, that by ſhredding up the boughs to a head, he has cauſed it to ſhoot to a wonderful height in a little time.

The bark is rough, and full of deep fiſſures. The leaves grow in pairs on long petioles. They are divided about half way down into three lobes, the ſide ones ſubdivided into two ſmaller ones, and the middle into three, all obtuſe. Flowers greeniſh, at the ſummits of the branches, in thin looſe ſhort cluſters. The young peduncles, when broken off, are lacteſcent. The receptacle of the flower is ſpongy, and divided into eight rays, between each of which is placed a ſtamen*.

The petioles, peduncles and fruits are pubeſcent: the petals are hairy; the raceme decompounded, and having few flowers †.

Theſe are of three ſorts, 1. males with fertile anthers. 2. falſe hermaphrodites, with fertile anthers, and an imperfect barren piſtil. 3. large hermaphrodites with ſhort filaments, and anthers having no pollen: but a perfect fertile piſtil ‡. A variety with red fruits was firſt obſerved by Vaillant. This is not unfrequent about London, as between Lee Common and Weſton Green in the road to Eltham, about Dulwich, *&c.*

The common Maple is chiefly ſeen in hedgerows and coppices.

USES.

We meet with high encomiums on this wood among the ancients; and Virgil introduces Evander ſitting on a Maple throne. It was chiefly valued among them for the fineneſs of its grain.]

The timber is far ſuperior to that of the Beech for all uſes of the turner, particularly diſhes, cups, trenchers and bowls; and when it abounds in knots, as it very frequently does, it is highly eſteemed by the joiners for inlaying, *&c.* On account alſo of the lightneſs of the wood, it is often uſed by muſical inſtrument makers; from its hardneſs, for gun-ſtocks and other purpoſes; and from its whiteneſs it was formerly in great requeſt for tables. [In the vale of Gloceſter, where oak timber is ſcarce, it is uſed for gate-ſtuff and other purpoſes of huſbandry; and ſometimes ſcrews for cyder-preſſes are made of this wood: but the principal value of the Maple is for underwood: it is of quick growth and affords good fuel.]

15. The *Italian Maple* is common in many parts of Italy, particularly about Rome and Viterbo. It is one of the loftieſt trees of that country, and is eſteemed for the leaves, which are large, and afford a great ſhade; ſo that it is planted frequently there by the ſides of roads, and near habitations.

[This tree is not noticed by Linneus, and many other modern authors.] It is rarely to be met with in England, though hardy enough to bear the open air; [and cultivated ſo long ſince as 1752, by Mr. Miller; as appears by the ſixth edition of his Dictionary.

Being a noble tree, acquiring a conſiderable ſtature, and having a ſpreading head adorned with large and beautiful foliage, it deſerves the attention of ornamental planters.

When this tree was firſt diſcovered at the foot of the Alps by Monſ. Favrod, and afterwards obſerved in plenty near Piſſevache, in the valley of Trient; and near Olon, it was ſuppoſed to be a new ſpecies, and is thus deſcribed by Monſ. Reynier.

Trunk ten feet high, ſtraight, branching, covered with a gray bark: branches flexible. Leaves middle-ſized, thin, three or five-lobed, toothed, rounded. Flowers in a very looſe pendant raceme; on peduncles very long, branching and bending: they are larger than thoſe of the other ſorts, compoſed of five lanceolate petals, yellowiſh and veined: calyx very ſmall, falling a long time before the corolla: ſtamens eight, twice as long as the corolla. Wings of the ſeed not adhering to the ſides of the capſule, as in the other ſpecies, but placed at the top, and only a little ſeparated from each other.

16. *Montpelier Maple* grows about twenty feet in height.] The leaves reſemble thoſe of the Common Maple, but are of a much thicker ſubſtance, and not ſo large; they are of a ſhining green colour, and continue their verdure very late in the autumn, which renders this tree more valuable. At preſent this ſort is not common in England. [The flowers have little beauty, their blow is ſoon over, and the ſeeds ſometimes come to perfection with us. It is common in the South of France, and Italy: and was cultivated by Mr. Miller in 1739*.]

17. *Cretan Maple* bears ſome reſemblance to the laſt, and gains the ſame height. The leaves of the young trees are ovate, but afterwards become ſhaped like thoſe of Ivy: they are of a much thinner texture than in that, and their petioles are covered with a ſoft hairy down; whereas thoſe of the other are ſmooth and ſtiff.

Where the trees are well ſheltered they continue green moſt part of the year. The flowers are ſeldom followed by good ſeeds.

It grows naturally in the Levant; [and was cultivated in 1752, by Mr. Miller †.

18. The twigs are round, ſmooth and purpliſh. The leaves at the ends of the twigs, ſcattered, undivided, and of two or three lobes, ſmooth on both ſides, pale underneath, ovate and ſharp ‡.]

19. *Aſh-leaved Maple* is a very ſtrong-ſhooting tree, of quick growth, and is in Virginia and Carolina one of the largeſt trees of this kind. It is well adapted, by its pale green leaves, ſo different in form from thoſe of the other ſpecies, to make a beautiful variety in woods, but they fall very ſoon in the autumn; and it muſt be planted in places not too much expoſed to violent winds, being ſubject to ſplit. [The timber is fit for the ſame uſes with that of the Norway Maple and Sycomore, but is ſoft and brittle.

It was cultivated in 1688 by Biſhop Compton §.

Profeſſor Medicus of Manheim, obſerved three and four piſtils in the female flower; no corolla, and four or five ſtamens in the males ‖.

20. The Maple of Cochinchina is a tree of a middling ſize, with a very hard wood, and ſpreading branches. The leaves have about four pairs of alternate, ſmall, ſmooth leaflets, terminated by an odd one. The flowers are white, in compound racemes. It is native of woods in Cochinchina ¶.]

PROPAGATION AND CULTURE.

The genus *Acer* conſiſts of deciduous trees, moſt of them ſufficiently hardy. They are eaſily propagated by ſowing their ſeeds, ſoon after they are ripe, in a bed of common earth, covering them about half an inch thick with light mould. In the ſpring they will appear above ground, and if kept clear from weeds, and watered in dry weather, ſome of the ſorts will grow above a foot high the firſt ſummer. The autumn or ſpring following, if they are cloſe in the ſeed-bed, it will be proper to tranſplant them into a nurſery, in rows at three feet diſtance, and two feet aſunder in the rows; [ſome ſay that two feet and a half by one foot and a half is ſufficient; others recommend only two feet by a foot.] In this ſituation they may remain three or four years, by which time they will be large enough to plant out for continuance.

If the ſeeds are kept out of the ground till ſpring, they rarely come up the ſame year, and many times do not grow. When therefore they are to be tranſported to any diſtance, it will be proper to put them up in ſand or earth.

[If the common Great Maple or Sycomore had been an indigenous tree of England, the country would have been full of it, ſince it comes up with ſuch wonderful facility and abundance from the ſeed. Mr. Ray ſpeaks of it as very common in court-yards, church-yards, avenues, and about noblemen's houſes; but obſerves that it began in his time not to be much in requeſt, becauſe of the great litter and mucilage occaſioned in gardens and walks by the falling leaves.

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* Lightfoot. † Pallas. ‡ Leers.

* Hort. kew. † Ibid. ‡ Thunb.

§ Hort. kew. ‖ Reich. ¶ Loureiro.

Parkinſon ſays, it is cheriſhed in our land only in orchards, or elſewhere for ſhade and walks. And Gerard, that it is a ſtranger in England, only it groweth in the walks and places of pleaſure of noblemen, where it eſpecially is planted for the ſhadow ſake, and under the name of Sycomore-tree.] The variegated ſort may be raiſed from ſeed as well as the common one, and moſt of the plants will be as finely ſtriped as the parent tree, which is not uſual.

[Trees thus raiſed from ſeed will grow faſter, and attain a greater height, than from layers or cuttings; by which means they may alſo be propagated. But this is ſeldom practiſed in thoſe ſorts which come readily from the ſeed.]

The ſcarlet-flowering Maple is frequently propagated by laying down the young branches early in the ſpring, giving them a little ſlit at a joint, by which means they will have taken ſufficient root in two years to be tranſplanted. They require a ſituation a little defended from the north-eaſt winds, eſpecially while young; and delight in a moiſt light ſoil, in which they will produce more flowers, and better ſeeds.

The Norway and Aſh-leaved Maples may be raiſed eaſily from layers; or, from cuttings planted in the autumn, in a moiſt ſhady place.

The variegated Sycomore and Norway Maple may with moſt eaſe and certainty be propagated, by inoculating a bud of the variegated or ſtriped into their reſpective plain ſorts.

The Americans, and eſpecially the Sugar Maple, are very impatient of heat while young; their ſeeds therefore ſhould be ſown in a ſhady ſituation, or in pots or caſes that may be removed into the ſhade.

The Tartarian Maple is very hardy in reſpect to cold, but very difficult to raiſe in England; for when the plants are young, if they are expoſed to the ſun but a few hours, they will be deſtroyed: and though the trees naturally grow on boggy grounds, yet watering the young plants much will kill them. The only method to preſerve them, is to cover the ſurface of the ground with moſs, which ſhould be kept moiſt, and the plants entirely ſhaded from the ſun the firſt ſummer *.

[In the caſe of the Scarlet-flowering Maple, Hanbury recommends the ſeeds to be ſown as ſoon as they are ripe, (which is the beginning of june) and have lain a few days to harden; covering them only a quarter of an inch deep. The beds ſhould be hooped, and ſheltered with mats in ſcorching weather, but in rainy and cloudy weather ſhould always be uncovered. In a month or ſix weeks, a great part of the plants will appear; but the far greateſt ſhare will not come up before the ſpring following. When the ſummer plants firſt ſhow themſelves, they muſt be conſtantly covered in the day-time, unleſs in cloudy and rainy weather; but uncovered during the night. In dry weather they muſt be watered. The ſummer following they may be expoſed to all weathers; being only kept clean from weeds, and watered occaſionally: the ſpring after, the ſtrongeſt may be ſet out in the nurſery.—This ſeems no bad proceſs for the American, and all the ſorts which require any attention.

With reſpect to layers, Hanbury ſays that the young ſhoots may be laid down either in the autumn, winter, or early in the ſpring; that by the autumn following they will have ſtruck root, when the ſtrongeſt may be put where they are to remain, and the weakeſt planted in the nurſery for a year or two.

With reſpect to cuttings, he ſays that they ſhould be the bottom parts of the laſt year's ſhoots, taken off early in october. The ſpring and ſummer following they muſt be duly watered in dry weather, and kept clean from weeds. By the autumn they will be fit to remove into the nurſery; though, if they are not planted too cloſe, they may remain in their ſituation a year or two, and then be ſet out at once where they are to remain.

For budding the variegated or ſtriped ſorts he gives the following directions. Let ſome common plants of the ſame ſpecies, one year old, be taken out of the ſeminary, and ſet in the nurſery in rows a yard aſunder, and a foot and half diſtant from each other. Let the ground be kept clean, and in the winter turned over: the ſummer following the ſtocks will be of a proper ſize to receive the buds, which ſhould be taken from the moſt beautifully ſtriped branches. The beſt time for this work is auguſt. The eyes or buds ſhould front the north. Early in october take off the baſs matting; then cut off the ſtock juſt above the bud, and dig the ground between the rows. The ſummer following cut off all natural ſide buds from the ſtock; and by autumn, if the land is good, your buds will have ſhot forth, and formed themſelves into trees five or ſix feet high. They may then be removed, or a few only drawn out, leaving the others to be trained up for larger ſtandards.

Mr. Boutcher recommends the ſeeds of the Sycomore and Norway Maple not to be ſown as ſoon as ripe; but to be ſpread in an airy place till dry, and then laid up in dry ſand till february or the beginning of march, according as the ſeaſon proves; when they may be ſown in drills, or in beds eighteen inches broad, with alleys the ſame width, and covered three quarters of an inch thick.

The following february or march dig the alleys, and cut their roots about five inches under ground, which may eaſily be performed with a ſharp ſpade; and draw the plants where too thick: let theſe be planted in good mellow ſoil, in rows eighteen inches aſunder, and eight or nine inches from each other.

In october following, when the plants in general will be two feet high and upwards, raiſe both the ſeedlings, and thoſe that were tranſplanted; ſhorten their top-roots, cut off any croſs lateral branches, and remove them into rows two feet and an half aſunder, and fifteen inches in the row, to continue two years.

Thence remove them again, at the ſame ſeaſon, and plant them in rows five feet aſunder, and two feet and an half from each other; where they may continue four years.

Theſe will now be from twelve to fifteen feet high, and if required of a larger ſize, may be removed and planted eight or ten feet aſunder; when any time after two, and not exceeding eight or ten years, they may be placed where they are deſigned to remain.

Though autumn planting be preferable for theſe and moſt other deciduous trees, when ſtrong and well rooted, yet when young they are apt to be injured by froſts, and thrown out of the ground in ſevere winters when planted at this ſeaſon.

The uſe of removing theſe trees frequently when young is, that they naturally grow with downright tap roots; whereas after undergoing this diſcipline, no plant roots better, or is more patient of tranſplantation at a large ſize.

He adds that theſe, and our common Maple, will proſper in very indifferent coarſe land, but moſt affect that which is deep and moiſt, though not wet or ſtiff. The American ſorts delight moſt in a firm dry mould.

The Common, Sugar, Norway, and Aſh-leaved Maples being large-growing trees forty feet high and upwards, with large ſpreading heads, and exuberant foliage, are fit for large plantations; and the leaves being of different ſizes, ſhapes and colours, they will make a conſiderable variety, eſpecially if we take in the variegated ſorts: and the large pendulous branches of flowers, though deficient in colour, are not without their beauty, eſpecially thoſe of the Norway Maple.—The other ſorts are of inferior growth, ſeldom riſing more than from twenty to thirty feet.

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* Dict. edit. 7. fol. 1759.

Acer. See *Baniſteria* and *Triopteris.*

Acetosa. See Rumex.

Acetosella. See Oxalis, and Rumex.

ACHANIA (Αχανης, *non hians* ; becauſe the corolla does not open.
Soland. M. S. *Swartz prodr.* 102 *Lin. gen. Schreb.*
Malvaviſcus *edit. prior. Cavan. diſſ.* 3. 31. *t.* 48. *f.* 1. *Dillen. elth*, 170.
Claſſ. 16. 6. Monadelphia Polyandria.
Nat. order of *Columniferæ. Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* double. *Outer* many-leaved; *leaflets* linear, permanent, ſlightly coaleſcing at the baſe. *Inner* one-leafed, ſubcylindric, ſtreaked half way, five-cleft, permanent.

Cor. Subclavate, convoluted. *Petals* five obovate-oblong, erect, with a lobe at the baſe on one ſide, involving the column of ſtamens.

Stam. *Filaments* numerous, coaleſcing into a writhed tube longer than the corolla, free at top, capillary. *Anthers* oblong.

Pist. *Germ* ſubglobular. *Style* filiform, the ſame length with the tube of the ſtamens, ten-cleft at top: the ſegments ſpreading. *Stigmas* capitate.

Per. *Berry* ſubglobular, fleſhy, five-celled.

Seeds ſolitary, convex on one ſide, angular on the other.

ESSENTIAL CHARACTER.

Cal. double; outer many-leaved. *Cor.* convolute. *Berry*, five-ſeeded.

SPECIES.

1. Achania Malvaviſcus. *Scarlet Achania*, or *baſtard Hibiſcus.*
Swartz. prod. 102. *Ait. hort. kew.* 459.
Hibiſcus Malvaviſcus *Lin. ſpec.* 978. *ſyſt.* 629. *Reich.* 3. 360. *hort. cliff.* 349. *Mill. dict. n.* 22. *Brown. jam.* 284.
Malvaviſcus arboreus. *Cavanilles diſſ.* 3. 131. *t.* 48. *f.* 1. *Dill. elth.* 210. *t.* 170. *f.* 208. *Sabb. hort.* 1. *t.* 54. *Plum. ſpec.* 2. *ic.* 169. *f.* 2. (Malva) *Pluk. alm. t.* 257. *f.* 1. (Alcea).
Leaves ſomewhat ſcabrous, acuminate, leaflets of the outer calyx erect.

2. Achania mollis. *Woolly Achania.*
Ait. hort. kew. 459.
Leaves tomentoſe, leaflets of the outer calyx ſpreading.

3. Achania piloſa. *Hairy Achania.*
Swartz. prodr. 102. *Ait. hort. kew.* 459.
Leaves hairy, obtuſe and acute.

DESCRIPTIONS.

1. Stem arboreous, ten feet high and more, branched. Leaves petioled, cordate, crenate, tomentoſe, ſometimes ſlightly three or five-lobed, the middle lobe moſt produced. Stipules briſtle-ſhaped, ſmall, withering. Flowers axillary, ſolitary, on villous peduncles ſhorter than the petiole. Outer calyx eight-leaved, the leaflets coaleſcing at the baſe: inner marked with ten ſtreaks, five-toothed at the tip. Corolla deep ſcarlet; tube ſcarlet twiſted into a ſpiral; upright, very long. Stigmas hiſpid, blackiſh. Native of Mexico *, and Jamaica. Cultivated in 1714, by the Dutcheſs of Beaufort: and flowering moſt part of the year †.

2. The branches, petioles, and leaves are covered with a very thick nap. The leaves are ſometimes cordate-ovate acuminate, and ſometimes angular, ſlightly three-lobed.—It is a native of South America, and the Weſt India iſlands. Houſtoun found it in Jamaica in 1730.—Introduced in 1780, by Benjamin Bewick, Eſq. It flowers in auguſt and ſeptember ‡.

3. This ſpecies has a very different appearance from the two former. It is ſhrubby as they are, but the ſtem and branches are ſmaller, thinner, and not downy; and it continues only two or three years. The leaves are cordate-ovate, with broad irregular ſerratures about the edge: ſome of them blunt and even retuſe, but others acute. The ſtipules are ſubulate. The leaflets of the outer calyx ſpread out towards the end, and are ſpatulate. The flowers are ſmall, and the corolla is cloſed.—Native of Jamaica. Introduced 1780, by Mr. Gilbert Alexander. It flowers in november §.]

PROPAGATION AND CULTURE.

Achania is generally propagated by cuttings, becauſe the ſeeds do not often ripen here; if the cuttings are planted in pots filled with light earth, and plunged into a gentle hot-bed, keeping the air from them, they will ſoon take root, and ſhould be gradually inured to bear the open air. Theſe plants require a moderate ſtove to preſerve them through the winter; and if they are kept in warmth in ſummer, they will flower, and ſometimes ripen fruit; they may be placed abroad in a ſheltered ſituation for two or three months, but the plants ſo treated ſeldom flower well.

ACHILLEA (ſo named from Achilles the famous Grecian hero, who is ſuppoſed to have imbibed the knowledge of Botany from his maſter Chiron.)
Vaill. mem. acad. 1720. *f.* 2, 10, 36. *Lin. gen. n.* 971. *Reich.* 1053. *Schreb.* 1313. *Gærtn. t.* 168. *Juſſ.* 186.
Millefolium and Ptarmica. *Tournef. t.* 283.
Engl. *Milfoil.*—Fr. *Millefeuille.*
Claſſ. 19. 2. Syngeneſia Polygamia Superflua.
Nat. Ord. of *Compoſitæ Diſcoideæ*—*Corymbiferæ Juſſ. Raii.*

GENERIC CHARACTER.

Cal. *Common* ovate, imbricate: *ſcales* ovate, acute, converging.

Cor. *Compound* radiate: *Corollets* hermaphrodite, tubular, in the diſk. *Females* ligulate, five to ten, in the ray.
Proper of the Hermaphrodite, funnel-ſhaped, five-cleft, ſpreading.
Female obcordate, ſpreading, trifid: the middle cleft leſs than the others.

Stam. In the Hermaphrodites *Filaments* five, capillary, very ſhort. *Anther* cylindrical, tubular.

Pist. In the Hermaphrodites *Germ* ſmall. *Style* filiform, the length of the ſtamens. *Stigma* obtuſe, emarginate.
In the Females *Germ* ſmall. *Style* filiform, the ſame length as in the others. *Stigmas* two, obtuſe, reflex.

Per. none. *Calyx* ſcarcely changed; Receptacle filiform, elongate, as the diſk of the ſeeds, ovate, twice the length of the calyx.

Seeds ſolitary, ovate, furniſhed with flocks; but having no down.

Rec. chaffy, elevated: *chaffs* lanceolate, the length of the florets.

ESSENTIAL CHARACTER.

Cal. ovate, imbricate. *Florets* of the ray about four. *Down* none. *Recept.* chaffy.

SPECIES.

* *With yellow corollas.*

1. Achillea Santolina. *Lavender-cotton leaved Milfoil.*
Lin. ſpec. 1264. *Reich.* 3. 866. *hort. cliff.* 412. *Vaill. mem. par.* 1720. *p.* 322.
Ptarmica orientalis, Santolinæ folio, flore majore. *Tournef. cor.* 37.
Leaves briſtle-ſhaped toothed, toothlets nearly entire ſubulate reflex.

2. Achillea Ageratum. *Sweet Milfoil* or *Maudlin.*
Lin. ſpec. 1264. *Reich.* 3. 866. *hort. cliff.* 413. *upſ.* 265. *mat. med.* 190. *Mill. fig. t.* 10. *Blackw. t.* 300. *Allion. pedem. n.* 655. *Villars dauph.* 3. 256.
Ageratum. *Camer. epit.* 795.—fol. ſerratis *Bauh. pin.* 221.
A. vulgare, ſ. Coſtus hortorum minor, *Park. theat.* 79. *f.* 2. *Raii. hiſt.* 364.
Balſamita minor. *Dod. pempt.* 295. *Mor. hiſt. ſ.* 6. *t.* 1. *f.* 2.
Leaves lanceolate obtuſe ſharply ſerrate.

[3. Achillea falcata. *Sickle-leaved Milfoil.*
Lin. ſpec. 1264. *hort. cliff.* 412. *Forſk. ægypt.* 55. *Retz. obſ.* 2. 25. *n.* 85. *Vaill. mem. par.* 1720. *p.* 322. *Barrel. ic.* 430.
Leaves linear toothed obtuſe flat, toothlets crenate.]

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* Cavanilles, † Hort. Kew. ‡ Ibid.

§ Hort. kew.

4. Achillea tomentoſa. *Woolly Milfoil.*

Lin. ſpec. 1264. *Reich.* 3. 867. *hort. cliff.* 413. *upſ.* 265. *Hall. helv. n.* 106. *Gmel. itin.* 1. *p.* 137. *t.* 25. *f.* 2. *Villars dauph.* 3. 260.

Millefolium luteum. *Lob. obſ.* 431. *Ger. herb.* 915. *f.* 1. *emac.* 1073. *f.* 1. *Park. theat.* 694. *f.* 6. *Raii hiſt.* 347.

M. tomentoſum luteum. *Bauh. pin.* 140. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 16.

Leaves pinnate hirſute. pinnas linear toothed.

5. Achillea pubeſcens. *Downy Milfoil.*

Lin. ſpec. 1264. *Reich.* 3. 867. *hort. cliff.* 413. *Vaill. mem. par.* 1720. *p.* 286. (Matricaria).

Leaves pinnate, leaflets lanceolate gaſhed ſerrate wool-bearing beneath.

6. Achillea abrotanifolia. *Southernwood-leaved Milfoil.*

Lin. ſpec. 1265. *Reich.* 3. 867.

Leaves pinnate ſuperdecompound, diviſions linear diſtant.

[7. Achillea bipinnata. *Bipinnate Milfoil.*

Lin. ſpec. 1265. *Reich.* 3. 868. *hort. cliff.* 413.

Leaves bipinnate tomentoſe, leaflets ovate entire.]

8. Achillea ægyptiaca. *Egyptian Milfoil.*

Lin. ſpec. 1265. *Reich.* 3. 868. *hort. cliff.* 413. *Gmel. itin.* 2. 178. *Tournef. itin.* 1. 228. *t.* 87. (Ptarmica).

Abſinthium ſantonicum ægyptiacum. *Bauh. pin.* 136.

Leaves pinnate, leaflets obtuſely lanceolate ſerrate-toothed.

** *Corollas white in the ray.*

9. Achillea macrophylla. *Feverfew-leaved Milfoil.*

Lin. ſpec. 1265. *Reich.* 3. 868. *Hall. helv. n.* 115. *Allion. pedem. n.* 659. *Villars dauph.* 3. 259.

Dracunculus alpinus, foliis Scabioſæ. *Bauh. pin.* 98. *prodr.* 39.

Ptarmica alpina, Matricariæ foliis. *Triumf. obſ.* 83. *t.* 23. *Bocc. muſ.* 2. *t.* 110. *Barrel. ic. t.* 991.

Corymbifera Millefolii umbella, fol. alato & laciniato. *Raii hiſt.* 345.

Leaves pinnate, pinnas gaſh-ſerrate, the outmoſt larger and connected.

[10. Achillea impatiens. *Impatient Milfoil.*

Lin. ſpec. 1266. *Reich.* 3. 868. *Gmel. ſib.* 2. 197. *t.* 83. *f.* 1.

Leaves pinnate, pinnas diſtant linear-lanceolate, acute from the baſe upwards.]

11. Achillea Clavennæ. *Silvery-leaved Milfoil.*

Lin. ſpec. 1266. *Reich.* 3. 869. *Hall. helv. n.* 114. *Scop. carn. n.* 1093. *Jacqu. auſtr.* 1. *t.* 76.

Abſinthium alpinum umbelliferum. *Cluſ. hiſt.* 1. 340.—latifolium. *Bauh. pin.* 139.

A. album. *Ger. herb.* 943. *f.* 2. *emac.* 1101. *f.* 1. *Raii hiſt.* 345.—ſ. umbelliferum *Park. theat.* 99. *f.* 6.

Dracunculus argenteus. *Mor. hiſt. ſ.* 6. *t.* 10. *f.* 5.

Leaves jagged flat obtuſe tomentoſe.

12. Achillea Ptarmica. *Sneezewort Milfoil.*

Lin. ſpec. 1266. *Reich.* 3. 869. *mat. med.* 190. *fl. ſuec. n.* 771. *Hudſ. angl.* 375. *Wither. arr.* 941. *Curtis lond.* 5. 60. *Lightf. ſcot.* 495. *Hall. helv. n.* 117. *Pollich pal. n.* 819. *Fl. dan. t.* 643. *Krock. ſiles. n.* 1439. *Villars dauph.* 3. 255.

Ptarmica. *Camer. epit.* 354. *Ger. herb.* 483. *emac.* 606. 1. *Raii. hiſt.* 344. *ſyn.* 183.—*vulgaris. Cluſ. hiſt.* 2. 12. *Park. theat.* 859. *Blackw. herb. t.* 276.

Dracunculus pratenſis ſerrato folio. *Bauh. pin.* 98. *Mor. hiſt. ſ.* 6. *t.* 12. *f.* 1.

Leaves lanceolate acuminate finely ſerrate.

13. Achillea alpina. *Alpine Milfoil.*

Lin. ſpec. 1266. *Reich.* 3. 869. *hort. cliff.* 413. *Hall. helv. n.* 116. *Gmel. ſib.* 2. 196. *n.* 161. *Krock. ſiles. n.* 1440.

Leaves lanceolate tooth-ſerrate, toothlets very finely ſerrate.

[14. Achillea ſerrata. *Notch-leaved Milfoil.*

Retz. obſ. 2. 25. *n.* 83. *Ait. hort. Kew.* 3. 241.

Leaves linear-lanceolate ſeſſile tomentoſe, deeply ſerrate, laciniate at the baſe.

15. Achillea criſtata. *Slender-branched Milfoil.*

Retz. obſ. 2. 25. *n.* 84. *Ait hort. kew.* 3. 241.

Leaves linear ſerrate, ſerratures tranſverſe creſted; ſtem branched weak.

16. Achillea atrata. *Camomile-leaved* or *black Milfoil.*

Lin. ſpec. 1267. *Reich.* 3. 870. *Hall. helv. n.* 111. *Scop. carn. n.* 1094. *Jacqu. auſtr.* 1. *t.* 77. *Allion. pedem. n.* 661.

Chamæmelum alpinum, &c. *Till. piſan. t.* 19.

Matricaria alpina Chamæmeli foliis. *Bauh. pin.* 134. *Raii. hiſt.* 348.

Parthenium alpinum. *Cluſ. hiſt.* 1. 336.

Pinnules pectinate almoſt entire, peduncles villous.

17. Achillea moſchata. *Muſk Milfoil* or *Swiſs Genipi.*

Lin. ſyſt. 778. *Hall. helv. n.* 112. *Jacqu. auſtr.* 5. 45. *t. app.* 33. *Allion. pedem. n.* 662.

A. Genipi. *De Sauſſ. itin.* 2. 13.

A. Livia. *Scop. inſubr.* 6. *t.* 3.

Iva moſchata. *Geſn. epiſt.* 66.

Tanacetum alpinum odoratum. *Bauh. pin.* 132.

Millefolio alpino affinis planta, quibuſdam Iva moſchata. *Bauh. hiſt. Raii hiſt.* 347.

Leaves pinnate dotted, pinnas remote linear ſubulate almoſt entire, rays the length of the calyx.]

18. Achillea nana. *Dwarf Milfoil.*

Lin. ſpec. 1267. *Reich.* 3. 870. *Hall. helv. n.* 113. *Allion. pedem. n.* 663. *t.* 9. *f.* 2.

Millefolium alpinum incanum, flore ſpecioſo. *Bauh. hiſt.* 3. 138. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 11. *Raii hiſt.* 347.

M. alp. tomentoſum nanum. *Bocc. muſ.* 2. 166. *t.* 120.

Leaves pinnate toothed extremely hirſute, flowers glomerate-umbelled.

[19. Achillea magna. *Great Milfoil* or *Yarrow.*

Lin. ſpec. 1267. *Reich.* 3. 870. *Allion. pedem. n.* 668. *t.* 53. *f.* 1. *Krock. ſiles. n.* 1441. *Villars dauph.* 3. 259.

Millefolium maximum umbella alba. *Bauh. pin.* 140. *prodr.* 72. *Raii hiſt.* 346. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 5.

Leaves bipinnate rather hairy, the diviſions linear and toothed; earlets decuſſated.]

20. Achillea Millefolium. *Common Milfoil* or *Yarrow.*

Lin. ſpec. 1267. *Reich.* 3. 871. *fl. lapp. n.* 311. *ſuec. n.* 770. *mat. med.* 101. *Hudſ. angl.* 374. *Wither. arr.* 941. *Curtis lond. n.* 63. *Lightf. ſcot.* 496. *Gærtn. fruct.* 2. 426. *Woodv. med. bot.* 179. *t.* 64. *Hall. helv. n.* 107. *Scop. carn. n.* 1095. *Fl. dan. t.* 737. *Neck. gallob.* 361. *Pollich pal. n.* 820. *Allion. pedem. n.* 665. *Krock. ſiles. n.* 1442. *Villars dauph.* 3. 260.

Millefolium vulgare. *Park. theat.* 694. 1. *Raii hiſt.* 345. *ſyn.* 183.—album. *Bauh. pin.* 140. *Blackw. herb. t.* 18. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 6, 14. *Petiv. brit. t.* 19. *f.* 4.

M. terreſtre vulgare. *Ger. herb.* 914. 1, 2. *emac.* 1072. 1, 2.

β. M. purpureum majus. *Bauh. pin.* 140. *Raii hiſt.* 347. *ſyn.* 183.

γ. M. alpinum. *Cluſ. pann.* 562. *Hall. helv. n.* 107. δ.

Leaves bipinnate naked, diviſions linear toothed; ſtems furrowed towards the top.

21. Achillea nobilis. *Noble Milfoil.*

Lin. ſpec. 1268, *Reich.* 3. 871. *Hall. helv. n.* 109. *Pollich pal. n.* 821. *Allion. pedem. n.* 667. *Krock. ſiles. n.* 1444. *Villars dauph.* 3. 257.

Achillea. *Cord. hiſt.* 136. *Matth.* 713. *Camer. epit.* 750.

Millefolium nobile. *Trag. hiſt.* 476. *Ger. herb.* 915. *f.* 2. *emac.* 1073. *f.* 2. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 4. *Raii hiſt.* 346. 3.

Tanacetum minus album odore Camphoræ, ſ. Achillæa Dioſcoridis. *Bauh. pin.* 132.

Leaves bipinnate, the lower ones naked flat, the upper obtuſe tomentoſe, the flowers in convex and very crowded corymbs.

[22. Achillea odorata. *Scented Milfoil.*

Lin. ſpec. 1268. *Reich.* 3. 872. *Hall. helv. n.* 107. γ. *Sauv. monſp.* 267. *Jacqu. collect.* 1. 259. *t.* 21. *Krock. ſiles. n.* 1445. *Villars dauph.* 3. 258. *Barrel. ic. t.* 992. (Millefolium).

Millefolium odoratum minus Monſpelienſium. *Mor. blæs. Raii hiſt.* 346. *Magn. monſp.* 177.
Leaves bipinnate oval almoſt naked, corymbs faſtigiate crowded.

23. Achillea cretica. *Cretan Milfoil.*
Lin. ſpec. 1268. *Reich.* 3. 872.
Millefolium creticum. *Bauh. hiſt.* 3. 139. *Raii hiſt.* 347. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 12.
M. incanum cret. *Bauh. pin.* 140. *prodr.* 72.
Leaves linear, pinnas roundiſh imbricate backwards, ſtem tomentoſe.

24. Achillea ſquarroſa. *Rough-headed Milfoil.*
Ait. hort. kew. 3. 242.
Leaves lanceolate-linear pinnatifid, pinnas ovate, wedge-ſhaped, gaſh-acuminate vertical, ſtem ſomewhat villous.

25. Achillea herbarota. *Herbarota Milfoil.*
Allion. pedem. n. 656. *t.* 9. *f.* 3. *Villars dauph.* 3. 255.
Ptarmica alpina altera, floribus minus compactis. *Tournef. inſt.* 497.
Ageratum flor. albis. *Ger. emac.* 648. 4? *Raii hiſt.* 364.
Agerati ſpecies rarior, umbellis prorſus candidis. *Camer. epit.* 796?
Herba-rotta. *Bauh. hiſt.* 3. 144. *Ambroſ. phytogr.* 278.
Leaves wedge-ſhaped entire, toothed at the top.

26. Achillea liguſtica. *Marjoram-ſcented Milfoil.*
Allion. pedem. n. 660. *t.* 53. *f.* 2.
Leaves pinnate, pinnas ſharply toothed flat ſmooth.

27. Achillea tanacetifolia. *Tanſy-leaved Milfoil.*
Allion. pedem. n. 666. *Hall. helv. n.* 108. *Mor. hiſt. ſ.* 6. *t.* 11. *f.* 3. *Villars dauph.* 3. 260.
Ptarmica alpina Tanaceti foliis, flore purpureo. *Tournef. inſt.* 497.
Leaves pinnate, pinnas laciniate flat gaſhed and entire.

DESCRIPTIONS, USES, *&c.*

Moſt of the Milfoils are hardy, herbaceous, fibrous-rooted perennials; with the flowers commonly in corymbs at the ends of the ſtalk and branches; the ray in ſome yellow, in others white, in a few purple: the leaves in many of the ſpecies are pinnate, bipinnate, or ſuperdecompound; in a few they are ſimple. They are chiefly inhabitants of the Levant or the ſouth of Europe: the 12th and 20th only are natives of England.

The ſpecies want to be better deſcribed; and probably it may be found that culture has produced ſome changes which have been taken for ſpecific differences.]

1. This has large yellow flowers, which ſtand upon pretty long peduncles ſingly, not in cloſe bunches, as in the common ſort. It has leaves like thoſe of Lavender-Cotton, which when rubbed, emit a ſtrong oily odour. It flowers in june and july; [is an inhabitant of the Levant; and was cultivated by Mr. Miller in 1759 *.

2. The root of *Sweet Maudlin* is woody, and the ſize of the little finger. Stems ſeveral, eighteen inches and more in height, ſlender, pale green or reddiſh, branching, covered from top to bottom with abundance of leaves †. Theſe are alternate, oblong, toothed both at the baſe and extremity. There is ſometimes a parcel of ſmaller leaves at the axils. Yellow, odorous flowers terminate the plant in a long, cloſe corymb. The calyxes are ſomewhat oval, hard, browniſh red, and ſcaly ‡.

It is a native of Italy, about Florence, Leghorn, Nice, &c. of the South of France, about Montpelier, Orange, &c. and of Spain; by road ſides: flowering from auguſt to october. It was cultivated here in 1570 §.]

Being now ſcarcely uſed in medicine, it is not cultivated in the gardens for ſale: or if it is aſked for, the people in the markets give the thirteenth ſort, which is a very hardy plant, and eaſily propagated. For though this is hardy in reſpect to cold; yet in wet winters the roots are often killed, eſpecially in good ground; but when the plants grow out of the joints of walls, or in rubbiſh, they will live many years without care. There are two varieties of this plant; one of them having longer and more compact corymbs; the other broader leaves and ſmaller flowers.

[It is ſweet to the ſmell; bitter to the taſte, and aromatic. Linneus ſets it down as obſolete and ſuperfluous. Allione, on the contrary, thinks it an efficacious plant, and recommends it in all diſorders ariſing from a debility of the nerves. He prefers it much to Tanſy.

3. The ſtem, leaves and calyxes are downy-white. Leaves reſembling thoſe of *A. criſtata*; the ſerratures deeper, but turned the ſame way. Corymb as in *A. tomentoſa*, but ſmaller; with ſulphur-coloured flowers *. It is a native of the Eaſt, where it is uſed in medicine.

4. Stems many, leafy, a foot high. Leaves tomentoſe, finely cut, with a ſtem-claſping petiole; fifteen pairs of pinnas; firſt pinnules trifid, the reſt ſimple. Flowers umbelled. Calyx ſmooth, pale, rather ſhining. The whole flower a fine yellow. The ſmell pleaſantly aromatic †. Retz ſuſpects that two diſtinct ſorts are comprehended under this.]

It is often planted in gardens for the ſake of variety: is of humble growth, but the flowers continue long in beauty. It grows naturally in Spain, the ſouth of France, the Valais and Italy; but bears the open air very well in England, [and was cultivated in the Oxford garden in 1658 §.

5. This has no chaffs to the receptacle, and therefore recedes in that circumſtance from the generic character. It is a native of the Levant, and was cultivated in the botanic garden at Chelſea in 1739 §.

6. A native of the Levant, and cultivated 1739, by Mr. Miller §.

It grows to the height of two feet and a half, having large corymbs of yellow flowers on the top. Leaves ſomewhat like thoſe of common Wormwood, and cut into long narrow ſegments. It flowers in june and july.

7. Pinnules diſtinct, remote, blunt, ſmall, quite entire. Native of the Levant ‖.]

8. This riſes from nine inches to a foot in height. It has finely-cut ſilvery leaves, which remain all the year; and the plant growing cloſe and low, makes a pretty appearance at all ſeaſons. The flowers are produced in corymbs, on the top of the ſtalks; appear from june to ſeptember, and ſome of them frequently continue the greater part of the winter.—[It is a native of the Levant, and was cultivated 1712 in Chelſea garden §.]

9. *Feverfew-leaved Milfoil* produces many ſtalks which riſe near three feet high, having looſe branching corymbs of white flowers on their top, reſembling thoſe of the common Sneezewort, but larger. [The leaves are of the ſize of Tanſy leaves. The ſtem is ſubpubeſcent. The ſcales of the calyx are edged with black ¶. The whole plant ſmells like Sneezewort, but pleaſanter, eſpecially the flowers **.]

It is a native of the Alps, is very hardy, thrives in almoſt any ſoil, but loves an open expoſure, and deſerves a place in gardens. [It flowers in july and auguſt; and was cultivated in 1759, by Mr. Miller ††.

10. The ſtem of *Impatient Milfoil* ſhines, is ſlightly ſtreaked, and at bottom is red; it is clothed with abundance of leaves from top to bottom, deeply cut into narrow ſharp pinnas, dark green and ſhining on both ſides, of different ſizes; the four or five loweſt pinnas on the upper ſide next the rib have an upright ſharp tooth, reaching to the next pinna; but the eight or ten upper ones have no teeth. The ſtem terminates in a handſome umbel of white flowers, which are very large in proportion to moſt of this

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* Hort. Kew. † Ray. ‡ Villars.
§ Lob. adv. 208. from Hort. Kew.

* Retz. obſ. ‡ Haller. § Hort. Kew.
‖ Lin. hort. cliff. ¶ Linneus. ** Haller.
†† Hort. kew.

genus; the florets in the ray are elegantly cut. It is frequent in all Siberia *.]

11. *Silvery-leaved Milfoil* is a very humble plant, rarely riſing above ſix inches high. The flowers are nearly as large as thoſe of common Sneezewort; white, and growing in flat corymbs; they appear in june and july. The leaves have ſome likeneſs to thoſe of common Wormwood, and are very hoary, growing cloſe to the ground, and decaying in autumn.

[The whole plant hoary with a white nap. Stems near a foot in height, ſimple, leafy near the ground, but above almoſt naked, hairy. Leaves flat, pinnatifid; diviſions as far as ſeven, unequal, dilated outwards, entire or with only one tooth. Flowers almoſt twenty in a corymb. Scales of the calyx rather hairy, with a brown edge. Florets in the ray eight or thereabouts. Seeds oblong, ſmooth. Chaffs lanceolate, cut †. Native of the Alps of Switzerland, Auſtria, Pannonia and Carinthia. Cultivated 1683 by Mr. James Sutherland ‡.

12. *Sneezewort* has the root perennial, creeping. Stems from one to two feet high or more, upright, firm; ſomewhat angular, villous and branching at top; but not ſo villous, ſlender or angular as in Common Milfoil: they are often tinged with red. Leaves alternate, half embracing the ſtem, two or three inches long, firm, ſmooth, dark green and ſomewhat ſhining; the ends of the ſerratures white, and almoſt as hard as bone; marked underneath with two longitudinal ribs beſides the mid-rib. Flowers in a looſe, compound, upright, villous, leafy corymb, at the end of the ſtem, fewer and larger than in *A. Millefolium.* Calyx hemiſpherical, ſomewhat tomentoſe, ſcales imbricate, but not ſo much as in Common Milfoil, keeled, bright green with membranaceous reddiſh brown edges. Florets in the centre numerous, white or dirty yellow: in the ray eight or ten, ſeldom more, ovate, broad, white, blunt at the end, and having three teeth. Seeds numerous, having a kind of wing on each ſide, truncate, ſhining. Chaffs of the receptacle membranaceous, blunt, ſcarcely the length of the florets §.

Sneezewort grows wild in all the temperate parts of Europe. In Britain it is found not very uncommon in meadows, by the ſides of ditches, on the balks of corn fields, in moiſt woods and ſhady places.] It creeps greatly by the roots. In the ſpring the young tender ſhoots are put into ſalads, to correct the coldneſs of other herbs; and the roots being hot and biting, are uſed for the tooth-ach, whence ſome have given the title of field or baſtard Pellitory to this plant. From the form of the leaf it is called Gooſe-tongue. [The dried powder of the leaves, ſnuffed up the noſtrils, provokes ſneezing, and hence its trivial and Engliſh name. In Siberia it is ſaid to be uſed with ſucceſs in internal hæmorrhages, taken in form of a decoction of the whole herb.]

There is a variety with double flowers, which is preſerved in gardens, and is commonly known by the name of *double Ptarmica,* or *Batchelors Buttons.* When this is planted in pots, ſo as to confine the roots from creeping, the ſtalks will grow cloſer together, and then it makes a tolerable appearance when in flower, which is july and auguſt.

13. *Alpine Milfoil* bears ſome reſemblance to the laſt, but the leaves are longer, deeper cut on their edges, and of a darker green. It is very hardy; [and is a native of Switzerland, Savoy and Siberia. Linneus queſtions whether ſituation may not have altered this from the laſt; and Gmelin ſuſpects that it is only a variety. Cultivated 1731 by Mr. Miller ‖.

14. Root perennial. Stem branched, panicled, angular, ſomewhat tomentoſe. Leaves half ſtem-claſping, with ſingle, large, equal ſerratures, cut into little jags to the very rib near the baſe. Scales of the calyx duſky violet-coloured about the edge. The flowers reſemble thoſe of the Sneezewort (n. 12); there are ten florets in the ray, each having two notches at the end: the diſk is elevated and gray. It differs from *A. alpina,* in the ſerratures of the leaves, which are alſo whiter; and in having larger flowers. It has the appearance of *Ptarmica*; whereas *A. alpina* approaches nearer to the genuine Milfoils *.

It flowers in auguſt and ſeptember: and was introduced in 1784, with the next ſpecies, by Mr. John Græffer †.

15. Root perennial. Stem roundiſh, ſomewhat tomentoſe. Leaves ſeſſile, ſcarcely ſubtomentoſe; the ſerratures not parallel to the ſurface, but oppoſite to the edge, very finely ſerrulate. Scales of the calyx white about the edge. Ray of the flower white, with from ſix to eight florets, each having two notches at the end. Diſk flattiſh, yellowiſh. This is perhaps the ſame with n. 161. in the ſecond volume of Gmelin's Flora Sibirica. It has been uſually confounded with Linneus's *A. falcata,* which has yellow flowers, and is a native of the Eaſt *.

It flowers here in july and auguſt †.

16. The edges of the ſcales in the calyx are black, and as it were mortified. The leaves are ſometimes bipinnate ‡. Stems many, hard, nine inches or a foot high, ſimple, villous at the baſe. Leaves rather hairy, with ten or twelve pairs of linear pinnas. A corymb terminates the branch, with large flowers. Semiflorets from ſix to ten §. On the mountains of Switzerland, the Valais and Auſtria. Introduced 1774 by Doctors Pitcairn and Fothergill ‖.

17. *Muſk Milfoil* bears ſo much reſemblance to the laſt, as not readily to be diſtinguiſhed, unleſs its pleaſant aromatic ſmell be attended to. The root however is not ſharp, the ſtems are lower, the peduncles leſs tomentoſe. The leaves greener, more ſimple, with not more than ten pairs of pinnas, punctured, pulpy, and when magnified appearing to be netted. Scales of the calyx very ſlightly haired, ſhorter, more compact, brown not black. Flowers leſs ¶.

This is the true *Genipi* of the Swiſs. In Savoy they call it *Genipi bâtard,* and give the name of true *Genipi* to the *Artemiſia rupeſtris* **. Either of them is an excellent ſudorific; but hot and frequently injurious in the pleuriſy, when the fever is high ††.

It promiſes to be of much ſervice in diſorders ariſing from a debility of the ſolids: and is a grateful food to all ſorts of cattle ‡‡.

It grows wild in Switzerland on the high Alps, in Savoy, Piedmont, and Auſtria: and was introduced 1775 by Doctors Pitcairn and Fothergill §§.

18. *Dwarf Milfoil* is a very ſmall plant. The chaffs between the florets in the diſk black at top ‖‖. It is lower than the laſt; the ſtem often bent, and the leaves tomentoſe. Theſe have more pairs of pinnas, which are nearly equal: the firſt from the root ſimple, the farther ones gaſhed, trifid or quinquefid, always lanceolate. The pinnas of the ſtem-leaves generally ſimple. The punctures leſs conſpicuous, but full of balſam. Umbels compact, narrow, flat. Calyx hairy, with black edges. It never loſes the nap. The ſmell is ſomewhat weaker than that of the laſt, for which it is ſold ¶¶. On the high Alps of Switzerland, the Valais and Savoy. Allione obſerves, that the higher and colder the ſituation in which it grows, the thicker is the *tomentum* or flock which covers it.] This is hardy, and will thrive with us in almoſt any ſoil, but loves an open expoſure. It deſerves a place in gardens.

[19. This ſort very much reſembles common Milfoil, but is twice the ſize. The ſtem has hairs, thinly ſcattered over it. The leaves alſo are like thoſe of common Milfoil, but larger, and with two ears at the baſe, one under the leaf, the other prominent above the rib, as in *Athamanta Libanotis* ***. The whole plant is hairy. Florets and ſemiflorets five. Leaves confluent, with the leafy nerve flat, embracing the ſtem with two pairs of pinnules. Pinnas deep, pinnatifid; pinnules ſharply toothed: ſmall pinnules are interpoſed between the greater ones: the firſt are remote and have none of them; then they approach nearer till they are confluent with the leafy nerve[*]. In Italy. Cultivated 1683 by Mr. James Sutherland[†].

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* Gmelin. † Haller, & Scopoli. ‡ Hort. kew.
§ Curtis, Withering, Relhan, Woodward, MS.
‖ Hort. kew.

* Retz. obſ. † Hort. kew. ‡ Linneus. § Haller.
‖ Hort. kew. ¶ Haller. ** De Sauſſ. voy. †† Haller.
‡‡ Scopoli. §§ Hort. kew. ‖‖ Linneus. ¶¶ Haller. *** Linneus.

20. *Common Milfoil* or *Yarrow* has the *Root* perennial creeping. *Stem* a foot high or more, upright, almoſt round, or ſlightly angular; below ſmooth with a ſlight down like a cobweb; at top grooved, woolly, and branched. *Leaves* alternate, ſmooth above, a little hairy underneath, very long and finely divided, compoſed of 20—25 ſhort pinnas, each ſubdivided into 3—7 pairs of pinnules, which are again cut into trifid or quinquefid lanceolate ſegments: thoſe at bottom are petioled; but on the ſtem they are ſeſſile, or ſomewhat ſtem-claſping. *Flowers* in a cloſe, broad-topped corymb, on tomentoſe peduncles. Scales of the calyx lanceolate, with a green keel, and pale-brown membranaceous edges. Florets in the diſk twelve or fifteen, but not more than four or five expanding at once; they are the length of the calyx, the tube dirty yellow, the border whitiſh and tranſparent; in the ray four or five, ſlightly three-toothed. *Seeds* oblong, compreſſed; the edge white[‡].

Abundant in paſtures and by road ſides, flowering from june to ſeptember.

The inhabitants of Dalekarlia mix it with their ale, inſtead of hops, in order to increaſe the inebriating quality of the liquor. *Ut miſere inebriet*, is Linneus's expreſſion.

This plant has been generally execrated as a noxious weed in paſtures; it is found however to be eaten by cattle, at leaſt by ſheep; and has lately been even recommended for cultivation[||]. Perhaps other plants beſides this, may be of ſervice to cattle in paſtures, rather as medicine than as food.

Linneus recommends the bruiſed herb freſh as an excellent vulnerary and ſtyptic: many foreign phyſicians ſtill have an opinion of it in hæmorrhages; according to Dr. Hill, it is excellent in dyſenteries, taken in form of a ſtrong decoction: an ointment is made of it for the piles, and it is reckoned good againſt the ſcab in ſheep. An eſſential oil is extracted from the flowers. It is not in uſe with us in the preſent practice.

The variety with purple flowers of different ſhades is not uncommon, wild; and is frequently ſeen in gardens. The Alpine is a variety ariſing merely from ſituation; and is different from the thirteenth ſort. In cultivation they both approach to the common ſpecies.]

21. *Noble Milfoil* approaches near to the foregoing or common ſort, but the leaves are of a pale green, and not ſo long, or ſo much cut: theſe have a ſtrong ſweet ſcent when bruiſed.

[The leaves on the upper flowering branches are ſimple, ſemipinnate, quite entire, tomentoſe, obtuſe. Stems round, not furrowed. The ray of the flower becomes at length reflex, ſo as not to appear[¶].

Stem a foot and half or two feet high, erect, furrowed, angular, hoary, roughiſh. Leaves pubeſcent, roughiſh. Corymbs flattiſh. Scales of the calyx with a yellowiſh edge, not ſo brown as in the common ſort. The perianth is alſo leſs. The floſcules of the ray are much ſmaller, and the white not ſo vivid: the diſk is a whitiſh gray: the chaffs broad and lanceolate: the ſeeds naked. The flowers are much leſs. The ſcent is ſtronger, and the qualities appear to be more powerful than in common Milfoil. Native of Italy, Germany, Switzerland, Narbonne, Tartary[**]. Cultivated 1640 by Mr. John Parkinſon.

22. *Scented Milfoil* has the leaves equally bipinnate; pinnules diſtinct, quite entire, acute. Stem ſcarcely more than a palm high[*]. Gerard and Haller make this only a variety of the foregoing. Native of Spain, Narbonne, Switzerland, &c.

23. *Cretan Milfoil* has the air of the common ſort. Leaves ſubtomentoſe: pinnas kidney-ſhaped, above imbricate in four rows. Flowers white. Native of Crete[*].

24. Introduced in 1775, by Monſ. Thouin[†].

25. The creeping roots of this ſpecies ſometimes produce two or three pacquets of oblong, blunt, ſmooth leaves, enlarging towards the end, which is rounded and toothed, as in thoſe of *Bellis* or common Daiſy. The ſtems are bending, two or three inches high, and finiſh in a corymb of five or ſix white flowers. The ſtem-leaves are ſeſſile, and toothed at the baſe, like thoſe of *Achillea Ageratum*. The whole plant is green, odorous, and but little tomentoſe[‡].

On the colder Alps the leaves are leſs firm, and toothed all round. This ſpecies is in great and general eſteem among the peaſants of the Alps: and is recommended as a ſudorific; againſt worms, flatulencies and intermittent fevers[§].

26. Stems inclined to woody, eighteen inches high and leafy, branching, ſtreaked, ſmooth or a little hairy. Leaves rather thick and juicy. Flowers white. This ſpecies, as well as the laſt, has a very ſtrong ſmell, like Maudlin[§].

27. Stem eighteen inches high, erect. The leaves are much ſhorter and broader than in the common ſort, with a broad nerve, and fewer pinnas, ſcarcely more than ſixteen pairs: but each pinna is much broader, the lobes generally entire, but ſometimes they have two or three teeth; and they are dotted. The calyx is ſmooth, and has brown edges. Native of the Griſons; and not uncommon in the paſtures and valleys of the Alps[||].

PROPAGATION AND CULTURE.

All the ſpecies of Achillea may be propagated by parting the roots either in ſpring or autumn. Many of them ripen their ſeeds, and may therefore be increaſed that way by ſowing them in march or april; and tranſplanting them at Michaelmas. They will flower the ſummer following. Some alſo will grow from ſlips or cuttings, planted in a ſhady border in ſummer. They are moſtly hardy, and require little care in the cultivation.

Thoſe which are moſt commonly ſeen in gardens are, the purple variety of common Milfoil, the double variety of common Sneezewort, called double Ptarmica, and woolly Milfoil n. 4.

Whatever merit the alpine ſorts may poſſeſs as medicines, it cannot anſwer to cultivate them with that view in gardens, for they owe their efficacy to their peculiar ſituation. But they who are deſirous of having them for variety, will find that they are very hardy, and will thrive almoſt in any ſoil, but that they love an open expoſure.]

The fifth and ſixth ſorts are of taller growth: being eaſily propagated and cultivated both by roots and ſeeds, and hardy enough to live in the open air, they may be allowed a place in gardens, where, by their hoary leaves, they will make a pretty diverſity; and their flowers continuing long, though they are not the moſt beautiful, yet make a pretty contraſt when intermixed with others.

The eighth muſt have a dry ſoil and a warm ſituation, where it will endure the cold of our ordinary winters in the open air: but being often deſtroyed in very ſevere froſts, a few plants ought to be ſheltered under a frame. It rarely perfects ſeeds in England, and therefore is propagated by ſlips.

The eleventh ſhould have a dry ſoil; for much wet in winter will rot it. This never perfects its ſeeds in England, and therefore is propagated only by parting the roots.

The thirteenth propagates faſt enough by its creeping root, like the Common Sneezewort, to which it is very nearly allied.

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[*] Allione. [†] Hort. kew. [‡] Haller, Curtis, Withering. [||] Anderſon's Eſſays on Agriculture. [¶] Linneus. [**] Pollich.

[*] Linneus. [†] Hort. kew. [‡] Villars. [§] Allione. [||] Haller.

[The ſixteenth will not admit of cultivation, according to Ray, nor can it be reconciled to a garden, whatever pains you take with it. This circumſtance however is not peculiar to this ſpecies; for many of the Alpine plants cannot be kept long in gardens, even at the foot of the Alps, without difficulty.]

The twentieth or common Milfoil creeps greatly by its roots, and alſo multiplies by ſeeds, ſo that it is a troubleſome weed in gardens. The variety with purple flowers is apt to loſe its colour with cultivation.

The nineteenth and twenty-firſt ſorts are equally hardy with this, and therefore require little culture.

[Achillea *inodora.* See *Athanaſia.*

——— montana. See *Senecio.*

——— tanecitifolia of *Miller.* See *Chryſanthemum.*

Achimenes. See *Columnea.*

ACHRAS (The Greek name of a tree in Theophraſtus, commonly tranſlated the *Wild Pear.* Ariſtotle (Anim. 8. 6.), ſays, that ſwine were fattened with the fruit.) Ælian var. hist. Lib. III. Ch. 39

Lin. gen. n. 438. *Reich.* 473. *Schreb.* 593. *Loefling. Jacqu. amer.* 56. *Browne. Juſſ.* 152.

Sapota *Plum.* 4. *Mill. dict.*

Engl. Sapota-tree. *Fr.* Sapotillier.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Dumoſæ. Sapotæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* ſix-leaved: *leaflets* ovate, concave, erect; outer broader ſhorter, inner coloured.

Cor. one-petalled, ovate; of the ſame height with the calyx: *border* cut into ſix ſubovate flat diviſions: *ſcales* at the jaws of the corolla, equal in length to the diviſions, narrower, ſpreading, emarginate.

Stam. *Filaments* ſhort, awl-ſhaped, at the jaws of the corolla, alternate with the diviſions, bent inwards. *Anthers* ſharp.

Pist. *Germ* roundiſh, flatted. *Style* awl-ſhaped, longer than the corolla. *Stigma* obtuſe.

Per. A globoſe very ſucculent *pome*, with twelve cells.

Seeds, ſolitary, ovate, ſhining, ſcarred on one ſide and pointed at the baſe.

Obs. A. mammoſa *has a ſixth part leſs in the parts of fructification.*

ESSENTIAL CHARACTER.

Cal. ſix-leaved. *Cor.* ovate, ſexfid: with ſix ſcales alternate, more within. *Pome* ten-celled. *Seeds* ſolitary, with a ſcar on the edge, and a tail or proceſs at the top.

SPECIES.

1. Achras mammoſa. *Mammee Sapota.*
Lin. ſpec. 469. *ſyſt.* 341. *Reich.* 2. 103. *Jacq. amer.* 56. *t.* 182. *f.* 19. *edit.* 2. *pict. p.* 32. *t.* 59. *Brown. jam.* 201. *n.* 5. *Sloan. jam.* 2. *p.* 124. *t.* 218. *Pluk. alm. t.* 268. *f.* 2. *Raii hiſt.* 1800.
Sapota mammoſa. *Mill. dict. n.* 2.
β. The Bully, or Niſberry Bully Tree. *Brown.* 201. *n.* 3.

2. Achras Sapota. *Common Sapota.*
Lin. ſpec. 470. *ſyſt.* 342. *Reich.* 2. 104. *Swartz obſ.* 128. *Jacq. amer.* 57. *n.* 2. *t.* 41. *edit.* 2. *pict. p.* 33. *t.* 60. *Loefl. itin.* 186. *Brown. jam.* 200. *n.* 1. *t.* 19. *f.* 3. *Plum. gen.* 43. *Plenck. ic. t.* 277.
Sapota Achras. *Mill. dict. n.* 1.
β. A. Zapotilla. *Jacq. amer.* 57. 2. β. *t.* 41. β. *Cateſb. car.* 2. 87. *Brown. jam.* 200. *n.* 2. *Sloan. jam.* 2. *p.* 171. *t.* 230. & 172. *t.* 169. *f.* 2. *Raii dendr.* 78, 79.
Flowers ſolitary, leaves lanceolate-ovate.

[3. Achras diſſecta. *Cloven-flowered Sapota.*
Lin. ſyſt. 342. *ſuppl.* 210. *Forſt. pl. eſc. n.* 13. *fl. n.* 155.
Flowers crowded, corollas cloven into eight parts, leaves obovate, bluntly notched at the end.

4. Achras ſalicifolia. *Willow-leaved Sapota.*
Lin. ſpec. 470. *Reich.* 2. 104. *Brown. jam.* 201. *n.* 8. *t.* 17. *f.* 4. *Sloan. jam.* 2. *p.* 98. *t.* 206. *f.* 2.
Bumelia ſalicifolia. *Swartz prodr.* 50. *obſ.* 129.
Flowers crowded, leaves lanceolate-ovate, acuminate.]

DESCRIPTIONS, &c.

1. *Mammee Sapota,* otherwiſe called *Nippled S.* or *American Marmelade,* grows in America to the height of thirty-five or forty feet, having a ſtraight trunk, covered with an aſh-coloured bark. The branches are produced on every ſide, ſo as to form a regular head. The leaves are a foot in length, and near three inches broad in the middle. The flowers are cream-coloured, and are ſucceeded by large oval or top-ſhaped fruit, covered with a browniſh ſkin, under which is a thick pulp of a ruſſet colour, very luſcious, called natural marmelade, from its likeneſs to marmelade of Quinces. This tree is commonly planted in gardens for the fruit, in Jamaica, Barbadoes, Cuba, and moſt of the Weſt-India iſlands. [It was cultivated 1739 by Mr. Miller *.

There is a variety of this, called the *Bully* or *Niſberry Bully Tree,* becauſe it generally grows the talleſt of all the trees in the woods: its fruit is ſmall; the ſeeds oblong and narrow. It is eſteemed one of the beſt timber trees in Jamaica †.

2. *Common Sapota* is a large, tall, ſtraight tree, without knots or branches, for ſixty or ſeventy feet, or more. The head ſpreads into many ſmall branches, which grow pretty thick and cloſe together. The bark is dark gray, thick and rough, full of large chops. The fruit is bigger than a Quince, round, and covered with a thick gray rind, which when the fruit is ripe, becomes yellow and tough. The fleſh is yellow as a carrot, and in the middle are two large rough ſtones, flat, and each much bigger than an almond. The fruit ſmells very well, and the taſte is anſwerable §.

It is deſcribed by Swartz as a ſoft roundiſh Berry, the ſize of a ſmall apple, having from ſix to twelve cells, with ſeveral ſeeds in each: he remarks, however, that moſt of the ſeeds are uſually loſt by cultivation. The corolla is white, and almoſt cloſed. The flowers come out both from the axils, and the ends of the twigs, ſingly, on peduncles the length of the petioles, bent down and thickiſh. The leaves are ſcattered chiefly at the ends of the twigs; they are petioled, oblong at the baſe and drawn to a point at the end, entire, membranaceous and ſtiffiſh, beautifully nerved and veined, ſmooth and bright green ‡.

The Mammee Sapota (n. 1.) is not ſo big or ſo tall, neither is the fruit ſo large or ſo round: the rind is thin and brittle, the inſide a deep red, and it has a rough flat long ſtone. It is pleaſant and wholeſome. There is a wild Mammee (n. 1. β.) which bears a fruit of no value; but the tree is ſtraight, tall and tough, and therefore principally uſed for maſts §.]

The American Sapota or Niſberry Tree is common about Panama, and ſome other places in the Spaniſh Weſt-Indies, but is not to be found in many of the Engliſh ſettlements. [It was cultivated 1739 by Mr. Miller ‖.

The Sapodillia is thus deſcribed by Browne. It riſes to a conſiderable height, throwing out its branches on all ſides. Leaves ſmooth and beautiful; and the fruit, which generally grows among them, of a moderate ſize, and when ripe of a delicate mellow taſte. All the tender parts are full of a milky juice, extremely harſh, and bitteriſh; but the fruit, though full of this while young, is very ſweet and agreeable when it ripens. The ſhells that cover the ſeeds are generally of a ſhining or gloſſy brown caſt, but the inward edge is always whitiſh and rugged. The kernel is bitter, and may be uſed occaſionally in ſtrengthening emulſions.

The Sapadillo-tree, ſays Dampier, is as big as a large Pear-tree, the fruit much like a Bergoma Pear, in colour, ſhape and ſize; but in ſome trees the fruit is a little longer. When it is green or firſt gathered, the juice is white and clammy, and will ſtick like glue; then the fruit is hard, but when it has been gathered two or three days, it grows ſoft and juicy, and then the juice is clear as ſpring water, and very ſweet; in the midſt of the fruit are two or three black ſtones or ſeeds, about the bigneſs of a Pompion ſeed. This is an excellent fruit.

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* Hort. kew.　† Browne.
‡ Swartz obſ.　§ Dampier.　‖ Hort. kew.

3. This is a lofty tree, with a thick upright trunk, and abundance of branches, tubercled, and bearing leaves and branches at the ends. Leaves crowded, quite entire, ſmooth, coriaceous, two inches long; on round ſlender ſmooth petioles, near an inch in length. Peduncles one-flowered, filiform, ſpreading, the length of the petioles; they come out on all ſides of the twigs from the boſoms of the leaves, and frequently hang down. The flowers are white, and about half an inch in diameter. All the herbaceous parts of this tree are milky. It is cultivated in Malabar for the fruit, which is a Pome of the form and ſize of an Olive, ſucculent, the pulp of a ſweetiſh acid flavour, and containing only one or two ſeeds, the reſt of the cells being uſually abortive. The leaves are uſed for cataplaſms to tumours, being bruiſed and boiled with the root of Curcuma and the leaves of Ginger. It is ſuppoſed to be a native of the Philippine iſlands, whence it is called *Manylkara* and *Manil-gale*, and by the Portugueſe *Fruita Manilha*. It probably grows alſo in China, for the Dutch call it *Chineeſche pruynen*. Forſter found it flowering in ſeptember, in the iſland of Tongatabu *.

4. The *Willow-leaved Sapota*, called in Jamaica *White-Bully tree* or *Galimeta wood*, grows to a conſiderable height, with many branches towards the top, riſing irregularly, at diſtant ſtages, as in moſt firs. It is commonly ſtraight and tapering, and moſt frequently found in the lower lands. The wood is pale yellow, and reckoned good timber, but is moſtly uſed in ſuch parts of the building as are leaſt expoſed to the weather. No part of the tree is milky †. It was cultivated in 1758 by Mr. Miller ‡.

The bark of the *Sapota* and *mammoſa* is very aſtringent, and goes under the name of *Cortex jamaicenſis*. It was once ſuppoſed by ſome to be the true Jeſuit's bark, has been given as ſuch to the Negroes with very ill effect, and has been tried in England. It is an excellent aſtringent, but very different from Jeſuit's bark §.

Browne enumerates three other ſorts of Achras, *viz.*

n. 4. Beef-wood.
6. Baſtard Bully Tree.
7. Mountain Baſtard Bully Tree.

Theſe, together with the fourth ſpecies, and ſome others, are comprehended by Swartz under a new genus conſtituted by him, entitled *Bumelia*.]

PROPAGATION AND CULTURE.

As theſe trees are natives of very warm countries, they cannot be preſerved in England, unleſs they are placed in the warmeſt ſtoves and managed with great care. They are propagated by planting the ſtones, but as theſe will not keep good long out of the ground, the ſureſt method to obtain theſe plants is, to have the ſtones planted in tubs of earth, as ſoon as they are taken out of the fruit, and the tubs placed in a ſituation where they may have the morning ſun, and kept duly watered. When the plants come up, they muſt be ſecured from vermin, and kept clear from weeds, but ſhould remain in the country till they are about a foot high, when they may be ſhipped for England; but they ſhould be brought over in the ſummer, and, if poſſible, time enough for the plants to make good roots after they arrive. During their paſſage they muſt have ſome water, while they continue in a warm climate; but as they come into colder weather, they ſhould have very little moiſture; and they muſt be ſecured from ſalt water, which will ſoon deſtroy the plants if it gets at them.

When theſe plants arrive in England, they ſhould be carefully taken out of the tubs, preſerving ſome earth to their roots, and planted into pots filled with freſh earth, and then plunged into a moderate hot-bed of tanners bark, obſerving, if the weather is hot, to ſhade the glaſſes with mats every day, to ſcreen the plants from the ſun, until they have taken new root; obſerving alſo not to water them too much at firſt, eſpecially if the earth in which they come over is moiſt; becauſe too much water is very injurious to the plants before they are well rooted, but afterward they muſt be frequently refreſhed with water in warm weather; and they muſt have a large ſhare of air admitted to them, otherwiſe their leaves will be infeſted with inſects and become foul; in which caſe they muſt be waſhed with a ſponge to clean them, without which the plants will not thrive.

In the winter theſe plants muſt be placed in the warmeſt ſtove, and in cold weather they ſhould have but little water given to them, though they muſt be frequently refreſhed when the earth is dry; eſpecially if they retain their leaves all the winter, they will require a greater ſhare of water than when they drop their leaves; ſo that this muſt be done with diſcretion, according to the ſtate in which the plants are. As theſe plants grow in magnitude, they ſhould be ſhifted into pots of a larger ſize, but they muſt not be over-potted, for that will infallibly deſtroy them.

ACHYRANTHES (From Αχυρον *chaff*, and ανθη *a flower*. Thus *Ananthes*, *Dianthes*, *Opſianthes*, *Proianthes*, *Phyllanthes*, &c. in Theophraſtus.)
Lin. gen. n. 288. *Reich.* 311. *Schreb.* 404. *Juſſ.* 88. *Gærtn. t.* 188.
Achyracantha (From αχυρον and ακανθα *a thorn.*) *Dillen.* 7.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Amaranthi* Juſſ. *Miſcellaneæ* Lin.

GENERIC CHARACTER.

CAL. *Perianth* outer three-leaved, lanceolate, acute, permanent: inner five-leaved, permanent.
COR. none. *Nectary* of five valves, ſurrounding the germ, bearded at the tip, concave, caducous.
STAM. *Filaments* filiform, the length of the corolla. *Anthers* ovate, incumbent.
PIST. *Germ* ſuperior, turbinate. *Style* filiform, the length of the ſtamens. *Stigma* bifid, villous.
PER. *Capſule* roundiſh, one-celled, not gaping.
SEED ſingle, oblong.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* none. *Stigma* bifid. *Seeds* ſolitary.

SPECIES.

1. Achyranthes aſpera. *Rough Achyranthes.*
Lin. ſpec. 295. *ſyſt.* 246. *Reich.* 1. 574. *fl. zeyl. n.* 105. *hort. cliff.* 42. *Thun. jap.* 105. *Gærtn. fruct.* 2. 214.
α. A. ſicula. *Mill. dict. n.* 1. *Bocc. ſic.* 16. *t.* 9. *Pluk. phyt. t.* 260. *f.* 2.
β. A. indica. *Mill. dict. n.* 2. *fig. t.* 11. *f.* 2. *Burm. zeyl.* 16. *t.* 5. *f.* 3. *Rumph. amb.* 6. *p.* 17. *t.* 12. *f.* 1. *Rheed. mal.* 10. *p.* 155. *t.* 78. *Pluk. phyt. t.* 10. *f.* 4.
Stem ſhrubby erect; calyxes reflex, preſſed to the ſpike.

2. Achyranthes lappacea. *Burry Achyranthes.*
Lin. ſpec. 295. *ſyſt.* 246. *Reich.* 1. 575. *ſuppl.* 160. *fl. zeyl. n.* 103. *Mill. dict. n.* 3. *Gærtn. fruct.* 2. 214. *Burm. zeyl.* 47. *t.* 18. *f.* 1. *Pluk. phyt. t.* 82. *f.* 2. *Rheed. mal.* 10. *t.* 59.
Stem ſhrubby, diffuſed, proſtrate; ſpikes interrupted; lateral flowers having a bundle of hooked briſtles on each ſide.

[3. Achyranthes muricata. *Prickly Achyranthes.*
Lin. ſpec. 295. *Reich.* 1. 575. *Rumph. amb.* 5. 235. *t.* 83. *f.* 2.
Stem ſhrubby, patulous; leaves alternate; flowers in remote-ovate ſpikes; calyxes ſquarroſe.

4. Achyranthes patula. *Spreading Achyranthes.*
Lin. ſyſt. 246. *ſuppl.* 160.
Stem ſhrubby, patulous, pubeſcent; flowers in orbicular ſpikes, hedgehog-hooked.

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* Forſter pl. eſc. † Browne. ‡ Hort. kew. § Browne.

5. Achyranthes alternifolia. *Alternate-leaved Achyranthes.*
Lin. ſyſt. 246. *ſuppl.* 159. *mant.* 50. 344. *Reich.* 575. 3. β. *Pluk. alm. t.* 260. *f.* 1. *Burm. zeyl.* 17. *t.* 4. *f.* 2.
Stem herbaceous, erect; flowers in ſubglobular burrs.

6. Achyranthes corymboſa. *Corymbed Achyranthes.*
Lin. ſpec. 296. *ſyſt.* 246. *fl. zeyl. n.* 100. (Celoſia) *Burm. zeyl.* 184. *t.* 65. *f.* 2. (Paronychia) *Bocc. muſ.* 44. *t.* 39. (Amaranthus) *Pluk. alm.* 134. *t.* 86. *f.* 6. (Elichryſo-affinis).
Leaves four-fold, linear; panicle dichotomous-corymbed.

7. Achyranthes dichotoma. *Dichotomous Achyranthes.*
Lin. ſyſt. 246. *mant.* 51. *Reich.* 1. 576.
Stems ſuffruticoſe, leaves oppoſite linear flat acute; cyme dichotomous.

8. Achyranthes proſtrata. *Proſtrate Achyranthes.*
Lin. ſpec. 296. *Reich.* 1. 576. *Rumph. amb.* 6. 26. *t.* 11. *Bont. jav. t.* 150.
Stems proſtrate ſhrubby; ſpikes oblong; floſcules in pairs, with a hooked faſcicle on each ſide.

9. Achyranthes nivea. *White Achyranthes.*
Ait. hort. kew. 286.
Leaves verticilled ovate tomentoſe, corymbs compact dichotomous, flowers corolled.

10. Achyranthes altiſſima. *Tall Achyranthes.*
Swartz prodr. 51. *Jacqu. amer.* 81.
Celoſioides. *Loeſl. itin.* 301.
Celoſia. *Brown. jam.* 179. *n.* 2.
Blitum. *Sloan. jam.* 1. 142. *t.* 91. *f.* 2.
Amaranthus. *Plum. ſpec.* 6.
Stem ſuffruticoſe ſcandent, panicles terminating and axillary, branched.

11. Achyranthes polygonoides.
Retz. obſ. 2. 12. *n.* 24.
Digera arvenſis. *Forſk. ægypt.* 65.
Stem decumbent four-cornered, leaves ovate-cordate, ſpikes lax, ſhort.]

DESCRIPTIONS, &c.

1. The Sicilian plant grows near three feet high, with oblong pointed leaves; the flowers come out in long ſpikes from the extremity of the branches. [Involucre two-leaved ſubulate pungent. Calyxes ſolitary, with converging chaffy leaflets covering the capſule, which being very thin and ſcarcely diſtinct from the ſeed, can hardly be called a capſule. Seed ovate-oblong, almoſt cylindric, with a little beak on the ſide, the colour of honey[*].

As found in Malabar, Ceylon, Jamaica, and almoſt every where within the tropics, it has the leaves ſmooth and green on both ſides, like *Plumbago zeylanica*; broader than in the Sicilian plant, and dotted underneath: but the appearance, ſpike, ſtature, flower, &c. being the ſame in both, they are not diſtinct ſpecies[†]. It was cultivated here in 1713[‡].

2. Plant lofty. Stems quadrangular, obtuſe, almoſt naked. Leaves oppoſite, lanceolate-ovate, extremely ſharp-pointed both ways, quite entire. Branches from the axils, long and very ſtraight, terminating in a ſingle, long, interrupted ſpike. At each tooth of the peduncle three flowers, placed tranſverſely: by the lateral flowers on each ſide a purple pencil of ſtiff hooked briſtles, gradually expanding themſelves into a burr, which when the ſeed is ripe ſeparates and adheres to any thing[§]. Native of Malabar and Ceylon. Cultivated in 1759 by Mr. Miller[||].

3. Leaves petioled, ovate, entire, almoſt naked. Spike alternate, peduncled, long, as in the firſt ſpecies, but the flowers more remote, more ovate, and not reflex, but three ſcales of the calyx ſhorter and ſpreading[¶¶]. Native of India. Introduced in 1777 by Monſ. Thouin[**].

4. Stem erect, three feet high, brachiate, round, pubeſcent, green. Leaves oppoſite, petioled, ovate, acute, pubeſcent. Spike terminal, ſeſſile. Flowers diſtant, alternate, the lower oppoſite, whitiſh, each ſupported by a bracte, which is lanceolate, and reflex. Glume has three flowers, and is bivalve, the valves ovate, concave, membranous, acute. The middle floſcule ſeſſile; the calyx five-leaved, green, pubeſcent. The ſide-floſcules have two bractes, oppoſite, reſembling a calyx, expanding, contrary to the common glume, within which is a ſimilar faſcicle; with ſtiff, hooked, ſpreading, yellow briſtles, between which is the five-leaved pubeſcent calyx. In a ſtate of ſleep, the oppoſite leaves are bent down under the branch, and approximate to the under ſurface. Native of the Eaſt-Indies[*].

5. Stem flexuoſe, branching, angular, rough, purple. Lower branches wand-like, elongate, procumbent. Leaves alternate, petioled, remote, lanceolate, ſubflexuoſe, poliſhed, ending in long purple petioles. Heads ſolitary, ſubſeſſile, oppoſite to the leaves. Outer calyx three-leaved, ſetaceous, the length of the inner, which is five-leaved, lanceolate, erect, permanent, reddiſh white. Stamens a little ſhorter than the corolla. Germ globoſe. Style purple. Two ſtigmas[†]. Native of the Eaſt Indies.

6. An herb of a foot in height. Stem round, jointed. Stipules chaffy; and many leaflets from each axil in a faſcicle, which perhaps are rudiments of future branches, but not verticillate as in *Galium*. The flowers reſemble thoſe of *Celoſia*, and it was put into that genus formerly by Linneus.—Calyx five-leaved; petals five; ſtyle one, headed. Capſule trivalvular[‡]. Native of Ceylon.

7. Stems jointed, round, diffuſed. Leaves rough at the edge, twice as long as the joints of the ſtem, ſtiff, ſpreading, ſtipules oppoſite, membranous, lanceolate, broader than the leaves, the length of the joints, permanent, within the leaves. One or two cymes terminating, four-parted, dichotomous. Calyxes one-leafed, five-parted; leaflets awl-ſhaped, ſtreaked, rigid, awned without the tips. A ſtamen between each leaflet of the calyx. Style ſimple. Capſule one-ſeeded. It reſembles the foregoing. Native of Virginia[§].

8. Stems often creeping, divaricating, dark purple, hairy. Leaves oppoſite, obovate, ſubpetioled, a little hairy, acute, purple about the edge. Spikes from the forks of the ſtem, peduncled, ſolitary, green, purple at the tip. Flowers minute, ſubpedicelled, with the common calyx three-leaved, pointed: by the ſide of every other floſcule a purple pencil with hooked briſtles. Fruits reflex, ovate, obtuſe. Native of India[||].

9. Is a native of the Canary Iſlands, whence it was introduced here by Mr. Francis Maſſon in 1780. It flowers from may to july[¶].

10. The ſtalks of this ſpecies climb up trees to the height of twenty feet. The leaves are ovate, acute, ſmooth, entire, petioled, alternate, half a foot in length. The partial ſpikes have about ſeven flowers of a greeniſh white[**]. It is common among low buſhes about Spaniſh Town and Kingſton in Jamaica; and in the woods of Domingo. Browne calls it *Baſtard Hoop-withe*.

11. Stems frequently eighteen inches high. Branches alternate; leaves entire, ſmooth, wrinkled, alternate; the petioles half an ineh in length, ſtriated, raiſed underneath, channelled above, ciliate about the edge. Peduncles axillary, upright, a ſpan in length, naked for two inches at bottom, and thence having alternate, ſeſſile flowers[††]. It was found in Arabia by Forſkahl, and in Malabar by Koenig. It reſembles *Polygonum orientale* in leaves and ſpikes, but the latter are leſs compact. It is entirely diſtinct from *Illecebrum ſanguinolentum*[‡‡]. The Arabians call this plant *Didjar* and *Budjer*: from the firſt of theſe the trivial name is formed.]

PROPAGATION AND CULTURE.

1. The firſt ſort has been long known in England; but neither this, nor any of the others, having much beauty to recommend them, they are only

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[*] Gærtner. [†] Lin. ſpec. & zeyl. [‡] Hort. kew. [§] Linneus. [||] Hort. kew. [¶¶] Lin. ſpec. [**] Hort. kew.

[*] Lin. ſuppl. [†] Ibid. [‡] Linneus. [§] Ibid. [||] Linneus. [¶] Hort. kew. [**] Jacqu. amer. [††] Forſkahl. [‡‡] Retzius.

preſerved in botanic gardens. The firſt may be raiſed on a hot-bed from the ſeeds, and when the plants have acquired ſtrength, they may be removed into the full ground, where they will flower in july, and the ſeeds will ripen in ſeptember. If they are kept in pots, and ſet into a warm green-houſe in winter, they will live two or three years.

The other ſorts muſt be placed in a ſtove to preſerve them through the winter: except the ninth which will live in a green-houſe.

[ACIA (From the vernacular name *Acioua* in Guiana)
Lin. gen. Schreb. n. 1119.
Acioa *Aubl. t.* 280. *Juſſ.* 342.
Claſſ. 16. 5. Monadelphia Dodecandria.
Nat. order of *Pomaceæ.—Roſaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, turbinate, curved: *border* five-parted; *parts* roundiſh, ſpreading; the uppermoſt and two loweſt larger; the two middle ones ſmaller.

COR. *Petals* five, oblong, rounded; the three upper longer, aſcending; the two lower ſhorter.

STAM. *Filaments* twelve, unequal, uniting at bottom in a linear fleſhy membrane, inſerted into the calyx between the two ſmaller petals. *Anthers* roundiſh, ſmall.

PIST. *Germ* ovate, above the baſe adhering by the membrane of the ſtamens to a rib internally prominent from the bottom of the calyx. *Style* filiform, curved. *Stigma* acute.

PER. *Drupe* ovate, fibrous, chinked, large.

SEED. *Nut* ovate, with a brittle ſhell.

OBS. *Compare with this* Couepia *Aubl.* 207.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* five-petalled, unequal. *Drupe* full of chinks.

SPECIES.

1. Acia guianenſis.
Acioa guianenſis. *Aubl. guian.* 698.

DESCRIPTION, &c.

This is a tree, with a trunk ſixty feet in height, and three or four feet in diameter, covered with a ſmooth gray bark. The branches which form the head are numerous, thick, and twiſted. The leaves are alternate, ſmooth, entire, firm, waved about the edge, five inches long and three wide, on a very ſhort petiole at the baſe of which are two ſmall ſtipules which fall off. The flowers grow in corymbs at the extremities of the twigs. Calyx white. Corolla violet. Fruit the ſize of a walnut, covered with a thick woody fibrous coriaceous ſkin, of a brown colour, cracking irregularly and adhering to the ſtone, which is thin and eaſily breaks. It incloſes a large kernel, of an irregular form, dividing into two lobes, and covered with a ruſſet membrane. The taſte of it is agreeable; the Creoles eat it, when it is brought to market in auguſt at Cayenne, and reckon it good fruit. They alſo extract an oil from it as ſweet as that of almonds. They call the tree *Coupi*. The timber of this tree is very hard, and heavy, of a white colour inclining to yellow *.]

[ACIDOTON.
Swartz. prodr. 83. *Lin. gen. Schreb. n.* 1443.
Claſs. 21. 7. Monoecia Polyandria.

GENERIC CHARACTER.

* *Male flowers.*

CAL. *Perianth* five-leaved: *leaflets* ovate-lanceolate, reflex.

COR. none.

STAM. *Filaments* numerous (35—40), placed on a globular receptacle; the outer ſhorter, the inner longer, upright. *Anthers* cordate-ovate, upright, ſmall.

* *Females on the ſame or a different tree.*

CAL. *Perianth* ſix-leaved; *leaflets* linear-lanceolate, ſpreading.

COR. none.

PIST. *Germ* three-cornered. *Style* ſhort, acute, thick, trifid at the tip. *Stigmas* tomentoſe, reflex.

PER. *Capſule* three-grained, hirſute, three-celled.

SEEDS ſolitary, ovate.

ESSENTIAL CHARACTER.

MALE. *Cal.* five-leaved. *Cor.* none. *Stam.* fixed to a globular receptacle.

FEM. *Cal.* ſix-leaved. *Cor.* none. *Style* trifid. *Capſule* three-grained.

SPECIES.

1. Acidoton urens.
Swartz prodr. 84. *Sloan. jam.* 1. 124. *n.* 2. *t.* 83. *f.* 1.

DESCRIPTION, &c.

Height eight or nine feet. Trunk round, ſtraight, woody, the ſize of the little finger, covered with a ſmooth, browniſh bark. Leaves towards the top, alternate, narrow-lanceolate, three or four inches long, and three-quarters of an inch broad in the middle, even about the edges, except one ſmall jag in ſome towards the top, making them appear as if eared. Petioles one-eighth of an inch in length: colour dark green, with ſeveral ribs on the under ſide; and on its ſurface and edges many long ſmall prickles, which are ſaid to ſting very much. The ſhrub thus deſcribed by Sloane ſeems to have been young; and he never ſaw either the flower or fruit. Native of Jamaica.]

ACIDOTON. See *Adelia*.

ACINOS. See *Thymus*.

ACNIDA (From α *priv.* and Κνίδη, *a nettle*; to which it bears ſome reſemblance, without having its pruriency.)
[*Lin. gen. n.* 1114. *Reich.* 1219. *Schreb.* 1521. *Gærtn. t.* 126. *Juſſ.* 85.
Acnide. *Mitch. n.* 28.
Claſſ. 22. 5. Dioecia Pentandria.
Nat. order of *Scabridæ. Atriplices.* Juſſ.

GENERIC CHARACTER.

* *Male.*

CAL. *Perianth* five-leaved: *leaflets* ovate, concave, acute, membranaceous on the edge.

COR. none.

STAM. *Filaments* five, capillary, very ſhort. *Anthers* verſatile, bilocular, forked each way.

* *Female.*

CAL. *Involucre* many-leaved, linear, deciduous. *Perianth* two-leaved, (three-cleft G.) linear, very ſmall, permanent.

COR. none.

PIST. *Germ* ſuperior, ovate. *Styles* five, long, reflex, pubeſcent. *Stigmas* ſimple.

PER. *Fruit* ovate, compreſſed, many-angled, (three-furrowed, three-ſided G.) furrowed, covered with the ſucculent calyx.

SEED ſolitary, round, compreſſed.

ESSENTIAL CHARACTER.

MALE. *Cal.* five-leaved. *Cor.* none.

FEM. *Cal.* two-leaved. *Cor.* none. *Styles* five. *Seed* one, covered with the ſucculent calyx.

SPECIES.

1. Acnida cannabina. *Virginian Hemp.*
Lin. ſpec. 1457. *Reich.* 4. 251. *Mitch. gen.* 28. *Amæn. acad.* 3. *p.* 19. *Gron. virg.* 192. 155. *Gært. fruct.* 2. 197.
Cannabis virginiana. *Bauh. pin.* 320.

DESCRIPTION, &c.

Leaves linear-lanceolate, quite entire, long, alternate. Racemes ſolitary in the axils, often ſimple, ſometimes branched, naked, looſe, upright*.

The calyx of the female flower is three-toothed, with a ſmall linear-digitate ſcale at the baſe. There is no proper pericarp, but the calyx becoming ſucculent forms an obovate fruit, terminating in three acuminate toothlets, and in a manner three-winged. Seed very ſmooth and ſhining, of a dark cheſnut colour†.] This plant grows naturally in Virginia, and in ſome other parts of North America, but is rarely cultivated in Europe, except in ſome few botanic gardens. It is near of kin to hemp, under which title it has been ranged by ſome former botaniſts; there is little beauty in it, and at preſent no uſe has been made of it.

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* Aublet guian.

* Gronovius.

† Gærtner.

[Aconite, Winter. See *Helleborus.*]

ACONITUM (From ακονιτος, *pulveris expers*; becauſe this plant grows on rocks deſtitute of ſoil. *Pliny.* Hence Ovid—

" Quæ quia naſcuntur dura vivacia caute,
" Agreſtes *Aconita* vocant."

Theophraſtus derives it from Ακονις, a city of the Maryandini. Pliny gives another derivation from Ακονη, *a whetſtone*; but the firſt ſeems the beſt.) *Lin. gen. n.* 682. *Reich.* 737. *Schreb.* 928. *Tournef.* 239, 240. *Juſſ.* 234. *Gærtn. t.* 65.

Engl. *Monk's-hood.* Fr. *Aconit.*

Claſſ. 13. 3. Polyandria Trigynia.

Nat. order of *Multiſiliquæ. Ranunculaceæ.* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. *Petals* five, unequal, oppoſite in pairs. 1. *The higheſt* helmet-tubed, inverted, the back upwards, obtuſe; the top reflected to the baſe, acuminate, to which top the connecting baſe is oppoſite. 2, 3. The two *lateral* ones broad, roundiſh, oppoſite, converging. 4, 5. The two *loweſt* oblong, pointing downwards. *Nectaries* two, concealed under the firſt petal, fiſtulous, nodding; mouth oblique, tail recurved; ſitting on long ſubulate peduncles. Six little, very ſhort, coloured ſcales, in the ſame circle as the nectaries.

Stam. *Filaments* ſubulate, very ſmall, broader at the baſe, inclining towards the firſt petal. *Anthers* erect, ſmall.

Pist. *Germs* three (five) oblong, ending in ſtyles the length of the ſtamens. *Stigmas* ſimple, reflex.

Per. *Capſules* as many as the ſtyles, ovate-ſubulate, ſtraight, one-valved, gaping inward.

Seeds very many, angular, wrinkled.

ESSENTIAL CHARACTER.

Cal. none. *Petals* five: the higheſt arched, ſhaped like a hood or helmet. *Nectaries* two, peduncled, recurved. *Capſules* three or five.

SPECIES.

* *With three capſules.*

1. Aconitum lycoctonum. *Great yellow Monk's-hood or Wolf's-bane.*
Lin. ſpec. 750. *Reich.* 2. 615. *fl. lapp. n.* 221. *ſucc. n.* 476. *hort. cliff.* 213. *Gærtn. fruct.* 311. *Hall. helv. n.* 1200. *Scop. carn. n.* 653. *Krock. ſiles. n.* 834. *Villars, dauph.* 703. *Gmel. ſib.* 4. 188. *t.* 81. *Jacqu. auſtr.* 4. *t.* 380. *Blackw. herb. t.* 563. *Barrel. ic.* 599. *Rivin. pent. t.* 127. (Napellus) *Beſl. eyſt. æſt.* 1. *fol.* 11. *Dod. pempt.* 439. *Camer. epit.* 827. *Ger. emac.* 970. *Park. parad.* 219. *f.* 2. *Raii hiſt.* 704. *n.* 12.
A. lycoctonum luteum. *Bauh. pin.* 183.
β. Flore cæruleo. *Fl. dan. t.* 123. *Lin. ſyſt. edit. Reich.* β.
γ. Altiſſimum. *Mill. dict. n.* 2.
Leaves palmate multifid villous.

[2. Aconitum japonicum. *Japoneſe Monk's-hood.*
Lin. ſyſt. 504. *Thunb. jap.* 231.
Leaves trifid-palmate: diviſions gaſhed, blunt.]

3. Aconitum Napellus. *Common Monk's-hood or Wolf's-bane.*
Lin. ſpec. 751. *Reich.* 2. 615. *fl. ſuec. n.* 477. *hort. cliff.* 214. *Hall. helv. n.* 1197. *Scop. carn. n.* 654. *Krock. ſiles. n.* 835. *Villars, dauph.* 704. *Jacqu. auſtr.* 4. 42. *t.* 381. *Mill. illuſtr. Ger. emac.* 972. *f.* 3. *Raii hiſt.* 702. *n.* 1.
A. cæruleum. s. Napellus 1. *Bauh. pin.* 183.
β. A. pyramidale. *Long-ſpiked Monk's-hood or Wolf's-bane. Mill. dict. n.* 6.
Diviſions of the leaves linear, broader above, and ſcored with a line.

4. Aconitum pyrenaicum. *Pyrenean* or *fennel-leaved Monk's-hood* or *Wolf's-bane.*
Lin. ſpec. 751. *Reich.* 2. 616. *hort. upſ.* 152. *Raii europ.* 367.
Leaves many-parted, diviſions linear incumbent and ſquarroſe.

** *With five capſules.*

5. Aconitum Anthora. *Salutary Monk's-hood.*
Lin. ſpec. 751. *Reich.* 2. 616. *hort. cliff.* 214. *upſ.* 152. *Hall. helv. n.* 1199. *Scop. carn. n.* 655. *Allion. pedem. n.* 1501. *Krock. ſiles. n.* 838. *Villars dauph.* 704. *Jacqu. auſtr.* 4. 43. *t.* 382. *Barrel. ic.* 609. *Rivin. pent. t.* 126. *Blackw. herb. t.* 562. *Ger. emac.* 969. *Raii. hiſt.* 705. *n.* 13.
Flowers with five piſtils: diviſions of the leaves linear.

6. Aconitum variegatum. *Variegated* or *ſmall blue Monk's-hood.*
Lin. ſpec. 750. *Reich.* 616. *hort. cliff.* 214. *upſ.* 151. *Krock. ſiles. n.* 836. *Ger. emac.* 971. *f.* 2. *Raii hiſt.* 703. *n.* 7.
Flowers with five piſtils: diviſions of the leaves parted half way, broader above.

7. Aconitum album. *White Wolf's-bane* or *Monk's-hood.*
Ait. hort. kew. 2. 246.
A. orientale. *Mill. dict. n.* 10.
A. lycoctonum orientale flore magno albo. *Tournef. cor.* 30.
Flowers with five piſtils: leaves ſmooth three-parted, ſegments acutely gaſhed; the claw of the upper petal longer than the ſide ones.

8. Aconitum Cammarum. *Purple Monk's-hood* or *Wolf's-bane.*
Lin. ſpec. 751. *ſyſt.* 504. *Reich.* 2. 617. *Hall. helv. n.* 1198. *Allion. pedem. n.* 1500. *Krock. ſiles. n.* 837. *Villars, dauph.* 706. *Jacqu. auſtr.* 5. 11. *t.* 424. *Rivin. pent. t.* 129. *Ger. emac.* 973. *f.* 6. *Raii hiſt.* 702. *n.* 2.
β. A. purpureum, s. Napellus 3. *Bauh. pin.* 183. *Cluſ. hiſt.* 2. 96. *Raii hiſt.* 703. *n.* 5.
γ. A. cæruleo-purpureum, flore maximo, s. Napellus 4. *Bauh. pin.* 183. *Mill. dict. n.* 7. *Raii hiſt.* 703. *n.* 8.
Flowers moſtly with five ſtyles; diviſions of the leaves wedge-ſhaped, gaſhed, acute.

[9. Aconitum uncinatum. *American Monk's-hood* or *Wolf's-bane.*
Lin. ſpec. 750. *ſyſt.* 504. *Reich.* 2. 617.
Flowers moſtly with five ſtyles; leaves many-lobed; helmet extended very far.

DESCRIPTIONS, *&c.*

The Aconites are hardy, herbaceous perennials, with tuberous or ſtrong fibrous roots; ſtems from two to ſix feet in height, upright, ſtrong, furniſhed with many digitate or palmate leaves, and terminated by panicles or looſe ſpikes of blue or yellow flowers.

1. The root of *Yellow Monk's-hood* or *Wolf's-bane* is a great *tuber* or knob, emitting fibres. Stem eighteen inches high or more, very little branched, leafy. Leaves broader than in the other ſorts, cut half way into three lobes, which are doubly-trifid, the ſide ones very deeply two-parted. Spike ſimple, with few flowers. Corolla pale yellow, villous *: helmet ſtraight, narrow, wrinkled, cylindric ſpreading out at top, twice the length of the other petals. Nectary blunt, quite entire, running down the writhed peduncle. Stamens twenty-ſix or thirty. Germs ſmooth †.

β. According to Linneus ‡ and other northern writers, the corolla is not yellow, but of a blueiſh aſh colour. Since however the plants of the north and ſouth agree in other reſpects, they may be conſidered as varieties only.

γ. The ſecond ſpecies of Miller, which he calls *Aconitum altiſſimum*, is another variety.] The common ſort (he ſays) grows upwards of three feet high, but this is above four, in gardens. The leaves are broader and ſmooth, and the ſpikes of flowers are longer. They both flower about the middle of june, and if the ſeaſon is not too hot, will continue in blow till auguſt. [In Sweden it is reckoned among the earlieſt ſpring flowers. A decoction, or the powder of the root is uſed for deſtroying flies and other inſects §. Linneus gives an account of its being eaten in Medelpadia, a province of Sweden, without injury. It ſeems indeed to be milder than ſome of the other ſpecies; and goats and horſes are ſaid to eat it[*]. The mountains of Lapland, Sweden, Switzerland, Germany, Auſtria, Carniola, Italy, Siberia produce it, in a wild ſtate: and it was cultivated here in 1596 by Gerard[†].

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* Haller. † Scopoli. ‡ Flora Lapponica. § Lin. ſuec.

2. Differs from the firſt, in having the leaves only deeply trifid; the diviſions toothed, and the teeth rounded. The ſtem is round and ſmooth, and the ſpike of flowers ſhort. Native of Japan, where it is called *Soo Huſo*[‡].

3. *Common Monk's-hood* or *Wolf's-bane* has the *root* ſimple, woody, tuberous, unequal. Stem erect, firm, covered with leaves, eighteen inches high; terminated by a denſe, cylindric ſpike of flowers. Leaves blackiſh green, ſhining, firm, three-parted to the very petiole; the ſide-lobes very deeply two-parted; the middle lobe three-parted; each ſmall diviſion acutely and unequally trifid: the ſide-lobes divided in the ſame manner, only more irregularly. The leaves are narrower than in *A. Cammarum*, leſs divaricating, not widening ſo much. Peduncles one-flowered, ſhort; bracte ſimple. Corolla rather larger, the petals more collected, of a deeper blue; with the beak of the helmet ſhorter[§].

Linneus ſays, that it is fatal to kine and goats, eſpecially when they come freſh to it, and are not acquainted with the plant; but that it does no injury to horſes, who eat it only when dry[‖]. He alſo relates (from the Stockholm acts) that an ignorant ſurgeon preſcribed the leaves, and on the patient refuſing to take them, he took them himſelf and died.

The ancients, who were unacquainted with chemical poiſons, regarded the Aconite as the moſt violent of all poiſons; and accordingly fabled it to be the invention of Hecate, and to have ſprung from the foam of Cerberus. Its real virulence is however ſufficiently eſtabliſhed by fatal experiment.] Some perſons, only by taking in the effluvia of the herb in full flower by the noſtrils, have been ſeized with ſwooning fits, and have loſt their ſight for two or three days. [But the root is unqueſtionably the moſt powerful part of the plant. Matthiolus relates, that a criminal was put to death by taking one dram of it. Wepfer informs us, that a wolf would probably have died from a doſe of two drams, had not the animal been diſſected living, in order to obſerve the effects of the poiſon.] Dodonæus gives us an inſtance, recent in his time, of five perſons at Antwerp, who ate the root by miſtake, and all died. Dr. Turner alſo mentions, that ſome Frenchmen at the ſame place, eating the ſhoots of this plant for thoſe of Maſterwort, all died in the courſe of two days, except two players, who quickly evacuated all that they had taken, by vomit. We have an account, in the Philoſophical Tranſactions, of a man who was poiſoned, in the year 1732, by eating ſome of this plant in a ſalad, inſtead of Celery. [Dr. Willis alſo, in his work *De Anima Brutorum*, gives an inſtance of a man who died in a few hours, by eating the tender leaves of this plant alſo in a ſalad. He was ſeized with all the ſymptoms of mania.

The Aconite, thus inveſted with terrors, has however been ſo far ſubdued as to become a powerful remedy in ſome of the moſt troubleſome diſorders incident to the human frame. Baron Stoerck led the way by adminiſtring it in violent pains of the ſide and joints, in glandulous ſcirrhi, tumours, ulcerous tubercles of the breaſt, &c. to the quantity of from ten to thirty grains in a doſe, of an extract, the method of making which he deſcribes.

In Sweden ſucceſsful experiments have been made of an extract of the juice of the leaves, in caſes of rheumatiſms and intermittent fevers, given in doſes of from a grain to a ſcruple twice or oftener in a day. A much larger doſe has alſo been ſafely adminiſtered. It is recommended however to begin with a ſmall quantity: a caution the more neceſſary when we conſider the fatal effects, which the recent plant ignorantly eaten has ſometimes produced[*]. According to Dr. Murray in his App. Med. the chief virtue of the plant is in rheumatic and other chronic diſorders. In all theſe caſes the extract above-mentioned is the beſt preparation. It has alſo been ſaid to be of conſiderable ſervice in venereal caſes, even thoſe of a confirmed nature; to have even diſcuſſed nodes, and cured obſtinate ulcers, &c. In the *Gutta Serena* its efficacy has been commended; but perhaps not ſo certainly as in the fore-mentioned diſorders.

This ſpecies is often confounded with the eighth; and the figure which Stoerck has given, ſeems to agree better with that than with this. Their botanical differences have been already pointed out; and their medical qualities are in all probability nearly the ſame.] The ſorts which have blue flowers appear to be more potent than thoſe with yellow or white flowers.

This ſpecies comes into blow in auguſt, and were it not for its noxious quality, would deſerve a place in every garden. [It was cultivated in 1596, by Gerard[†]. And is found wild in Sweden, Switzerland, France, Germany, Auſtria, Carniola, Italy, Siberia, and Virginia.] There are two or three varieties, with white, roſe-coloured, and variegated corollas. [Haller alſo mentions a ſmaller one, from Tragus, figured by Rivinus, t. 128: another with a duſky or brown corolla: and he affirms, with Cordus, that in gardens it has frequently five capſules.]

The variety β. which Mr. Miller named *A. pyramidale*, is the moſt common in our Engliſh gardens, being cultivated for the ſpecious appearance made by its long ſpikes of blue flowers. It grows near four feet in height; the ſpikes are above two feet long; and being very hardy, growing in any ſoil or ſituation, and multiplying greatly by its roots, it has been allowed a place in moſt gardens, and plantations of ſhrubs. It ought however to be admitted with caution where children and ignorant perſons frequent. May and june are the months of its flowering; the ſeeds ripen in ſeptember.

4. *Pyrenean* or *Fennel-leaved Monk's-hood* or *Wolf's-bane* grows wild on the Pyrenees, in Tartary and Siberia. The ſpike nods before the time of flowering; [‡]] which in our gardens is july: the height there is about four feet, and it has a long ſpike of yellow flowers of a middling ſize. It may be allowed a place among ſhrubs, or in ſuch parts of the garden as are not frequented by children. [It was cultivated in 1739 by Mr. Miller[§].

5. In *Salutary Monk's-hood*, or *Wholeſome Wolf's-bane*, as ſome abſurdly call it, the root conſiſts of from two to four angular, fleſhy bulbs. The leaves have a furrow along the middle, they are narrow, three-parted, the ſide-lobes very deeply two-parted, the middle one doubly trifid, with long ſharp gaſhes; the ſide-ones more irregular. Stem from a foot to eighteen inches high, little branching. Peduncles ſuſtain one or two flowers. Corolla like that of the third, but of a greeniſh yellow, inelegant, hairy and pulpy: the lower petals more rounded, the helmet pointed. Stamens to fifty, or even more; filaments broad; anthers reflex: the filaments bearded on each ſide next the pedicels of the anthers. Piſtils commonly three, ſometimes four, rarely five. Capſules villous. Seeds wrinkled and multangular[‖].]

It flowers in the middle of auguſt, and often continues in beauty till the middle of ſeptember; the flowers are not ſo large as thoſe of ſome other ſorts, but being of a ſulphur colour, make a pretty appearance in the borders of the flower garden. [It was formerly made uſe of in medicine, and recommended as an antidote to the poiſonous ſpecies: whence by ſome writers it is called *Anthora* or *Antithora*, the poiſonous ones having been named *Thora.*

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[*] Haller. [†] Hort. kew. [‡] Thunberg. [§] Haller. [‖] Lin. ſuec.

[*] Bergius. [†] Hort. kew. [‡] Linneus. [§] Hort. kew. [‖] Haller.

The taſte of the root is ſweet with a mixture of bitterneſs and acrimony. The ſmell is pleaſant. It purges vehemently when freſh, but loſes its qualities when dried; it is diſuſed in the preſent practice; and is certainly poiſonous, though in a ſmaller degree than the others. The native places are the Pyrenees, the Alps of Switzerland, Savoy and Piedmont; Dauphiné, Auſtria, Carniola, Siberia, *&c.* Cultivated in 1596 by Gerard *.

There is a variety of this with a white flower.

6. Is a native of Italy and Bohemia.] It flowers at the end of june; ſeldom grows more than two feet high, and the ſpikes of flowers are much ſhorter than in the firſt ſort. The corollas will change from variegated to plain. [Cultivated 1752 by Mr. Miller †.]

7. Was found by Tournefort in the Levant, and was firſt raiſed in the royal garden at Paris, from the ſeeds which he ſent, but afterwards became rare in Europe. Mr. Miller, who cultivated it in 1739, mentions, that he has ſeen it upwards of ſix feet high, and characterizes it, by its tall ſtem, palmate leaves, and large white flower.

[8. The flowers are of a paler blue, the helmet much longer, the raceme ſhorter, than in *A. Napellus* ‡. The ſtem is alſo higher, reaching even ſix feet; the leaves broader and widening, with the diviſions more divaricate; it is more branched; the ſpikes are more numerous, but leſs denſe, from the axils of the leaves; the peduncles are longer, exceeding an inch, branching and many-flowered; the leaves at the origin of the branch are laciniate, the flowers looſer, the petals more divaricate; the point of the helmet longer. Tranſplanted into a garden, the leaves become broader, almoſt like thoſe of *Lycoctonum.*

It is found wild in Switzerland, Auſtria, Stiria, Piedmont, *&c.* and was cultivated in 1748 by Mr. Miller. Haller found it with a white flower; and others have remarked it in Switzerland with flowers of a pale blue, variegated with white. This laſt is figured by Rivinus, t. 131.]

The variety γ. named by Mr. Miller *A. alpinum,* will grow to the height of five feet in good ground; the flowers are very large, but not many upon each ſpike; they are of a deep blue colour.

[9. This ſpecies, which is a native of Penſylvania, has flowers reſembling thoſe of the laſt, but leaves approaching more to the third. The leaves are three or five-lobed, angular and toothed, naked. Flowers blue, coming out ſingly, the top of the helmet hooked, extended out ſtraight, and farther than the tail §. Cultivated in 1770 by Mr. James Gordon ‖.]

PROPAGATION AND CULTURE.

All the ſorts of Monk's-hood may be propagated by ſeeds, which ſhould be ſown in the autumn, in a ſhady ſituation; thus they will appear the ſpring following; whereas if they are ſown in the ſpring, they generally lie till the year after, before they come up. The ground muſt be kept clean from weeds all the ſummer; and the plants ſhould be watered in dry weather, till they are fit to tranſplant; when they are to be carefully taken up, and planted in ſhady borders, at the diſtance of fourteen inches each way, obſerving to water them till they have taken good root; after which they will require no other care, but to keep them clean from weeds, till the following autumn, when they may be tranſplanted to the places where they are to remain. They then require no attention but to cut down the ſtalks in autumn, after they have done flowering.

The common Monk's-hood will grow under the ſhade of trees, and is therefore proper to plant in ornamental woods and wilderneſſes. It will alſo increaſe very faſt by means of its creeping roots, every piece of which will grow. The other ſorts may be increaſed the ſame way; though moſt of theſe delight in ſhade, yet few of them will thrive under the drip of trees; they ſhould be planted therefore in ſhady borders, not immediately over-hung by trees, and thus they will continue much longer in flower, and thrive better than in an open expoſure.

[They are all hardy perennials, require little care or culture, and have moſtly handſome ſpikes of ſpecious flowers; and are therefore deſirable plants for ſhrubberies, and wilderneſs quarters.]

Aconitum hyemale. See *Helleborus.*

ACŎRUS (Ακορος, Ακορον, and *Acorum,* the name of an herb in Theophraſtus, Dioſcorides, and Pliny: ſaid to be derived from κορη, *the pupil,* becauſe it was eſteemed good for diſorders of the eye.)

Lin. gen. n. 434. *Reich.* 468. *Schreb.* 586. *Gærtn. t.* 84. *Juſſ.* 25.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Piperitæ. Aroideæ* Juſſ.

GENERIC CHARACTER.

Cal. *Spadix* cylindric, entirely ſimple, covered with floſcules. *Spathe* none. *Perianth* none, unleſs the calyx be ſo named.

Cor. *Petals* ſix, obtuſe, concave, looſe, thicker at the top, and in a manner truncate.

Stam. *Filaments* thickiſh, a little longer than the corolla. *Anthers* thickiſh, twin, terminal, adnate.

Pist. *Germ* gibbous, rather oblong, the length of the ſtamens. *Style* none. *Stigma* a prominent point.

Per. a ſhort triangular *Capſule,* attenuated to both ends, obtuſe, three-celled.

Seeds many, ovate-oblong.

ESSENTIAL CHARACTER.

Spadix cylindric, covered with floſcules. *Corollas* five-petalled, naked.

Style none. *Capſule* three-celled.

SPECIES.

1. Acorus Calamus. *Common Sweet-Ruſh.*
Lin. ſpec. 462. *Reich.* 2. 92.
α. A. vulgaris. *European Sweet-Ruſh, ſweet-ſmelling Flag,* or *Calamus aromaticus.*
Lin. ſuec. n. 297. *Gærtn. fruct.* 2. 27. *Hudſ. angl.* 147. *Wither. arr.* 357. *Hall. helv. n.* 1307. *Scop. carn. n.* 426. *Pollich. pal. n.* 343. *Krock. ſiles. n.* 540. *Plenck. ic. t.* 275. *Blackw. herb. t.* 466. *Mor. hiſt.* 3. *ſ.* 8. *t.* 13. *f.* 4. *Ger. emac.* 62. *f.* 1, 2. *Park. theat.* 140. *Camer. epit.* 5. *Beſt. eyſt. vern.* 8. *t.* 9. *f.* 1. *Raii hiſt.* 1313.
[β. A. verus. *Indian Sweet-Ruſh,* or *Calamus aromaticus.*
Lin. zeyl. n. 132. *Garz. in Cluſ. exot.* 200. *Rumph. amb.* 5. 178. *t.* 72. *f.* 1. *Rheed. mal.* 11. 99. *t.* 60. *Lour. cochinch.* 208. *Raii hiſt.* 1910.
The point of the ſcape very long and leafy.

2. Acorus gramineus. *Graſs-leaved Sweet-Ruſh,* or *Chineſe Sweet-Graſs.*
Ait. hort. kew. 1. 474. *Smith. ſpicil.* 15. *t.* 17.
The point of the ſtalk ſcarcely extending beyond the top of the ſpadix.

DESCRIPTIONS, *&c.*

1. The *Common Calamus aromaticus* is ſufficiently diſtinguiſhed by its long, ſword-ſhaped leaves, reſembling thoſe of the Flag (Iris Pſeudacorus), but narrower, of a brighter green, waved along one of the edges, and when broken yielding a ſtrong, aromatic ſcent: and alſo by its oblong, cylindric ſpike of flowers, coming out from the ſide of the ſtem at the edge of the leaf. This ſpike is generally ſingle, but ſometimes double: Haller mentions it with three, and Blackſtone with four ſpikes.

The root is like that of the Flag; long, cylindric, tuberous, ſpongy, marked with rings, and putting out abundance of fibres, which indeed are the proper roots. Linneus obſerves, that the root powdered might ſupply the place of foreign ſpices; and that it is the only native aromatic plant of northern climates. It has a ſtrong aromatic ſmell, and a warm, a warm, pungent, bitteriſh taſte. The flavour is greatly improved by drying. The roots are commonly imported from the Levant; but thoſe of our own growth are full as good. The Turks candy them, and regard them as a preſervative againſt contagion. They are alſo ſaid to have cured agues, when the Peruvian Bark has failed. No cattle whatever eat the plant *.]

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* Hort. kew. † Ibid. ‡ Murray. § Linneus. ‖ Hort. kew.

Calamus aromaticus grows naturally on the banks of rivers, and in ſtanding waters that are ſhallow. It is found wild in many parts of England, [as on Hounſlow-heath, near Uxbridge and Harefield in Middleſex; near Hedley in Surry; in the river Yare near Norwich, and about Lynn and Hillington in Norfolk; in the river Waveney by Bungay in Suffolk; near Cambridge; in the Soar between Loughborough and Kegworth; about Tamworth; in the Avon near Perſhore; and in many parts of Cheſhire. With us it is not very abundant;] but it grows plentifully in moſt of the ditches and ſtanding waters of Holland; [and is common in many other parts of Europe.

β. The *Indian Calamus*, which grows in marſh ditches in the Eaſt-Indies, differs little from the European, except that in all its parts it is more tender and narrow, and at the ſame time is of a more hot and biting taſte †. According to Father Loureiro's deſcription, the leaves of this are much ſhorter than in ours, for he ſays they are ſcarcely a foot in length.

2. The Chineſe ſpecies, commonly called *Chineſe Sweet-Graſs*, has the *roots* in tufts, with a few thready fibres. *Stem* ſcarcely any, or very ſhort. *Leaves* equitant, erect, ſomewhat alternate, linear-ſword-ſhaped, pointed, a little thickened at the margin, ſmooth, evergreen, a ſpan long, edged at the baſe, with a white, pellucid, ſhining membrane. *Stalk* like the leaves, but a little ſhorter, erect, ſomewhat thickened under the ſpadix, afterwards narrower, and altogether leafy, about equal to it in length, ſcarcely longer. *Spadix* ariſing laterally from the ſtalk near its top, erect, cylindrical, obtuſe, entirely covered with yellowiſh green ſeſſile florets. No *ſpathe* nor *bracte*. *Petals* ſix, roundiſh, concave; of which the three innermoſt are a very little leſs than the others. *Stamens* ſix, the length of the corolla, the three outermoſt of which appear firſt. *Anthers* didymous, yellow. *Germ* globoſe. *Stigma* perfectly ſimple, blunt, without any ſtyle.

The whole herb has an aromatic ſmell when bruiſed, much reſembling our Engliſh ſweet flag; from which the preſent ſpecies is diſtinguiſhed by the ſhortneſs of that portion of its ſtalk, which is above the ſpadix, as well as by all its parts, except the florets, being five times ſmaller than in that plant. It is probably a native of China; at leaſt it is frequently cultivated, for the ſake of its ſmell, in pots, about the habitations of the Chineſe, from whence Mr. Aiton obtained it in 1786, by means of Allan Cooper, Eſq. commander of the Atlas Indiaman. It flowers in the ſpring ‡.]

PROPAGATION AND CULTURE.

1. The Sweet Flag will ſucceed very well in a garden, if the ground be moiſt; but never produces its ſpikes unleſs it grows in the water. It loves an open ſituation, and does not thrive well under the ſhade of trees. The ſpikes of flowers appear towards the latter end of june, and continue till auguſt. When this plant is fixed in a proper ſituation, it will multiply by its creeping roots faſt enough.

[2. The Chineſe Sweet Graſs muſt be kept in a dry ſtove, and does not require a great degree of heat.]

[ACROSTĬCHUM (Ακρος and στιχος: *ſummus ordo.*)
Lin. gen. n. 1173. *Reich.* 1290. *Schreb.* 1625.
Ruta muraria. *Tournef.* 317.
Claſſ. 24. 1. Cryptogamia Filices.

GENERIC CHARACTER.

The fructifications cover the whole under ſurface of the frond.

SPECIES.

* *Frond ſimple undivided.*

1. Acroſtichum lanceolatum.
Lin. ſpec. 1523. *Reich.* 4. 384. *zeyl. n.* 380. *Amæn.* 1. 268. 2. *Rheed. mal.* 12. *p.* 141. *t.* 33. *Lour. cochinch.* 672. *Reliqu. Rudb. t.* 6. *f.* 3.
Fronds linear-lanceolate acute, ſhoot climbing.

2. Acroſtichum citrifolium.
Lin. ſpec. 1523. *Reich.* 4. 384. *Amæn.* 1. 269. 3. *Plum. fil.* 107. *t.* 116.
Fronds lanceolate-ovate quite entire, ſhoot climbing.

3. Acroſtichum heterophyllum.
Lin. ſpec. 1523. *Reich.* 4. 384. *zeyl. n.* 378. *Amæn.* 1. 268. 2. *Raii ſuppl.* 53. *Pet. gaz. t.* 53. *f.* 12. *Rheed. mal.* 12. *p.* 87. *t.* 29. *Lour. cochinch.* 673.
Fronds quite entire ſmooth petiolate; barren ones roundiſh, fertile linear.

4. Acroſtichum crinitum.
Lin. ſpec. 1523. *Reich.* 4. 385. *Pet. fil.* 145. *t.* 13. *f.* 14.
Fronds ovate obtuſe hirſute, crinite above.

5. Acroſtichum punctatum.
Lin. ſpec. 1524. *Reich.* 385.
Fronds heart-tongued, acuminate, quite entire, dotted above.

6. Acroſtichum ſpicatum.
Lin. ſyſt. 928. *ſuppl.* 444. *Smith icon. ined. faſc.* 2. *t.* 49.
Frond ſimple, petiolate, lanceolate, attenuated to both ends, quite entire, ſpike terminal linear.

7. Acroſtichum Lingua.
Lin. ſyſt. 928. *Thunb. jap.* 330. *t.* 33.
Fronds oblong obtuſe entire petiolate, ſhoot creeping.

8. Acroſtichum haſtatum.
Lin. ſyſt. 928. *Thunb. jap.* 331. *t.* 34.
Frond ſimple haſtate.

** *Frond ſimple divided.*

9. Acroſtichum ſeptentrionale.
Lin. ſpec. 1524. *Reich.* 385. *lapp.* 380. *ſuec.* 937. *amæn.* 1. 269. 4. *Hudſ. angl.* 450. *Wither. arr.* 3. 48. *Lightf. ſcot.* 656. *Oeder. dan. t.* 60. *Berg. phyt.* 2. 33. *Scop. carn. n.* 1259. *Pollich. pal. n.* 955. *Hall. helv. n.* 1714. *Lob. ic. t.* 47. 1. *Park.* 1045. 8. *Ger.* 343. 4. *emac.* 1561. *f.* 8. *Bauh. hiſt.* 3. 755. 2. *Bolton. fil.* 8.
Fronds naked linear laciniate.

10. Acroſtichum auſtrale.
Lin. ſyſt. 928. *ſuppl.* 444.
Stipes naked, quite ſmooth, dichotomous at top, with five or ſix ſubulate rays, and flowering from the ſides.

11. Acroſtichum pectinatum.
Lin. ſpec. 1524. *Reich.* 385. *Amæn.* 1. 270. 6. *f.* 4, 5. *Berg. cap.* 358. *Pluk. alm. t.* 95. *f.* 7. *Raii ſuppl.* 629. *Mor. hiſt.* 3. 233. *s.* 8. *t.* 9. *f.* 30. *Reliqu. Rudb. t.* 23. *f.* 2.
Naked, perfectly ſimple, ſpike creſcent-ſhaped, on one ſide, aſcending, compreſſed.

12. Acroſtichum dichotomum.
Lin. ſpec. 1524. *Reich.* 4. 386. *Pet. gaz. t.* 70. *f.* 12.
Naked, dichotomous, ſpikes on one ſide, aſcending, reflex, compreſſed.

13. Acroſtichum digitatum.
Lin. ſpec. 1524. *Reich.* 4. 386. *zeyl.* 379. *Amæn.* 1. 269. 5. *f.* 1.
Stipes naked three-ſided, frond digitate linear quite entire equal.

14. Acroſtichum ferrugineum.
Lin. ſpec. 1525. *Reich.* 386. *Pluk. phyt.* 89. *f.* 9.
Fronds pinnatifid; pinnas linear acute ſpreading quite entire connate; ſtipe ſmooth.

15. Acroſtichum polypodioides.
Lin. ſpec. 1525. *Reich.* 4. 386. *Amæn.* 1. 271. 8. *Brown. jam.* 105. 2. *Gron. virg.* 198. *Sloan. jam.* 1. 79. *Pluk. alm.* 153. *t.* 289. *f.* 1. *Mor. hiſt.* 3. *s.* 14. *t.* 3. *f.* 5.
Fronds pinnatifid, pinnas linear obtuſe quite entire ſpreading crowned, ſtipe ſcaly.

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* Withering. † Linneus. ‡ Smith ſpicil.

*** *Frond pinnate.*

16. Acroſtichum aureum.

Lin. ſpec. 1525. *Reich.* 4. 387. *hort. cliff.* 475. 1. *amæn.* 1. 273. 11. *Pet. fil.* 142. *t.* 8. *f.* 5. *Sloan. jam.* 1. 76. *Brown. jam.* 105. 4. *Plum. fil.* 87. *t.* 104. *amer.* 5. *t.* 7. *Raii ſuppl.* 63. *Pluk. alm. t.* 288. *f.* 2.

Pinnas alternate tongue-ſhaped quite entire ſmooth.

17. Acroſtichum rufum.

Lin. ſpec. 1525. *Reich.* 4. 387. *hort. cliff.* 475. *Sloan. jam.* 1. 87. *t.* 45. *f.* 1. *Brown. jam.* 93. 10. (Aſplenium.)

Pteris rufa. *Lin. ſpec. edit.* 1. 1074.

Pinnas oblong-ovate quite entire pubeſcent.

18. Acroſtichum punctatum.

Lin. ſyſt. 929. *ſuppl.* 444.

Leaflets alternate lanceolate quite entire, the loweſt eared, the upper ones decurrent, the upper ſurface dotted ſmooth.

19. Acroſtichum ſorbifolium.

Lin. ſpec. 1526. *Reich.* 387. *Pet. fil.* 153. *t.* 9. *f.* 8. *Plum. amer.* 8. *t.* 12. *Raii ſuppl.* 76. *Sloan. jam.* 85. *t.* 38. *Pluk. alm.* 153. *t.* 286. *f.* 3. *Mor. hiſt.* 3. *p.* 576.

Pinnas oblong-ovate entire ſerrate acute, ſtipes ſcaly.

20. Acroſtichum areolatum.

Lin. ſpec. 1526. *Reich.* 388. *amæn.* 1. 274. 12. *Gron. virg.* 124. 165.

Pinnas alternate linear ſerrate at top.

21. Acroſtichum marginatum.

Lin. ſpec. 1526. *Reich.* 4. 388. *Brown. jam.* 105. *n.* 6. *Sloan. jam.* 1. *p.* 84. *t.* 40.

Pinnas oblong quite entire waved acuminate, ſtipe naked.

22. Acroſtichum ſanctum.

Lin. ſpec. 1526. *Reich.* 4. 388. *Brown. jam.* 105. *n.* 5. *Sloan. jam.* 1. 91. *t.* 49. *f.* 2. *Pluk. alm.* 150. *t.* 283.

Polypodium ſanctum. *Swartz, prodr.* 133.

Fronds lanceolate, pinnas linear-lanceolate gaſh-ſerrate, the lower ſerratures largeſt.

23. Acroſtichum platyneuron.

Lin. ſpec. 1527. *Reich.* 388. *amæn.* 1. 272. 10. *Gron. virg.* 123. 165. *Pluk. alm.* 153. *t.* 289, *f.* 2. *Raii ſuppl.* 58. *Mor. hiſt.* 3. *f.* 14. *t.* 2. *f.* 5.

Pinnas alternate ovate crenate ſeſſile bowed upwards.

24. Acroſtichum trifoliatum.

Lin. ſpec. 1527. *Reich.* 389. *amæn.* 1. 274. 13. *hort. upſ.* 476. *Sloan. jam.* 1. *p.* 88. *t.* 45. *f.* 2. *Brown. jam.* 106. 8. *Pet. fil.* 141. *t.* 8. *f.* 9. *Plum. fil.* 12. *t.* 144. *Mor. hiſt.* 3. *p.* 572. *Raii ſuppl.* 75.

Leaflets ternate lanceolate.

**** *Frond ſubpinnate.*

25. Acroſtichum ſiliquoſum.

Lin. ſpec. 1527. *Reich.* 4. 389. *zeyl.* 376. *amæn.* 1. *p.* 270. 7. *f.* 3. *Pet. muſ.* 741. *Rumph. amb.* 6. *p.* 17. *t.* 74. *f.* 1. *Pluk. alm.* 298. *t.* 215. *f.* 3.

Pinnas alternate, pinnulate upwards, linear, the lower ones two-parted.

26. Acroſtichum thalictroides.

Lin. ſpec. 1527. *Reich.* 4. 389. *zeyl.* 377. *t.* 4. *amæn.* 1. 275. 17.

Pinnas alternate, on each ſide pinnatifid, the barren ones broader.

27. Acroſtichum Marantæ.

Lin. ſpec. 1527. *Reich.* 4. 389. *Hall. helv. n.* 1715. *Barr. ic.* 858. 857. *Pluk. alm.* 150. *t.* 281. *f.* 4.

Fronds ſubbipinnate, pinnas oppoſitely coadunate, very hirſute underneath, a little toothed at the baſe.

28. Acroſtichum ilvenſe.

Lin. ſpec. 1528. *Reich.* 4. 390. *lapp.* 383. *ſuec.* 938. *Hudſ. angl.* 451. *Fl. dan.* 391? *Pluk. alm.* 150. *t.* 89. *f.* 5. *Mor. hiſt.* 3. 576. *f.* 14. *t.* 3. *f.* 23.

Polypodium ilvenſe. *Wither. arr.* 3. 57.

Fronds ſubbipinnate, pinnas oppoſitely coadunate, obtuſe, hirſute underneath, quite entire at the baſe.

29. Acroſtichum ebeneum.

Lin. ſpec. 1528. *Reich.* 4. 390. *amæn.* 1. 272. 9. *Sloan. jam.* 1. *p.* 92. *t.* 53. *f.* 1. *Raii ſuppl.* 83.

Pinnas ſeſſile oblong ſinuate, the uppermoſt ſhorteſt and quite entire.

30. Acroſtichum furcatum.

Lin. ſpec. 1529. *Reich.* 390. *Plum. amer.* 13. *t.* 20. *fil.* 22. *t.* 28. *Raii ſuppl.* 96. *Pet. fil.* 51. *t.* 5. *f.* 4. *Sloan. jam.* 1. *p.* 102. *Pluk. alm.* 156.

Polypodium dichotomum. *Swartz, prodr.* 133. *Thunb. jap.* 338. *t.* 37.

Dichotomous, leaflets pinnate; pinnas parallel lanceolate approximating, quite entire.

***** *Frond bipinnate.*

31. Acroſtichum aculeatum.

Lin. ſpec. 1530. *Reich.* 391. *Sloan. jam.* 1. *p.* 99. *t.* 61. *Pluk. alm.* 156.

Trichomanes aculeatum. *Swartz, prodr.* 396.

Fronds ſuper-decompound, pinnas bifid, ſtipes prickly.

32. Acroſtichum cruciatum.

Lin. ſpec. 1529. *Reich.* 391. *amæn.* 1. 275. 16. *Plum. fil.* 26. *t.* 38. *amer. t.* 25. *f.* B. *Pet. fil.* 161. *t.* 9. *f.* 10.

Leaflets oppoſite lanceolate, the loweſt appendaged croſswiſe.

33. Acroſtichum barbarum.

Lin. ſpec. 1529. *Reich.* 391. *hort. cliff.* 476. *amæn.* 1. 274. 15. *Pluk. alm.* 156. *t.* 181. *f.* 5.

Leaflets oppoſite, pinnas lanceolate obtuſe ſerrate ſeſſile alternate.

34. Acroſtichum calomelanos.

Lin. ſpec. 1529. *Reich.* 392. *hort. cliff.* 476. *amæn.* 1. 274. 14. *Sloan. jam.* 1. 92. *t.* 30. *f.* 2. *Brown. jam.* 107. 12. *Plum. fil.* 30. *t.* 40. *Pet. fil.* 156. *t.* 9. *f.* 11. *Plum. amer.* 30. *t.* 44. *Pluk. alm.* 11. *t.* 124. *f.* 3.

Pinnas alternate lanceolate acuminate pinnatifid.

35. Acroſtichum viviparum.

Lin. ſyſt. 930. *ſuppl.* 444.

Fronds viviparous, pinnas in pairs one-ſided, pinnules pinnatifid forked ſubulate, bearing the fructifications on the inner margin.

36. Acroſtichum velleum. *Woolly Acroſtichum.*

Ait. hort. kew. 457.

Fronds bipinnate; all the pinnas ovate cordate gaſhed on the ſide and very hirſute underneath.

37. Acroſtichum ſimplex.

Swartz, prodr. 128.

Fronds entire ſmooth petioled; the barren ones lanceolate acuminate, the fertile ones linear-lanceolate.

38. Acroſtichum petiolatum.

Swartz, prodr. 128.

Fronds entire ſmooth petioled; the barren ones linear-lanceolate, the fertile ones linear.

39. Acroſtichum latifolium.

Swartz, prodr. 128. *Brown. jam.* 104. 1. *Plum. fil.* 135. (Lingua cervina.)

Fronds petioled, broad-lanceolate, very ſmooth, entire, margined; the fruit-bearing ones ovate-lanceolate; ſhoots creeping.

40. Acroſtichum villoſum.

Swartz, prodr. 128. *Plum. fil.* 127. *f.* D.

Fronds broad-lanceolate, ſomewhat crenulate, villous on both ſides.

41. Acroſtichum muſcoſum.

Swartz, prodr. 128. *Plum. fil.* 139.

Fronds petioled entire ſcaly; the barren ones oblong-lanceolate blunt, the fertile ones linear-lanceolate.

42. Acroſtichum ſerrulatum.

Swartz, prodr. 128.

Fronds linear toothed, fruit-bearing at the tip; ſhoots very ſhort rooting.

43. Acroſtichum graminoides.

Swartz, prodr. 128.

Fronds naked linear, ſubdichotomous and fruit-bearing at the tip.

44. Acroſtichum ſulphureum.

Swartz, prodr. 129. *Plum. fil.* 44. (Filix aurea.)

Fronds bipinnate, pinnas alternate ovate pinnatifid, leaflets retuſe ſerrate.

DESCRIPTIONS, *&c.*

Of theſe forty-four ſpecies of Ferns, two only are natives of Great-Britain, the ninth and twenty-eighth. They both grow on rocks in Wales, and the former is found alſo in the northern counties, and in Scotland. The twenty-ſeventh is a native of Europe, but all the reſt are the growth of hotter climates, as the Eaſt or Weſt-Indies, Africa, and the ſouthern provinces of North-America.

1. Fronds ſimple, quite entire, the whole of the lower ſurface crowded with elevated golden ſeminiferous dots [*]. According to Linneus, theſe are towards the top of the leaf only. Native of the Eaſt-Indies and Cochinchina; ſticking to trees.

2. Native of America.

3. Shoot paraſitical, filiform, long, creeping; with few branches. Fronds thick, the whole under part of thoſe which are fertile covered with fructifying dots [†]. Native of the Eaſt-Indies, Cochinchina and Africa, in woods.

5. This very much reſembles *Harts-tongue.* Upper ſurface of the fronds naked, with a few very ſmall dots; the lower has yellow ſeminal points crowded. Is it not therefore rather a ſpecies of Polypody? ſtipe naked, ſubquadrangular. It is uſed medicinally in China, where it was firſt remarked by J. Fothergill [‡].

6. *Roots* fibrous, branched, with tomentoſe fibrils. *Fronds* a foot long, upright, ſmooth, with a ſtrong nerve, which is a continuation of the petiole running along the middle, and ſmall partial veins, nearly oppoſite, flexuoſe, obſcurely reticular, evaneſcent. *Fructifications* on a linear appendix, two inches long, in form of a ſpike, at the end of the frond, covering the whole lower ſurface of it, covered at firſt by the inflex edges of the appendix, but afterwards prominent; when theſe integuments become reflex. *Capſules* very numerous and minute, pedicelled, ovate, ſhining, pale yellow, each embraced on one ſide by a jointed, fulvous ring. Found by Commerſon in the iſland of Mauritius [§].

7. Stipe three-cornered, villous, erect. Frond green and ſmooth on its upper ſurface, ferruginous and villous on its lower. Fructifications netted ferruginous, covering the whole under ſurface of the frond. Differs from *A. punctatum*, in the frond being oblong not cordate, thick, ſo as to be almoſt coriaceous, obtuſe not acuminate. From *A. citrifolium* in having a ſmaller coriaceous frond, and a creeping ſhoot [‖].

8. Several four-cornered ſtipes from the ſame root, often flexuoſe, aſcending, and covered with a ferruginous down. Frond erect, flat, with the edges rolled in, green and naked above, beneath tomentoſe and aſh-coloured; the middle lobe lanceolate, the ſide-lobes ovate, and half the length. Thin, oblongiſh, ferruginous flowers cover the lower ſurface. Both theſe are natives of Japan [¶].

9. It grows in tufts reſembling at firſt ſight ſome ruſhy graſs. Fronds from one to four inches long; commonly a little curved, narrow, entire at the baſe, but dilated towards the extremity, and divided into two or three lanceolate ſegments, which are again irregularly cut into two, three or more ſmaller recurved ones. The fructifications firſt appear in ſmall lines, but in the adult plant the lower ſurface of the leaf is totally covered with brown, duſty capſules [**]. On clefts of rocks and old walls, in Yorkſhire, Weſtmoreland, Wales, and Scotland.

10. This much reſembles the foregoing, but it is ſilvery, and more regularly divided; purple fructifications proceed from the inner edge, cleft longitudinally. The laſt diviſions of the fronds are ſubulate, roundiſh, ſtraightiſh. In the iſles of France and Bourbon [††].

11. *Stipe* a foot high, naked, erect, triangular, on one ſide ſomewhat convex, on the other concave. *Spike* kidney-form, compreſſed, the length of the human nail, the upper edge convex, the lower concave, pectinate, fixed by one end, bowed back, compoſed of about ſixteen linear pinnas, convex at the back, parallel, approximating, converging longitudinally by pairs, ſmooth, quite entire, the inner ſide covered with wool and fructifications. Hermann, Moriſon, Ray, and Plukenet took this plant for a ſpecies of graſs. Petiver alone ſuſpected it to be a fern, as it proves really to be [*]. Native of the Cape of Good Hope.

12. Reſembles the *pectinatum* in ſtem and ſpike, but the ſtem has many more forkings, with ſpikes to each [†]. Native of China and the Society Iſlands.

13. Stipe linear, a foot high, ſmooth, contracted at top. Fronds ſeveral in a bundle, conſiſting of nine linear obtuſe erect leaflets, almoſt equal, hardly ſo thick as a wheat ſtraw, covered all over the inner ſide with fructifications. When theſe are not viſible, this fern has the air of a fucus [‡]. Native of Ceylon.

14. Scarcely different from the following ſpecies, except in having a naked ſtipe, which is the caſe alſo in that ſometimes [§].

15. Fronds alternate, oblong. It has the appearance of common Polypody [‖]: and having the fructifications diſtinct, is rather of that genus. The back of the frond is hoary and ſcaly, and has the fructiferous ſpots more or leſs confluent [¶]. Native of Jamaica and Virginia.

16. Stipes in bundles, of a very dark rufous colour, ſmooth, about nine feet high, the thickneſs of the little finger. Pinnas lanceolate, about twenty, ſubpetioled, a foot and a half long, bluntiſh [**]. Native of Jamaica, Dominica, and the Society Iſles.

17. Eighteen or twenty inches in height. Stipe round, covered with ferruginous hair, leafy almoſt from the root. Pinnas about an inch from each other, on a ſmall pedicel. Each pinna about an inch long, and half an inch broad at the baſe, whence they decreaſe to the end, which is round: they are covered all over with a ruſty woolly hair. Native of Jamaica [††].

18. Very much reſembles *A. rufum*, but has longer leaflets, attenuated to both ends, naked and dotted. Native of the Iſle of Bourbon [‡‡].

19. Native of Jamaica and Domingo.

20. The little floriferous buds are divided into two phalanxes by the longitudinal nerves of the leaf, and are diſpoſed in ſeveral parts tranſverſely on each ſide [§§]. Native of Virginia and Maryland.

21, 22. The firſt of theſe is only a barren frond of *Pteris grandifolia.* The latter is a Polypodium [‖‖].

23. Stipes naked, alternate, a palm in height. Fronds pinnate: pinnas obtuſe, quite entire, obovate or oblong, coadunate at the baſe. The white part of the back of the leaf has a ferruginous duſt ſprinkled over it. This ſpecies has the air of common Polypody [¶¶]. Native of Virginia.

24. Root blackiſh. Stipes of a dark rufous colour, a foot in height. Fronds oblong, alternately pinnate. Leaflets ſubſeſſile, the middle one longer than thoſe on the ſides; the upper ones in pairs, and the uppermoſt ſolitary. The back of the frond is entirely covered with yellow duſt [***]. Native of Jamaica.

25, 26. Natives of Ceylon. Theſe are ſuppoſed by Koenig to be one and the ſame ſpecies [†††].

27. Stipes about ſeven inches high, dark purple. Frond almoſt bipinnate, lanceolate, cloſely imbricate beneath with chaffy orange-coloured ſcales. Leaflets oppoſite, almoſt pinnate: pinnas ovate, obtuſe, thick, quite entire; but the lower ones often toothed on each ſide at the baſe. The fructifications ſpread between the leafy ſcales over the whole under ſurface [‡‡‡]. Stipe blood-red, all hairy, from eight inches to a foot in height. Fronds like thoſe of common ſpleenwort [§§§]. Native of the ſouthern countries of Europe.

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[*] Loureiro. [†] Ibid. [‡] Linneus. [§] Smith ic ined. 2. 49. [‖] Thunberg. [¶] Ibid. [**] Yalden in Lightf. [††] Linneus.

[*] Amæn. Acad. [†] Linneus. [‡] Ibid. [§] Swartz. obſ. [‖] Amæn. Acad. [¶] Swartz. obſ. 394. [**] Amæn. Acad. [††] Sloane. [‡‡] Linneus. [§§] Gronovius. [‖‖] Swartz. obſ. [¶¶] Amæn. Acad. [***] Ibid. [†††] Retz. obſ. 5. p. 7. [‡‡‡] Linneus. [§§§] Haller.

28. This has a great ſimilitude to the foregoing, but it is ſcarcely longer than the finger, never ſo high as ſeven inches. The ſtipe is green and not red. It is allied to the Polypodies by having the fructifications in dots, but they are cloſely crowded[*].

29. Is only a young plant of *A. Calomelanos*[†].

30. Is ſeldom found in flower[‡]. It is a *Polypodium*[§].

31. Is a ſpecies of *Trichomanes*[‖].

They are all three natives of Jamaica.

32. Stipes in a bundle, ſmooth, yellowiſh, with imbricate ſcales at the baſe. Frond lanceolate; leaflets ſeſſile, each pinnatifid, toothletted to the very rib; the loweſt ſhorter, eared on both ſides. Native of Dominica[¶].

33. Stipes ſmooth, two or three feet high, upright. Frond doubly-pinnate; pinnas ſharply ſerrate, ſmooth. Native of Africa[**].

34. Stipe black, but the leaves ſilvery white underneath[††].

Native of South America and Jamaica.

35. Frond ovate-oblong, with an angular ſtipe. Leaves on one ſide of the frond, binate, equal. Lower leaflets pinnatifid, upper forked, uppermoſt quite ſimple, ſubulate. The fructification breaks out from the inner edge of the diviſions in an oblong ſpot, which is gradually dilated over the whole under ſurface of the leaf. Native of the Iſles of France and Bourbon[‡‡].

36. Native of Madeira. Found there by Mr. Francis Maſſon. Introduced here in 1778[§§].

37—44. Natives of Jamaica.

PROPAGATION AND CULTURE.

Few of the ſpecies have been yet introduced into gardens. Thoſe of Europe may be either preſerved in pots, filled with gravel and lime rubbiſh; or planted on walls and artificial rocks. The thirty-ſixth ſpecies, with ſome few others, may be preſerved in the green-houſe; but the greater part, being natives of very hot climates, muſt be planted in pots, and plunged into the bark-pit.]

ACTÆA (From ακταια, *planta littoralis, ſhore-loving.*)
Lin. gen. n. 644. *Reich.* 700. *Schreb.* 877. *Juſſ.* 235. *Gærtn. t.* 114. Chriſtophoriana *Tournef.* 154.
Claſſ. 13. 1. Polyandria Monogynia.
Nat. order of *Multiſiliquæ*. *Ranunculaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved: *leaflets* roundiſh, obtuſe, concave, caducous.

COR. *Petals* four, acuminate to both ends, larger than the calyx, caducous.

STAM. *Filaments* uſually about thirty, capillary, broader at top. *Anthers* roundiſh, twin, erect.

PIST. *Germ* ſuperior, ovate. *Style* none. *Stigma* thickiſh, obliquely depreſſed.

PER. a *Berry* oval-globoſe, ſmooth, one-furrowed, one-celled.

SEEDS very many, ſemiorbicular, lying over each other in two rows.

OBS. A. racemoſa *has a coriaceous, not a pulpy fruit.*

ESSENTIAL CHARACTER.

Cal. four-leaved. *Cor.* four-petalled. *Berry* one-celled. *Seeds* ſemiorbicular, in two rows.

SPECIES.

1. Actæa ſpicata.
Lin. ſpec. 722. *Reich.* 567. *hort. cliff.* 209. *upſ.* 138. *Gærtn.* 2. 154.
α. A. nigra. *Common black-berried Herb Chriſtopher, or Bane-berry.*
Lin. ſuec. 464. *lapp.* 217. *Hudſ. angl.* 228. *With.* 546. *Scop. carn. n.* 633. *Pollich, palat. n.* 503. *Flor. dan. t.* 498. *Blackw. t.* 565. *Hall. helv. n.* 1076. *Ger.* 979. *Park.* 379. 1. *Cluſ. hiſt.* 2. 86. *Beſl. eyſt. æſt.* 10. *t.* 3. *f.* 1. (Chriſtophoriana.)
β. A. alba. *American Herb Chriſtopher with white berries.*
Mill. dict. n. 2. *Corn. canad.* 76. *t.* 77. *Mor. hiſt.* 2. *p.* 8. *ſ.* 1. *t.* 2. *f.* 7.
γ. A. rubra. *American Herb Chriſtopher with red berries.*
Raceme ovate, fruits berried.

2. Actæa racemoſa. *American black or wild Snakeroot.*
Lin. ſpec. 722. *Reich.* 567. *Dill. elth.* 79. *t.* 67. *f.* 78. *Pluk. amalth.* 54. *t.* 383. *f.* 3.
Racemes very long; fruits dry.

[3. Actæa japonica. *Japoneſe Herb Chriſtopher.*
Lin. ſyſt. 488. *Thunb. jap.* 221.
Spikes very long; leaflets gaſhed, palmate, undivided.

4. Actæa aſpera. *Rough-leaved Herb Chriſtopher.*
Loureiro cochinch. 332.
Stem climbing: leaves lanceolate, rough: ſpikes interrupted.]

DESCRIPTIONS, &c.

1. The firſt ſort grows naturally in ſeveral places in the northern counties of England: I found it in pretty great plenty in a wood near Kirkby Lonſdale, as alſo near Ingleborough hill in Yorkſhire. It grows two feet and an half high, the footſtalks of the leaves ariſe from the root; theſe divide into three ſmaller footſtalks, each of which divide again into three, and theſe have each three lobes, ſo that each leaf is compoſed of twenty-ſeven lobes (or ſmall leaves.) The flower ſtem which ariſes from the root, has leaves of the ſame form, but ſmaller. On the top of the ſtalk appear the flowers, which grow in ramoſe ſpikes, and are of a pure white; theſe come out in may, and are ſucceeded by black ſhining berries about the ſize of peas, which ripen in autumn.

[Petals rhomb-ſhaped, flat-membranaceous[*]. Between the petioles comes out a ſcape bearing ternate leaves, and an oval raceme. Peduncles ſimple, with a linear bracte. Stamens longer than the petals. Seeds twelve[†]. Leaves ſhining, ſmooth, reſembling thoſe of the umbellate plants[‡].

This plant is a powerful repellent. The root is uſeful in ſome nervous caſes, but muſt be adminiſtered with caution. The berries are poiſonous, the juice of them with alum yields a black dye. Toads allured by the fœtid ſmell of this plant reſort to it[§]. Dr. Withering obſerves very well, that this may be owing to its fondneſs for the ſame damp ſhady ſituations with the toad.]

β. The leaves of the American plant are not ſo deeply indented on their edges as in the European. The flowers grow in a more compact ſpike, and the berries are very white, and tranſparent when ripe. The roots are compoſed of thick tubers or knobs.

[γ. The variety with red berries differs only in the colour of the fruit.]

2. This ſpecies has large compound leaves, which riſe immediately from the root, and are branched after the ſame manner with the firſt. The flower-ſtems frequently riſe to the height of four or five feet. [Dillenius ſays eight feet and more.] The flowers are white, in a long ſpike, reflex at the top. [The petals are thick, gibbous, very ſmall, pedicelled, with a briſtly-acuminate point, and more in number than the leaflets of the calyx[‖].] It flowers in june, or the beginning of july, but does not perfect ſeeds in England. During the time of flowering it makes a good appearance in a garden, and therefore deſerves a place in ſhady borders, or among ſhrubs, where, if it be not overhung by them, it thrives very well, and being hardy, will require no other care than the ſhrubs themſelves. It is a native of North-America, where it is called *Black Snakeroot*, to diſtinguiſh it from *Common Snakeroot*. The root is much uſed in that country againſt many diſorders, and is ſuppoſed to be an antidote againſt poiſon, or the bite of the rattle-ſnake. [It was cultivated at Eltham in 1732 by James Sherard, M. D.[¶].

3. Differs from the ſecond in having ſimple, not pinnate leaves; the leaflets are heart-ſhaped, nearly

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[*] Linneus.
[†] Swartz obſ.
[‡] Linneus.
[§] Swartz obſ.
[‖] Ibid.
[¶] Linneus.
[**] Amæn. acad.
[††] Linneus.
[‡‡] Lin. ſuppl.
[§§] Hort. kew.

[*] Linneus.
[†] Scop.
[‡] Haller.
[§] Linneus.
[‖] Linneus.
[¶] Hort. kew from Dill. elth.

of the ſame length and breadth, not oblong; the petioles longer than the leaflets; and the flowers ſeſſile*.

4. Stem ſhrubby, climbing but without tendrils, unarmed, branched. Leaves ſubſerrate, alternate, flowers white, axillary, in ſpiked racemes: ſpikes linear, interrupted. Corolla and calyx quadrifid. Stamens more than fifty. Berry gibbous, juiceleſs.

Native of China near Canton.

The leaves being extremely rough, the Chineſe uſe them in poliſhing, particularly tin ware †.]

PROPAGATION AND CULTURE.

Theſe plants may be propagated by ſeeds, which ſhould be ſown on a ſhady border, ſoon after they are ripe, where they can be obtained freſh; for if they are kept out of the ground till ſpring, the plants will not come up till the year after, ſo that a whole ſeaſon will be loſt. As the ſeeds ſeldom come up all at the ſame time, the border ſhould not be diſturbed till the following autumn, in order to ſee what plants may appear; when they ſhould be tranſplanted into another ſhady border, where they may remain to flower. The ſeeds of the ſecond ſort are annually ſent from North-America, and ſhould be ſown as ſoon as the ſeaſon will permit.

[Actæa cimicifuga. See *Cimicifuga*.
Aculeosa. See *Gorteria*.
Adam's needle. See *Yucca*.]

ADANSONĬA. (Named from M. Adanſon, a French ſurgeon, who reſided many years in Senegal, brought home a curious collection of ſeeds and plants, publiſhed his travels, and a new arrangement of vegetables, entitled *Familles des Plantes*.)

Lin. gen. n. 836. *Reich.* 900. *Schreb.* 1126. *Mem. acad.* 1761. *t.* 6. 7. *Cavan. diſſ.* 5. 198. *t.* 151. *Juſſ.* 275. *Gært.* 135.
Claſſ. 16. 5. Monadelphia Polyandria.
Nat. order of *Columniferæ*. *Malvaceæ*. Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ſemiquinqueſid, cyathiform; diviſions revolute, deciduous.

Cor. *Petals* five, roundiſh, nerved, revolute, connected by the claws with each other and the ſtamens.

Stam. *Filaments* united at bottom into a tube, which they crown, expanding horizontally. *Anthers* kidney-ſhaped.

Pist. *Germ* ovate. *Style* very long, tubulous, variouſly intorted. *Stigmas* many (ten) priſmatic, villous, radiate-expanded.

Per. *Capſule* ovate, woody, not gaping, ten-celled, (ten to fourteen *G.*) with farinaceous pulp, the partitions membranaceous.

Seeds numerous, kidney-ſhaped, rather bony, involved in a friable pulp.

Obs. *Very nearly allied to Bombax; the fructification differing only in the ſeeds being covered with meal inſtead of wool or cotton.*

ESSENTIAL CHARACTER.

Calyx ſimple, deciduous. *Style* very long. *Stigmas* many. *Capſ.* woody, ten-celled, with farinaceous pulp, and many ſeeds.

SPECIES.

1. Adanſonia digitata. *Ethiopian Sour-gourd*, or *Monkies'-bread*.
Lin. ſpec. 960. *Reich.* 3. 332.
A. Baobab. *Gærtn. fruct.* 2. 253.
Baobab. *Alp. ægypt.* 66. *t.* 67. *Bauh. hiſt.* 1. 110. *Veſl. ægypt.* 37. *t.* 17, 18. *Jonſt. dendr. t.* 19. *Adanſ. voy.* 54.
Abavo. *Bauh. pin.* 434.
Guanabanus. *Bauh. hiſt.* 1. 109. *Raii hiſt.* 1371.

DESCRIPTION.

The young plants, and alſo moſt of the new branches, have ſingle ſpear-ſhaped leaves towards their lower part, but at their extremities the leaves have ſome three, and others five lobes, of the ſame ſize and form as the lower, which are diſpoſed like a hand; theſe are entire, ending in a point, and fall off in winter. The ſtems are large and woody, but of a ſoft texture, and have generally a large ſwelling near the root. The account which Monſieur Adanſon gives of the trees he ſaw at Senegal and other parts of Africa, in regard to the ſize of them, is amazing; he meaſured ſeveral from ſixty-five to ſeventy-eight feet in circumference; but their height was not extraordinary. The trunks were from twelve to fifteen feet high, before they divided into many horizontal branches which touched the ground at their extremities; theſe were from forty-five to fifty-five feet long, and were ſo large, that each branch was equal to a monſtrous tree: and where the water of a neighbouring river had waſhed away the earth, ſo as to leave the roots of one of theſe trees bare and open to ſight, they meaſured one hundred and ten feet long, without including thoſe parts of the roots which remained covered.

Proſper Alpinus, in his hiſtory of Egyptian plants, deſcribes this tree, to which he gives the title of *Baobab*, ſo that it alſo grows in that country; but he does not mention any of them to be near the ſize of thoſe deſcribed by Monſieur Adanſon.

[The freſh fruit is very pleaſant, of an acid flavour, and is eaten with ſugar. The pulp or juice mixed with ſugar, or a ſyrup made of it, is uſed in putrid and peſtilential fevers. At Cairo they reduce the pulp to a powder, and uſe it in theſe diſorders, in the lientery, dyſentery, and all ſorts of fluxes*.]

PROPAGATION AND CULTURE.

It is propagated by ſeeds, which muſt be procured from the country where it grows naturally, for it does not produce any in Europe; theſe muſt be ſown in pots, and plunged into a hot-bed, where, in about ſix weeks, the plants will come up, and in a ſhort time after be fit to tranſplant, when they ſhould be each planted into a ſeparate pot, filled with light ſandy earth, and plunged into a freſh hot-bed, obſerving to ſhade them until they have taken new root; after which time they ſhould have free air admitted to them every day in warm weather, but muſt be ſparingly watered; for as their ſtems are ſoft, eſpecially when young, too much wet will cauſe them to rot. As the plants advance in their growth, they are to be ſhifted into larger pots, but muſt conſtantly be plunged into the bark-bed, being too tender to thrive in this country without this artificial heat, therefore they muſt conſtantly remain in the ſtove with other tender exotic plants: the plants when young make great progreſs in their growth, where they are properly treated; for in three years many of them have been more than ſix feet high, and have put out ſeveral lateral branches; their ſtems are alſo proportionable; but after four or five years' growth, they are almoſt at a ſtand, their annual ſhoots rarely exceeding two or three inches.

There were ſome plants of this ſort in ſeveral gardens, which were raiſed from ſeeds obtained from Grand Cairo in the year 1724, by the late Dr. William Sherard, ſome of which were grown to the height of eighteen feet; but in the ſevere winter 1740, they were all loſt, and ſince that time there had not been any of the ſeeds brought to England, till the return of M. Adanſon to Paris in 1754, who ſent ſome of the ſeeds over here, which have ſucceeded, and many of the plants grew upwards of twelve or fifteen feet high.

Adder's-tongue. See *Ophiogloſſum*.

ADELĬA. (From Αδηλος, *incertus*, *obſcurus*.)

Lin. gen. n. 1137. *Reich.* 1245. *Schreb.* 1558. *Lamarck encycl.* 1. 40. *Juſſ.* 388.
Bernardia. *Browne.*
Claſſ. 22. 12. Dioecia Monadelphia.
Nat. order of *Tricoccæ*. *Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* one-leafed, three-parted; *leaflets* oblong, curved back.

Cor. none.

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* Thunberg.

† Loureiro.

* Ray.

Stam. *Filaments* many, capillary, the length of the calyx, united into a cylinder at the baſe. *Anthers* roundiſh.

* *Female.*

Cal. *Perianth* five-parted: parts oblong, permanent.
Cor. none.
Pist. *Germ* roundiſh. *Styles* three, very ſhort, divaricate. *Stigmas* torn.
Per. *Capſule* tricoccous, roundiſh, three-celled.
Seeds ſolitary, roundiſh.

ESSENTIAL CHARACTER.

Male *Cal.* three-parted. *Cor.* none. *Stam.* many, united at the baſe.
Fem. *Cal.* five-parted. *Cor.* none. *Styles* three, torn. *Capſ.* tricoccous.

SPECIES.

1. Adelia Bernardia. *Villous-leaved Bernardia.*
Lin. ſpec. 1473. *Reich.* 283.
Bernardia. *Brown. jam.* 361. *n.* 1.
Leaves oblong, tomentoſe, ſerrate.

2. Adelia Ricinella. *Smooth-leaved Bernardia.*
Lin. ſpec. 1473. *Reich.* 283.
Bernardia. *Brown. jam.* 361. *n.* 2.
Leaves obovate, quite entire.

3. Adelia Acidoton. *Box-leaved Adelia.*
Lin. ſpec. 1473. *Reich.* 283.
Acidoton. *Small ſhrubby Acidoton.*
Brown. jam. 355.
Branches flexuoſe, ſpines gemmaceous.

DESCRIPTIONS, &c.

Theſe ſhrubs grow naturally in the iſland of Jamaica, and are near of kin to the *Croton.* Dr. Houſtoun conſtituted a genus of the two firſt by the title of *Bernardia,* in honour of Dr. Bernard de Juſſieu.

[2. Grows to the height of eight or ten feet, and has ſlender flower-ſtalks.

3. It ſeldom riſes above four feet in height. The branches are very ſlender and flexile; the leaves ſmall, delicate, crowded, and aſſociated with one or two flowers. It has much the appearance of a young Ebony *.

Introduced 1778 by John Fothergill, M. D. It flowers in june with us. In Jamaica early in april and may †.]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, when they can be procured from the countries where they grow; for they do not produce good ſeeds in England. They muſt be ſown upon a hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be each tranſplanted into a ſeparate ſmall pot, filled with light earth, and plunged into a hot-bed of tan, treating them in the ſame manner as is hereafter directed for *Croton.* In the autumn, the pots ſhould be plunged into the tan-bed in the ſtove, where, if they are kept in a temperate heat in winter, and not overwatered during that ſeaſon, the plants may be preſerved, and the ſummer following will produce flowers; but as theſe have little beauty, the plants are ſeldom propagated except in botanic gardens.

ADENANTHĒRA. (From ἀδένος, *glandulous,* and Ανθηρα, *an Anther.*)
Lin. gen. n. 526. *Reich.* 572. *Schreb.* 707. *Roy. lugdb. p.* 462. *Juſſ.* 349. *Gærtn. t.* 149.
Claſſ. 10. 1. Decandria Monogynia.
Nat. order of *Lomentaceæ. Leguminoſæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-toothed, very ſmall.
Cor. five-petalled, bell-ſhaped: *petals* lanceolate, ſeſſile, convex inwards, concave underneath.
Stam. *Filaments* ſubulate, erect, a little ſhorter than the corolla. *Anthers* roundiſh, incumbent, bearing a globoſe gland at the outer tip.
Pist. *Germ* oblong, gibbous downwards. *Style* ſubulate, the length of the ſtamens. *Stigma* ſimple.
Per. *A legume* long, compreſſed, membranaceous
Seeds very many, roundiſh, remote.

ESSENTIAL CHARACTER.

Cal. five-toothed. *Petals* five. Globoſe glands affixed to the outer tip of the anthers. *Legume* membranaceous.

SPECIES.

1. Adenanthera pavonina.
Lin. ſpec. 550. *Reich.* 2. 269. *vir. cliff.* 36. *zeyl.* 160. *Gærtn. fruct.* 2. 319.
Poinciana. *Lin. hort. cliff.* 158. *Rumph. amb.* 3. 173. *t.* 109. *Rheed. mal.* 6. 25. *t.* 14. *Raii hiſt.* 1752.
Leaves ſmooth on both ſides.

[2. Adenanthera falcata.
Lin. ſpec. 550. *Reich.* 2. 269. *Rumph. amb.* 3. *p.* 176. *t.* 111.
Leaves tomentoſe underneath.

3. Adenanthera ſcandens.
Forſt. florul. n. 187.
Leaves pinnate, two-paired; leaflets ovate, oblique, ſmooth: claſpers terminal, bifid.

DESCRIPTIONS, &c.

1. A tree with prodigious decompound or doubly pinnate leaves. Leaflets ovate, obtuſe, quite entire, on very ſhort petioles, ſometimes alternate, ſometimes oppoſite. Panicle of ſimple, thick racemes, with the floſcules on equal pedicels. Flowers comparatively very ſmall, yellow *. Legume nearly a foot in length, repand at the ſutures and obſcurely toruloſe at the ſeeds, ſmooth, one-celled, two-valved: the valves after they open are looſely and ſpirally twiſted. Seeds few in proportion to the length of the legume (8—12.) obovate-rounded, convexly lens-ſhaped, highly poliſhed, of a vivid ſcarlet colour, with a circular ſtreak in the middle on each ſide †. This is one of the largeſt trees in the Eaſt-Indies, and the timber is in common uſe on account of its ſolidity. It flowers in ſeptember, bears fruit at the beginning and end of the year, and is never without leaves. The duration is two hundred years. The natives uſe the powder of the leaf in their ceremonies. The ſeeds, beſides being eaten by the common people, are of great uſe to the jewellers and goldſmiths, on account of their equality, for weights, each of them weighing four grains; they alſo make a cement, by beating them up with water and borax, Of the bruiſed leaves they make a drink which they eſteem good againſt pains in the loins ‡.]

2. Trunk round, with a ſmooth, whitiſh bark. It is eaſily diſtinguiſhed at a diſtance, by its reſemblance to an umbrella on a ſtick. Branches large, a little ſtreaked, and marked with ſmall white dots. Leaves bipinnate, with from twelve to eighteen pairs of oppoſite pinnas, each of which has from ten to twenty-five pairs of leaflets. In old trees the number is leſs; but the upper pinnas are always longer than the lower ones. The leaves reſemble thoſe of the Tamarind, but the leaflets are ſmaller and narrower, dark green on the upper ſurface, but white on the lower. The flowers are very ſmall, compoſed of four yellowiſh petals. Legumes very ſlender, above four inches long, and ſcarcely one broad. Seeds oblong, blackiſh. Native of the Eaſt-Indies §.

3. Native of Mallicollo, an iſland in the South-Seas ‖.]

PROPAGATION AND CULTURE.

1. This tree muſt be raiſed on a hot-bed from the ſeeds, which are of a ſhining black colour, and ſomewhat larger than thoſe of the great Lentil, but nearly of the ſame ſhape. Afterwards it muſt be placed in the bark ſtove, where the fine branching leaves will make a very handſome appearance. It has not yet flowered in England.

Mr. Miller mentions another ſpecies or variety, with ſcarlet ſeeds, which he received from India, and found to be of a very ſlow growth.

[2. Of the ſecond and third ſpecies we know very little, nor have they yet been cultivated in England.]

Adhatoda. See *Juſticia.*

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* Browne. † Hort. kew.

* Linneus. † Gærtner. ‡ Ray. § Rumphius. ‖ Forſter.

ADIANTUM. (From Αδιαντον, οτι ου διαινεται: *becauſe it repels water, when plunged into it. Pliny.* Others from α and διαινειν, *from its not withering.*)
Lin. gen. n 1180. *Reich.* 1297. *Schreb.* 1633. *Tournef.* 317.
Claſſ. 24. 1. Cryptogamia Filices.
Engl. *Maidenhair.* Fr. *Capillaire.*

GENERIC CHARACTER.

Fructifications aſſembled in oval ſpots, at the end of the fronds, which are turned back: or at the reflex tip of the frond underneath.

SPECIES.

* *Frond ſimple.*

[1. Adiantum reniforme. *Kidney-leaved Maidenhair.*
Lin. ſpec. 1556. *Reich.* 4. 428. *Pluk. alm. t.* 287.
Fronds kidney-ſhaped, ſtalked, many-flowered.

2. Adiantum philippenſe. *Philippine Maidenhair.*
Lin. ſpec. 1556. *Reich.* 4. 429. *Pet. gaz.* 8. *t.* 4. *f.* 4.
Fronds kidney-ſhaped, alternate, petiolate, lobate, many-flowered.

3. Adiantum repens. *Creeping Maidenhair.*
Lin. ſuppl. 446. *ſyſt.* 939.
Fronds trapezium-ſhaped, cordate, pinnatifid; diviſions lance-ſhaped, ſerrate at the tip, the lower ones gaſhed.

** *Frond compound.*

4. Adiantum radiatum. *Rayed Maidenhair.*
Lin. ſpec. 1556. *Reich.* 929. *Pet. fil. t.* 14. *f.* 3. *Plum. amer. t.* 49. *fil. t.* 100. *Pluk. alm. t.* 253. *f.* 3. *Mor. hiſt.* 3. *ſ.* 14. *t.* 4. *f.* 9. *Brown. jam.* 88. 6.
Frond digitate; leaflets pinnate: pinnas one-flowered.]

5. Adiantum pedatum. *Canadian Maidenhair.*
Lin. ſpec. 1557. *Reich.* 4. 429. *Pluk. alm.* 10. *t.* 124. *f.* 2. *Mor. hiſt.* 3. *p.* 588. *ſ.* 14. *t.* 5. *f.* 12. *Corn. canad.* 7. *t.* 6. *Raii hiſt.* 148. *Park. theat.* 1060. *f.* 3.
Fronds pedate; leaflets pinnate; pinnas gibbous before, gaſhed, fruit-bearing.

[6. Adiantum lanceum. *Surinam Maidenhair.*
Lin. ſpec. 1557. *Reich.* 4. 430. *Seb. theſ. t.* 64. *f.* 7. 8.
Fronds pinnate: pinnas oppoſite oblong, the end ones triangularly haſtate.

7. Adiantum haſtatum. *Haſtate-leaved Maidenhair.*
Lin. ſuppl. p. 447. *ſyſt.* 939.
Fronds pinnate: pinnas haſtate-trilobate ſtraight.

8. Adiantum trilobum. *Three-lobed Maidenhair.*
Lin. ſpec. 1557. *Reich.* 430. *Pet. fil. t.* 11. *f.* 9. *Plum. fil.* 82. *t.* 99. C.
Pinnas three-parted, obtuſe, gaſhed, many-flowered.

9. Adiantum ſerrulatum. *Serrate-leaved Maidenhair.*
Lin. ſpec. 1557. *Reich.* 4. 430. *Sloan. jam. t.* 35. *f.* 2. *Pluk. phyt. t.* 253. *f.* 1.
Fronds bipinnate; pinnules deltoid-oblong ſerrate; fructifications ſolitary ſuperior.

10. Adiantum caudatum. *Tail-leaved Maidenhair.*
Lin. mant. 308. *ſyſt.* 939. *Reich.* 430. *Burm. zeyl. t.* 5. *f.* 1. *Lour. cochinch.* 680.
Fronds pinnate ſickled tailed at the tip.

*** *Frond decompound.*

11. Adiantum flabellulatum. *Fan-leaved Maidenhair.*
Lin. ſpec. 1557. *Reich.* 431. *Lour. cochinch.* 680. *Pluk. alm. t.* 4. *f.* 3. *Raii hiſt.* 1853.
Fronds decompound: pinnas alternate rhombed rounded many-flowered, ſtipes pubeſcent above.

12. Adiantum trifoliatum. *Ternate-leaved Maidenhair.*
Lin. ſpec. 1558. *Reich.* 4. 431. *Pet. fil. t.* 11. *f.* 4. *Plum. fil.* 81. *t.* 99. B.
Frond decompound; leaflets alternate ternate linear one-flowered.

13. Adiantum chuſanum. *Chineſe Maidenhair.*
Lin. ſpec. 1558. *Reich.* 431.
Fronds decompound: pinnas alternate pinnatifid: lobes unequal.]

14. Adiantum *Capillus Veneris.* *True Maidenhair.*
Lin. ſpec. 1558. *Reich.* 4. 431. *Hudſ. ang.* 460. *Wither. arr.* 3. 64. *Lightf. ſcot.* 679. *Lour. cochinch.* 681. *Jacq. miſc.* 2. *t.* 7. *Allion. ped. n.* 2417. *Scop. carn. n.* 1277. *Hall. helv. n.* 1713. *Park.* 1049. *Ger.* 982. 1. 2. *emac.* 1143. 1. *Bolton fil.* 29.
Fronds decompound: leaflets alternate; pinnas wedge-ſhaped, lobed, pedicelled.

[15. Adiantum villoſum. *Hairy-ſtalked Maidenhair.*
Lin. ſpec. 1558. *Reich.* 4. 431. *mant.* 505. *Pluk. phyt.* 253. *f.* 1. *Brown. jam.* 87. *n.* 4. *Plum. amer. t.* 46. *fil.* 97. *Sloan. jam.* 1. *t.* 55. *f.* 1.
Fronds bipinnate: pinnas rhombed fructifying before and without, ſtipe villous.

16. Adiantum pulverulentum. *Duſty Maidenhair.*
Lin. ſpec. 1559. *Reich.* 4. 432. *Pet. fil. t.* 5. *f.* 7. *Plum. amer. t.* 47. *fil. t.* 55.
Fronds bipinnate: pinnas oval truncate, before one-flowered, ſtipe ſhaggy.

17. Adiantum criſtatum. *Creſted Maidenhair.*
Lin. ſpec. 1558. *n.* 11. *Reich.* 4. 432.
Fronds bipinnate: loweſt leaflets two-parted: pinnas creſcent-ſhaped, many-flowered above.

18. Adiantum furcatum. *Forked Maidenhair.*
Lin. ſyſt. 940. *ſuppl.* 447. *Pluk. mant. t.* 350. *f.* 4?
Frond bipinnate: pinnas generally two-parted, linear; line of fructification ſingle.

19. Adiantum caffrorum. *Caffrarian Maidenhair.*
Lin. ſuppl. 447. *ſyſt.* 940.
Polypodium caffrorum. *Lin. ſyſt. edit.* 13. 788.
Fronds bipinnate: pinnas ovate gaſh-toothletted chaffy underneath.

20. Adiantum fragrans. *Sweet-ſcented Maidenhair.*
Lin. ſuppl. 447. *ſyſt.* 940.
Polypodium fragrans. *Lin. mant.* 307. *ſyſt. edit.* 13. 789.
Fronds bipinnate: pinnas ovate ſublobed obtuſe, naked underneath.

21. Adiantum truncatum. *Truncate-leaved Maidenhair.*
Lin. ſyſt. 940. *Reich.* 4. 432. *Burm. ind. t.* 66. *f.* 4.
Fronds decompound, with pinnate leaflets: pinnas alternate wedge-ſhaped rather ſickle-ſhaped truncate quite entire.

**** *Frond ſuperdecompound.*

22. Adiantum clavatum. *Clubbed Maidenhair.*
Lin. ſpec. 1559. *Reich.* 4. 432. *Pet. fil. t.* 14. *f.* 7. *Plum. amer. t.* 50. *f.* B. *fil.* 101. *f.* B.
Leaflets alternate: pinnas wedge-ſhaped, quite entire, alternate, one-flowered.

23. Adiantum aculeatum. *Prickly-ſtiped Maidenhair.*
Lin. ſpec. 1559. *Reich.* 4. 433. *Plum. fil. t.* 94. *Pet. fil. t.* 11. *f.* 6. *Sloan. jam.* 1. *t.* 61. *Brown. jam.* 99. 11.
Pinnas palmate many-flowered, ſtipe prickly.

24. Adiantum trapeziforme. *Rhomb-leaved Maidenhair.*
Lin. ſpec. 1559. *Reich.* 433. *Sloan. jam.* 1. *p.* 98. *t.* 59. *Brown. jam.* 88. 8.
Leaflets alternate; pinnas rhombed, gaſhed, fruit-bearing on each ſide.

25. Adiantum hexagonum. *Hexagon-leaved Maidenhair.*
Lin. ſpec. 1560. *Reich.* 4. 433. *Pet. fil. t.* 10. *f.* 2. *Plum. fil.* 84. *t.* 37.
Pinnas hexangular, emarginate, quite entire, one-flowered on both ſides.

26. Adiantum pteroides. *Heart-leaved Maidenhair.*
Lin. mant. 130. *ſyſt.* 940. *Reich.* 4. 434.
Pinnas ovate entire crenulate, ſtipe poliſhed.

27. Adiantum æthiopicum. *Cape Maidenhair.*
Lin. ſpec. 1560. *Reich.* 4. 434. *Pluk. alm. t.* 253. *f.* 2.
Pinnas rounded entire crenulate, petioles capillary.

NEW SPECIES.

** *Frond compound.*

28. Adiantum triphyllum. *Three-leaved Maidenhair.*
Smith ic. ined. 3. 74. *Lamarck. encycl.* 41.
Frond three-leaved: leaflets ſeſſile lanceolate pinnatifid crenate.

29. Adiantum cuneatum. *Wedge-leaved Maidenhair.*
Forſt. fl. auſtr. n. 461.

Fronds pinnate, leaflets oppoſite ſubpinnate, pinnas wedge-ſhaped retuſe alternate.

30. Adiantum pumilum. *Dwarf Maidenhair.*
Swartz prodr. 134. *Brown. jam.* 87. 1. *Pluk. alm. t.* 251. *f.* 4.
Frond pinnate, ſtipe capillary, pinnas alternate roundiſh ſerrulate, the uppermoſt larger trapezium-ſhaped, fructifications interrupted.

31. Adiantum deltoideum. *Deltoid-leaved Maidenhair.*
Swartz prodr. 134.
Frond pinnate, pinnas alternate deltoid obtuſe, the uppermoſt triangular; fructifications continued above and in front.

32. Adiantum macrophyllum. *Large-leaved Maidenhair.*
Swartz prodr. 135. *Brown. jam.* 87. 2. *t.* 38. *f.* 1. Trichomanes majus nigrum, &c. *Sloan. jam.* 81. *n.* 34.
Frond pinnate, pinnas oppoſite rhomboid acute, the lower larger, the loweſt ſubhaſtate reflex; fructifications continued in front and below.

*** *Frond decompound.*

33. Adiantum ſcandens. *Climbing Maidenhair.*
Loureiro cochinch. 681.
Fronds decompound: leaflets wedge-ſhaped, equally gaſhed: ſtem climbing.

34. Adiantum ſtriatum. *Striated Maidenhair.*
Swartz prodr. 135.
Frond bipinnate, pinnules rigid ſickled-ovate, fructifications ſuperior interrupted, ſtipe round rough.

35. Adiantum ſtrictum. *Stiff Maidenhair.*
Swartz prodr. 135.
Frond bipinnate, pinnas four-cornered faſtigiate erect, pinnules alternate poliſhed entire, fructifications ſuperior continued.

36. Adiantum microphyllum. *Small-leaved Maidenhair.*
Swartz prodr. 135. *Sloan. jam.* 1. 98. *n.* 90. *t.* 13. *f.* 2.
Frond bipinnate, leaflets alternate oblong obtuſe crenate, the loweſt pinnatifid.

37. Adiantum denticulatum. *Tooth-leaved Maidenhair.*
Swartz prodr. 135. *Pluk. phyt. t.* 252. *f.* 5. *Plum. fil. t.* 52. (Lonchitis.)
Fronds decompound, pinnas alternate trapezoid acuminate crenate, notches toothletted, fructifications ſuperior interrupted.

**** *Frond ſuperdecompound.*

38. Adiantum fragile. *Brittle Maidenhair.*
Swartz prodr. 135.
Frond ſuperdecompound bipinnate at top, pinnas obovate wedge-ſhaped entire, fructifications interrupted.

39. Adiantum tenerum. *Tender Maidenhair.*
Swartz prodr. 135. *Brown. jam.* 88. 7. *Pluk. phyt. t.* 254. *f.* 1.
Frond ſuperdecompound, pinnules alternate rhomb-wedge-ſhaped blunted gaſhed, fructifications interrupted.

DESCRIPTIONS, &c.

In this large genus of Ferns one only (the fourteenth) is native of Great-Britain, and that in a ſingle place or two of Scotland and Wales. The reſt are chiefly the growth of hotter climates, particularly the Weſt-Indies.

1. Native of the iſland of Madeira. Introduced here in 1778, by Mr. Francis Maſſon [*].

2. Native of the Philippine iſlands.

3. Stems long chaffy creeping. Stipes erect chaffy. Fronds quite ſmooth; diviſions at the baſe deeper than the others. The fructifying dots are in the ſerratures. Native of the Iſle of France [†].

4. This elegant little plant riſes by a ſimple ſtalk to the height of ſix or eight inches, and then divides into five or more ſimple branches diſpoſed in a radiated expanded form; theſe are ſuſtained by a few ſimple leaves placed in the manner of an umbrella, under their inſertions. The fronds are ſmall [‡]. It is a native of Jamaica and Domingo.

5. Root ſmall. Stipes dark purple, eighteen inches high and more. Leaves reſembling the comb of a cock. John Tradeſcant the ſon brought it into England from Virginia [*] before the year 1640. It is alſo a native of Canada, Japan, and the Society Iſles. It flowers in auguſt and ſeptember [†].

6. Stipe ſmooth. Frequently two pair of leaflets to the frond, with the odd one longer. Pinnas recurved, obtuſe; the end ones larger, oblong, acute [‡]. Native of Surinam.

7. Stem undivided, ſmooth, dark purple, half a foot high. Pinnas ſubſeſſile, three-lobed; the ſide-lobes ſhort; the lower oppoſite, obtuſe, the upper alternate, acute; edge crenulate, recurved. Native of the Cape of Good Hope [§].

8. Native of America.

9. Height about ſix inches. Footſtalk black and ſhining, ſometimes hairy, and three inches long. Pinnules alternate very cloſe, trapezium-ſhaped, dark-coloured, without prickles. It has ſome ſmall jags on the edges. Native of Jamaica [‖].

10. Fronds in a bunch, like *Aſpl. Trichomanes.* Stem from ſeven inches to a foot high, bending to one ſide, ferruginous, ſubpubeſcent. Pinnas minute, remote, towards the end of the frond, running out there into an almoſt naked thread, by which it often takes root. Pinnas alternate, ſubſeſſile, wedge-ſhaped, halved, the upper ſide dilated, gaſh-multifid to the midſt, obtuſe, ſtreaked. Fructifications covered by the reflex tips of the pinnas [¶]. Native of the Eaſt-Indies and Japan.

11. Stipe, branches and pedicels channelled above and ferruginous-villous. Stature of *Arum pedatum* [**]. Native of China.

12. Native of America.

13. Frond lanceolate, ſmooth: leaflets alternate, lanceolate, alternately pinnate. Lobes of the pinnas linear-wedged, gaſhed [††]. Native of China.

14. Fronds, branches and petioles ſhining, blackiſh. Leaves at firſt roundiſh, afterwards wedge-ſhaped [‡‡]. Stem ſlender, dark purple. Petioles of the branches very large, ſuſtaining three leaves, which are ſmooth, tender, toothed in the farther part, fan-ſhaped, dilated, either cut ſhortly into lobes, or more deeply, three-four-ſeven-lobed, the lobes obtuſe. One or two fruit-bearing dots to each tooth, to which the edge of the leaf is attracted. Maidenhair is a very ſucculent plant, yielding almoſt its whole weight of juice: but neither taſte nor ſmell promiſe any efficacy. If the ſyrup of Capillaire, which they make from it, be good for any thing, it is from the orange flower water which they put into it [§§].

Native of the ſouth of Europe, and the Levant. Wales and Scotland, but rare.

15. Height two feet. Stem black, ſtrong, triangular, covered with a hairy, ferruginous, moſſy ſubſtance. The fronds proceed from this about a foot from the ground. Pinnas alternate. Pinnules an inch long, and about half as broad, the figure of a trapezium. Native of Jamaica [‖‖].

16, 17. Natives of South-America.

18. Stem two feet high, ſmooth. Leaflets alternate, alternately-pinnate elongate: pinnas moſtly two-parted, quite entire. Fructification in the diviſions of the pinnas, at the upper edge, in the middle of which are two membranes, cloven like the diviſions, and each emits one fructification [¶¶].

19. Stipe wholly covered with chaffs. The whole frond alſo covered thick with a chaffy villoſity. Pinnas ſharply and deeply ſerrate, or rather gaſh-notched [***].

20. Introduced in 1758 by Mr. Fr. Maſſon [†††]. Native of Madeira.

21. Pinnas ſeſſile, obliquely truncate, the lower angle mucronate [‡‡‡].

22. Native of Dominica.

23. Native of Jamaica and Dominica.

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[*] Hort. kew.
[†] Lin. ſuppl.
[‡] Browne jam.

[*] Ray.
[†] Hort. kew. and Forſter.
[‡] Linneus.
[§] Lin. ſuppl.
[‖] Sloane.
[¶] Lin. mant.
[**] Linneus.
[††] Ibid.
[‡‡] Scopoli.
[§§] Haller.
[‖‖] Sloane.
[¶¶] Linneus.
[***] Ibid.
[†††] Hort. kew.
[‡‡‡] Linneus.

24. Native of New Zealand and between the tropics[*].

25. Is *Pteris heterophylla*[†].

26. Stipe ſeven inches high, purple, ſmooth. Pinnas ſtreaked: edge covered underneath with as many white ſcales as there are notches, covering the fructifications[‡]. Native of the Cape of Good Hope; and introduced in 1775, by Mr. Francis Maſſon[§].

27. Native of the Cape of Good Hope and Japan.

28. This is a very beautiful little Fern, tender, entirely ſmooth, a ſpan high. Stipe ſimple, almoſt upright, filiform, black, ſhining. Leaflets an inch long, ſpreading, nearly equal, ſharpiſh, irregularly and not deeply pinnatifid, with large notches, cartilaginous on the edge at the ſinuſes and the baſe; they are white underneath, and have a black, ſhining, flexuous nerve, which is very ſtrong at the baſe, and vaniſhes towards the middle of the leaflet. Fructifications ſolitary at the tips of the notches, each covered with a roundiſh, membranaceous ſcale, entirely diſtinct from the ſubſtance of the leaflet. Found by Commerſon in Buenos Ayres[||].

30. This little plant ſeldom riſes above two or three inches from the root; its leaves and ſtalk are very delicate; and the fructifications but few. Native of Jamaica, in dry and rocky places[¶].

31. Native of Jamaica[**].

32. Stalk ſeldom branched or divided. Leaves commonly from one to two inches in length, and about one inch and a quarter in breadth. Native of Jamaica, in moiſt and ſhady places[††].

33. Stipe filiform, long, ſlender, pale, branching, climbing, and frequently twining. Leaflets blunt, ſmooth, petioled; with marginal toothlets embracing the fructifications. Native of Cochinchina[‡‡].

34, 35. Natives of Jamaica[§§].

36. Height nine inches. Stipes black, covered with a ruſty moſs. Pinnules ſmall, diſtinct, dark green. Native of Jamaica, among rocks near St. Jago de la Vega, by the river[||||].

37, 38. Natives of Jamaica[¶¶].

39. Height from fourteen to eighteen inches. Stipe black, ſhining, branched. Native of Jamaica, in ſhady places[***].

PROPAGATION AND CULTURE.

The only ſpecies that have been cultivated with us are the firſt, fifth, fourteenth, fifteenth, twentieth, twenty-fourth and twenty-ſixth. The fourteenth may be preſerved in pots filled with gravel and lime rubbiſh, in which it will thrive much better than in good earth. Although the fifth or *American Maidenhair* will live through the winter in the open air in moderate ſeaſons, yet in ſevere froſts it is ſometimes deſtroyed, and therefore it will be prudent to keep a plant or two under ſhelter. This grows naturally in Canada in ſuch quantities, that when the French were in poſſeſſion of that country, they ſent it to France as package for goods, and the apothecaries at Paris uſed it inſtead of the true Maidenhair.

The fifteenth and twenty-fourth growing naturally in hot countries, muſt be preſerved in a ſtove, where their ſhining black ſtalks and odd-ſhaped leaves will afford an agreeable variety among other exotic plants.

The firſt, twentieth and twenty-ſixth, may be kept in the green-houſe.

ADIANTUM NIGRUM. See *Aſplenium.*

ADŌNIS. (So named from Adonis, the favourite of Venus.)

Engl. *Adonis flower*, or *Pheaſant's-eye.* Fr. *Adonide*, [*Oeil de Perdrix.*

Lin. gen. n. 698. *Reich.* 756. *Schreb.* 952. *Dill. gen.* 4. *Gærtn. t.* 74. *Juſſ.* 232.

Claſſ. 13. 7. Polyandria Polygynia.

Nat. order of *Multiſiliquæ. Ranunculaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved; *leaflets* obtuſe, concave, a little coloured, deciduous.

COR. *Petals* five to fifteen, oblong, obtuſe, ſhining.

STAM. *Filaments* very ſhort, ſubulate. *Anthers* oblong, inflex.

PIST. *Germs* numerous, in a head. *Styles* none. *Stigmas* acute, reflex.

PER. none. *Receptacle* oblong, ſpiked.

SEEDS numerous, irregular, angular, gibbous at the baſe, reflex at the top, a little prominent, naked.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Petals* five or more, without a nectary. *Seeds* naked.

SPECIES.

1. Adonis æſtivalis. *Tall Adonis.*
   Lin. ſpec. 771. *Reich.* 2. 650. *Pollich, pal. n.* 525. *Krock. ſiles. n.* 866. *Villars, dauph.* 755. 2. *Mill. dict. n.* 2. *fig. t.* 14. *f.* 2.
   Corollas five-petalled, heads of ſeeds ovate.
2. Adonis autumnalis. *Common Adonis. Bird's-eye. Pheaſant's-eye. Red Maithes, or Red Morocco.*
   Lin. ſpec. 771. *ſyſt.* 514. *Reich.* 2. 650. *Hudſ. ang.* 239. *With.* 570. *Curtis, lond.* 2. 37. *Scop. carn. n.* 677. *Hall. helv. n.* 1158. *Krock. ſiles. n.* 868. *Villars, dauph.* 755. 1. *Mill. dict. n.* 1. *Park. par.* 291. 5. *Ger.* 310. 1. *emac.* 387. *Petiv. brit. t.* 39. *f.* 8. *Raii ſyn.* 251. *hiſt.* 596.
3. Adonis vernalis. *Perennial or Spring Adonis.*
   Lin. ſpec. 771. *ſyſt.* 514. *Reich.* 651. *fl. ſuec. n.* 492. *Gærtn. fruct.* 355. *Gouan illuſtr.* 33. *Mill. dict.* 3. *fig. t.* 14. *f.* 1. *Curt. mag.* 134. *Blackw. t.* 504. *Scop. carn. n.* 678. *Hall. helv. n.* 1157. *Pollich. palat. n.* 526. *Krock. ſiles.* 867. *Jacqu. auſt.* 1. *t.* 44. *Park. parad.* 291. *f.* 6. *Dod. pempt.* 261. *Raii hiſt.* 597. 1. (Buphthalmum.)
   Flower twelve-petalled: heads of ſeeds ovate. (*Seeds equal thicker at the tip, ſtyled below the tip, hirſute.* Gouan.)
4. [Adonis apennina. *Apennine Adonis.*
   Lin. ſpec. 772. *ſyſt.* 514. *Reich.* 651. *Jacqu. auſtr.* 1. *t.* 44. *Gouan illuſt.* 33.
   Flowers fifteen-petalled. (*Seeds angular acuminate-mucronate ſmooth.* Gouan.)
5. Adonis capenſis. *Cape Adonis.*
   Lin. ſpec. 772. *ſyſt.* 514. *ſuppl.* 272. *Reich.* 652. *Berg. cap.* 149. *Burm. afr.* 147. *t.* 51. *Comm. hort.* 1. *t.* 1. *Raii ſuppl.* 316.
   Flowers ten-petalled; heads depreſſed; leaves biternate, leaflets ſerrate heart-ſhaped.
6. Adonis veſicatoria. *Bliſter Adonis.*
   Lin. ſyſt. 515. *ſuppl.* 272.
   Imperatoria, &c. *Pluk. alm. t.* 95. *f.* 2.
   Flowers ten-petalled; leaves biternate, leaflets ſerrate ſmooth.

DESCRIPTIONS, &c.

The leaves are multifid in ſome ſpecies, in others biternate. The flowers are terminating, varying in the number of petals from five to twelve or more; theſe are long, narrow, red or yellow, without any nectary as in Anemone, which genus the flowers of Adonis reſemble. In the fruit this genus approaches more to Ranunculus; having the ſeeds on a receptacle more or leſs lengthened out, forming a bunch, pretty much as in that genus.

1. *A. æſtivalis.* Linneus obſerves, that this is ſo nearly allied to the ſecond ſpecies, as to be doubtful whether it is really diſtinct. Crantz unites them; and Mr. Curtis thinks it will moſt probably be found that they are the ſame. The number of petals is no certain character; and the time of flowering is none. Linneus ſays, the corolla in this is red, in that dark purple: but the variation even from ſcarlet to pale yellow, is no eſſential difference; the dark purple at the baſe of the petals remaining the ſame in all the varieties.

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[*] Forſter.

[†] Swartz obſ.

[‡] Linneus.

[§] Hort. kew.

[||] Smith ic. ined.

[¶] Browne.

[**] Swartz.

[††] Browne.

[‡‡] Loureiro.

[§§] Swartz.

[||||] Sloane.

[¶¶] Swartz.

[***] Browne.

According to Monſieur Villars, this differs from *autumnalis*, in having the flower ſmaller, with the colour a higher red; the branches more open, and the fruit of an oval form.

Haller and Pollich, though they both quote Linneus's ſpecific character, yet affirm that the corolla has eight petals; or, according to the former, very ſeldom five. Reichard ſays, that it has from five to eight.

Native of the ſouthern countries of Europe, among corn: flowering in may and june. Cultivated in 1768, by Mr. Miller.

A variety of this, with a pale yellow corolla, is mentioned by ſeveral authors.

2. Our Common Adonis has the ſtalk about a foot high, upright, ſomewhat angular, hollow, purpliſh, hoary, branched quite to the bottom. The branches are generally taller than the ſtalk which produces the firſt flower. Leaves alternate, yellowiſh green; the lower ones petioled; the upper ones ſeſſile; all ſuperdecompound; the ſegments numerous, capillary, pointed, on the under ſide ſhining. Leaflets of the calyx ſubovate, unequal, purple, ſhorter than the corolla; the tips toothed, and appearing as if bitten. Corolla conſiſting of eight petals, ſeldom more but often fewer, unequal, obcordate, the tip irregularly notched; of a ſcarlet colour, with the bottom internally black, externally greeniſh. Stamens about forty; filaments filiform, white; anthers ovate, obtuſe, compreſſed, of a blackiſh purple colour; pollen ſaffron-coloured. Head of germs ſhort, ſomewhat conical. Stigmas pointed, the points turned back. Seeds ſomewhat angular, pointed, reticulate and wrinkled[*]. According to Krocker, the ſtalk is above a foot and half high, terminated by ſolitary flowers. The leaves leſs extended than in the firſt ſort; the flowers ſmaller and darker coloured; the receptacle of the fruit cylindric and longer; the claws of the petals and the filaments of a darker red colour.

Native of moſt of the ſouthern parts of Europe. Though now common in corn fields with us near London, yet not being mentioned as indigenous by any of our old writers, it is probably of no very long ſtanding[†], and was originally conveyed from gardens, by the intervention of the dungheap.]

It grows in Kent, particularly by the ſide of the river Medway, between Rocheſter and Maidſtone, where it is found in great plenty, in the fields ſown with wheat. Among ſpring corn, there is rarely a plant of it to be found; which ſhows the propriety of ſowing the ſeeds in gardens in autumn; for thoſe fields of ſpring corn, if ſuffered to remain undiſturbed after the harveſt, will abound with this plant the following year. Great quantities of the flowers are annually brought to London, and ſold by the name of *Red Morocco*. Both theſe annual ſorts flower in the beginning of june; and the ſeeds ripen in auguſt and ſeptember: this muſt be underſtood of thoſe plants which grow from ſeeds ſown in autumn, or ſuch as have fallen to the ground; for when any plants come up from ſeeds ſown in the ſpring, they do not flower till july or auguſt, and their ſeeds ſeldom ripen before october. [May not this circumſtance have given occaſion to the forming of theſe two ſpecies out of one? ſince they ſeem to agree ſufficiently in moſt reſpects, except the time of flowering. Dr. Smith however aſſures me that they are diſtinct in their habit, and that the firſt ſpecies, which he found near Verona, has the petals narrow; whereas in this they are round.

Adonis flammea, and *miniata*, figured by Jacquin in *Flora auſtriaca*, vol. 4. t. 354 and 355, do not ſeem to be different from *A. autumnalis*. It is remarked by Chev. Murray[‡], that the latter is very frequent in Germany, among the corn, at the beginning of ſummer, with oblong petals of a paler red: but that in gardens the petals are rounder, and deeper coloured.

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[*] Curtis.

[†] Raii hiſt.

[‡] Syſt. veget.

He alſo mentions another elegant variety with lemon-coloured flowers.

3. *A. vernalis*, according to the obſervation of Linneus, is ſiſter to *A. apennina*; as *A. æſtivalis* is to *autumnalis*. He adds, that this is a one-flowered plant, with barren branches: whereas the following ſpecies is a many-flowered plant, with the ſide-ſhoots bearing flowers. He confeſſes however that it is difficult to diſtinguiſh them.

Mr. Curtis does not ſcruple to aſſert poſitively that they are one ſpecies, differing merely in the number of petals, which are found to vary from ſituation and culture[*]. I will give the diſtinctions that Linneus and Gouan have made, and then leave the matter to be decided by future obſervation and experience.

Stem branched from the bottom, hairy but finally becoming bald, ſtreaked, ſcarcely a foot high, equal or not ſwelling at the joints. Several leaves burſt forth together from the root early in the ſpring, and cover the young ſtem; afterwards ſome of theſe ſit at the bottom of the ſtem, whilſt others are placed at the inſertion of the branches, on very wide long ſheaths, terminated by a multifid leaf, only one-third of the length of the ſheath. Hence it follows, that properly ſpeaking there are no root-leaves. The ſtem and branch-leaves however are entirely different from the former; for the nearer they approach to the top of the ſtem the more decompounded they are, which is not uſual. Their ſheaths are very ſhort, and half-ſtem-claſping; all the leaflets are ſcarcely two lines in length, rigid and pungent. There are no calluſes at the inſertion of the leaflets. Peduncle terminating, one-flowered, half an inch in length. The calyx, ſcarcely emerging from the uppermoſt leaf, has the leaflets yellowiſh green or of a ſordid colour, hirſute, concave, or flat, lanceolate-ovate, half the length of the corolla. The petals are more narrowed or lanceolate, than in the following ſpecies, ſo as even to be linear[†]. Seeds thicker at the tip, hirſute, with a very ſlender dagger-point below the tip[‡].

Spring Adonis is a native of the mountains of Oeland, Switzerland, Auſtria, Carniola, Sileſia, Pruſſia, Bohemia, the Palatinate, and other parts of Germany; where the root is often uſed for the true Black Hellebore. Its large yellow flowers are produced at the end of march or the beginning of april; and the ſeeds ripen in auguſt. It is an old inhabitant of the Engliſh gardens; and was cultivated by Mr. Miller in 1731[§].

4. In the Adonis of the Apennines the ſtem is a foot and half in height; in a young plant aſh-coloured from pubeſcence; but in a more advanced ſtate, bald and entirely ſmooth; marked with lines: branches alternate, thicker at the joints. Root-leaves very large, almoſt orbicular, four-fold pinnate; pinnas oppoſite, pinnules alternate; leaflets lanceolate-linear, acuminate, ſmooth and even; all the inſertions marked with a white callus: petiole half a foot long, grooved, ſheathing the ſtem at its baſe. The loweſt ſtem-leaf, at the baſe of the loweſt branch, reſembles the root-leaves, but is ſmaller; the ſheath is wide, embracing the ſtem, but the petiole is ſcarcely half an inch in length. The leaves on the ſtem and branches are hardly petioled; they half embrace the ſtem, have ſcarcely any ſheaths, and the pinnules are ſo near to each other, that the leaves in general ſeem to be digitate-multifid. The ſheaths do not loſe their pubeſcence. Flower terminating, one on each branch: the petals obovate or lanceolate-ovate: calyxes hairy, ſubgloboſe, coloured, concave, with lines or ſtreaks of a different colour. Peduncles grooved; but the ſtem is not ſo. Seeds ovate, ſurrounded with a raiſed rim, having a dagger-point curved back, and being ſmooth.

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[*] Botan. magaz. 134.

[†] The word in the original is *lineata*, which ſignifies marked with lines, but ſince the author is ſpeaking of the form of the leaves, it ſeems probable that the word ſhould have been *linearia*.

[‡] Gouan illuſtr.

[§] Hort. kew.

According to the diſtinctions of Linneus, *A. vernalis* has hairs ſcattered over its ſtem, whereas this has mealy tranſparent dots; the ſhoots of that proceed from the lower part of the ſtem, of this from the upper; the peduncle in Spring Adonis is very ſhort, in the Apennine ſpecies longer; the leaves in the former are leſs pinnate, in the latter more divided, broader, and more ſhining; the calyx in that is gray, ſtriated, villous, concave; in this greeniſh yellow, ſmooth, veinleſs, and flat; the petals in that lanceolate, uſually twelve; in this ovate, imbricate, uſually fifteen; the flower in that one, in this many. The ſtamens in this very much bent back, and the flowers continuing farther into the ſummer; whereas that is truly vernal. It is found wild in the Apennines, and in Siberia[*].

5. Leaves radical; leaflets rigid; petioles rough with hairs. Scapes leafleſs, round, hairy, terminated by a compound umbel. Univerſal and partial involucres ſix-leaved, lanceolate. Partial peduncles, three outer, three inner, and one central, bearing one flower; the reſt four-flowered. Calyx ovate-oblong, concave, whitiſh; petals lanceolate, white, twice the length of the calyx; filaments linear, half the length of the petals: anthers two, ovate, ſmall; ſtyles bent outward, the length of the ſtamens. Stigmas obtuſe. Foliation involuted. Found wild near the Cape of Good Hope[†].

6. This is perfectly ſmooth, with hard firm leaves. It is alſo a Cape plant, and the Africans uſe it for raiſing bliſters[‡]. Cultivated in 1691, in the royal garden, at Hampton Court[§].

There is another ſpecies recorded in the Supplement of the younger Linneus, (p. 271.) and named there *Adonis Filia*. It is characterized as having bipinnate leaves; with the leaflets linear and pinnatifid: and is farther deſcribed as having the leaves much reſembling thoſe of the carrot; the lower partial leaves on long petioles; the proper leaves pinnatifid; and the pinnas unequally toothed. It is ſet forth as the daughter of *A. capenſis*; from which it is ſaid not to differ in the ſtem, umbel of flowers, calyx, petals, ſtamens and piſtils. This is alſo a native of the Cape. Theſe three ſpecies require farther inveſtigation, in order to aſcertain them deciſively.]

PROPAGATION AND CULTURE.

1, 2. The two firſt ſorts are annual, and if the ſeeds are ſown in autumn, the plants will come up the following ſpring; but when they are not ſown till ſpring, they rarely come up the ſame year: ſo that when the ſeeds are permitted to fall on the ground, they generally ſucceed better than when ſown by art. They will thrive beſt in a light ſoil, but by ſowing ſome in a warm ſituation, and others in the ſhade, they may be continued longer in flower. The ſeeds ought to be ſown where the plants are to remain to flower, for they do not bear tranſplanting, eſpecially if they are not removed while the plants are very young: and when the plants come up, they ſhould be thinned, leaving three or four in each patch, which will make a better appearance than where they grow ſingle.

3, 4. The third and fourth are perennial, the ſeeds ripen in auguſt, and ſhould be ſown ſoon after, otherwiſe they ſeldom ſucceed. When the plants come up, they muſt be carefully kept clean from weeds; and, in very dry weather, if they are now and then refreſhed with water, it will promote their growth. They ſhould remain in the place where they are ſown until the ſecond year, for they make but ſlow progreſs while young. The beſt time to tranſplant them is in autumn, when they ought to be planted where they are to remain; for if often removed, they will not produce many flowers, nor thoſe flowers be ſo ſtrong as on the plants which are unremoved.

[They may be increaſed by parting the roots, either in autumn or ſpring. Being hardy and eaſily cultivated, and producing their ſhowy flowers early in the ſeaſon, they are deſirable plants for the garden.

The Cape ſpecies muſt be treated as other plants from that country.]

ADOXA. (From *α priv.* and *δοξα gloria. An ignoble plant, one of no ſhow.*)

Lin. gen. n. 501. *Reich.* 543. *Schreb.* 684. *Juſſ.* 309. *Gærtn. t.* 112.

Moſchatellina. *Tournef.* 68. (*from a ſlight odour of muſk which it poſſeſſes.*)

Claſſ. 8. 4. Octandria Tetragynia.

Nat. order of *Succulentæ*. *Saxifragæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* inferior, bifid, flat, permanent.

Cor. monopetalous, flat, quadrifid; clefts ovate, acute, longer than the calyx.

Stam. *Filaments* ſubulate, the length of the calyx. *Anthers* roundiſh.

Pist. *Germ* below the receptacle of the corolla. *Styles* ſimple, erect, the length of the ſtamens, permanent. *Stigmas* ſimple.

Per. a globoſe *Berry*, between the calyx and corolla, the calyx being united below with the berry, umbilicate, four-celled.

Seeds ſolitary, compreſſed.

Obs. *Such is the terminal fructification, but all the lateral ones add a fifth part of the whole number.*

ESSENTIAL CHARACTER.

Cal. bifid, inferior. *Cor.* four or five-cleft, ſuperior. *Berry* four or five-celled, united with the calyx.

SPECIES.

1. Adoxa Moſchatellina. *Bulbous Fumitory. Hollow-root. Tuberous Moſchatell.*

Lin. ſpec. 527. *Reich.* 2. 222. *hort. cliff.* 152. *ſuec.* 347. *Hudſ. angl.* 172. *With.* 417. *Curtis lond.* 2. 26. *Relh. cantab. n.* 162. *Lightf. ſcot.* 209. *Gærtn. fruct.* 2. 141. *Mill. illuſtr. Berg. phyt.* 2. 37. *Oeder dan. t.* 94. *Pollich palat. n.* 390. *Scop. carn. n.* 170. *Hall. helv. n.* 1005. *Mor. hiſt. ſ.* 4. *t.* 28. *f.* 14. *Ger.* 933. 10. *emac.* 1091. 10. *Park.* 326. 6. *Raii hiſt.* 684. *ſyn.* 267. (Moſchatellina.)

DESCRIPTION.

[1. Root perennial, creeping, toothed, white. Root-leaves three or four, triternate, deeply cut, ſmooth and ſhining; ſegments or lobes ovate, with a ſhort point: two leaves on the ſtalk with ſhorter petioles, and oppoſite. Stalk ſomewhat taller than the leaves, ſimple and nearly ſquare. Peduncle ſquare, naked, terminal. Head cubical, conſiſting of four lateral flowers, and terminated by a fifth: in the former, ten, in the latter, eight ſtamens; in the former, five, in the latter, four ſtyles. The flowers vary much in the diviſions of the calyx and corolla, and in the number of the ſtamens[*].]

This plant grows naturally in ſhady places, and woods; as in Hampſtead and Charlton woods, &c. The flowers appear the end of march or the beginning of april, and the berries ripen in may, ſoon after which the leaves decay. Theſe and the flowers ſmell like muſk, from whence it has by ſome been called *Muſk Crowfoot*.

PROPAGATION AND CULTURE.

The roots may be tranſplanted any time after the leaves are decayed, till winter. They muſt be planted in the ſhade, under ſhrubs; for if they are expoſed to the open ſun, they will not thrive.

[ÆGICĔRAS. (From Αιξ, *a Goat*, and κερας, *a horn.*)

Gærtn. t. 46. *Lin. gen. Schreb. n.* 398.

Rhizophoræ ſpecies *Lin.*

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, half-five-cleft, coriaceous, permanent.

Cor. *Petals* five.

Stam. *Filaments* five. *Rumph.*

Pist. *Germ* oblong. *Style* ſingle.

Per. *Capſule* bowed, coriaceous, one-celled, one-valved, gaping on the convex ſide.

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[*] Linneus. [†] Ibid. [‡] Ibid. [§] Hort. kew. from Pluk.

[*] Curtis.

Seed ſingle.

ESSENTIAL CHARACTER.

Cal. bell-ſhaped, half-five-cleft. *Capſule* bow-ſhaped, one-celled, gaping on the convex ſide. *Seed* inverted.

SPECIES.

1. Ægiceras majus.
Gærtn. fruct. 1. 216.
Rhizophora corniculata. *Lin. ſyſt.* 442. *ſpec.* 635. *Reich.* 2. 413.
Mangium fruticans corniculatum. *Rumph. amb.* 3. 117. *t.* 77—item. M. floridum. *Ejuſd.* 125. *t.* 83.
Leaves ovate quite entire; legumes long ſickle-ſhaped.

2. Ægiceras minus.
Gærtn. fruct. 1. 216.
Umbraculum maris. *Rumph. amb.* 3. 124. *t.* 82.
Leaves ovate ſometimes notched; legumes ſhort creſcent-ſhaped.

DESCRIPTIONS, *&c.*

1. The firſt ſpecies is a ſhrub about twelve feet in height at the moſt, with ſeveral ſtems a foot in thickneſs, putting out many twigs and ſuckers. Leaves three, four or five inches long, and two broad, thick, ſmooth, the edges bent downwards, not tomentoſe on the back. Flowers axillary, many together, on pedicels near an inch in length. Corolla white, with an agreeable odour. Capſules ſmall, crooked, about an inch in length, and the thickneſs of a quill. Native of the Molucca Iſlands *.

2. The capſule in this is only one-fourth of the length of the foregoing, rather ſhaped like a creſcent than a ſickle, ſhort and thick, coriaceous, rufous, very ſmooth, marked with very fine ſtreaks. Seed fixed to the bottom of the capſule, ovate, bay or rufous: integument thickiſh, coriaceous and ſpongy; whereas in the other it is extremely thin †. Native of Ceylon.]

[ÆGĬLOPS. (From Αιγος ωψ, *Goats-face: from its roughneſs.*)
Lin. gen. n. 907. *Reich.* 1256. *Schreb.* 1572. *Juſſ.* 30. *Gærtn. t.* 175.
Claſſ. 23. 1. Polygamia Monoecia.
Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

* *Two lateral flowers, hermaphrodite.*

Cal. a large bivalvular glume, ſuſtaining three flowers: valves ovate, truncate, ſtreaked, with various awns.

Cor. a bivalvular glume: the outer valve ovate, terminated by a double or triple awn; the inner lanceolate, erect, awnleſs, with the edge bent in longitudinally. *Nectary* two-leaved; leaflets ovate, flat, tranſparent, very ſmall.

Stam. *Filaments* three, capillary, with oblong *anthers.*

Pist. *Germ* turbinate. *Styles* two, reflex: with hairy *ſtigmas.*

Per. none.

Seeds oblong, convex on one ſide, grooved on the other; with the inner valve of the corolla adhering to it, and not opening.

* *One male flower between the two former.*

Reſembling them, except that the germ is often abortive.

ESSENTIAL CHARACTER.

Cal. a Glume. Subtriflorous, cartilaginous. *Cor.* a Glume, terminating in a threefold awn. *Stam.* three. *Styles* two. *Seeds* one.

SPECIES.

1. Ægilops ovata.
Lin. ſpec. 1489. *Reich.* 4. 316. *hort. upſ.* 301. *Gærtn. fruct.* 2. 467. *Scheuch. agr.* 11. *Scop. carn. n.* 78. (Phleum) *Dod. pempt.* 73. *Camer. epit.* 928. *f.* 2.
Spike awned, all the calyxes with three awns.

2. Ægilops caudata.
Lin. ſpec. 1489. *Reich.* 4. 316. *Tourneſ. cor.* 29. (Gr. creticum, *&c.*)
Spike awned, all the calyxes with two awns.

3. Ægilops triuncialis.
Lin. ſpec. 1489. *Reich.* 4, 316. *mant.* 501. *Schreb. gram.* 80. *t.* 10. *f.* 1. *Sch. agr.* 12.
Spike awned, the lower calyxes with two awns.

4. Ægilops ſquarroſa.
Lin. ſpec. 1489. *Reich.* 4. 317. *Schreb. gram.* II. *p.* 44. *t.* 27. *f.* 2. *Cavan. hiſp. t.* 90. *f.* 2.
Spike awl-ſhaped, longer than the awns.

DESCRIPTIONS, *&c.*

1. Spike oblong, not oval, compoſed of three or four ſeſſile ſpikelets. Calyx two-flowered, with the rudiment of a third, as in *Melica*: outer glume ſtriated, ſcabrous, with three awns, longer than the ſpike; inner ſomewhat ſhorter, with two ſimilar awns *. Scopoli makes no account of the ſex in this Graſs, for the flowers are ſome hermaphrodite, others male, others without either ſtamens or germ: from the ſtructure of the flower therefore he makes it a *Phleum.* According to Gærtner there are ſometimes two male flowers, differing in nothing from the others but in being only one-third of their ſize; no calyx; the larger valve of the corolla awned, the ſmaller not; both calyx and corolla permanent, covering the ſeed; and at length letting it drop.

2. Spike ſlender; the glumes ending in two very long ſharp awns †: all of them, except the laſt, have two teeth ‡.

3. Spike oblong, with the awns much longer than the flower. One valve of the calyx has three awns; the other, two. One valve of the corolla has alſo three awns, but the other has only one §.

4. Culms ſix inches high and more, at bottom proſtrate. Leaves ſhorter than the ſheath, ciliate. Spike from two to three inches long: flowers ſeſſile, preſſed to the hollowed rachis. Valves of the calyx coriaceous, emarginate, one toothlet ſhorter than the other; in the ſtreaks very ſhort, upright ſpinules. Outer valve of the corolla ſhortly awned: inner ovate, awnleſs; the awns longeſt in the upper flowers: the males have no awns to the corolla ‖.

The firſt of theſe graſſes is wild in the ſouthern countries of Europe, and was cultivated in 1683 by Mr. James Sutherland ¶. The ſecond was found by M. Tournefort in Crete. The third grows about Montpelier, Marſeilles, Nice and Smyrna; and was introduced in 1776 by M. Thouin **. The laſt was found by Tournefort in the Levant, and by Cavanilles in Spain. They all ſeem to be annual.]

Ægilops. See *Avena, Andropogon, Bromus, Quercus.*

Æginetia. See *Orobanche.*

[ÆGIPHĬLA. (From αιξ and φιλεω. *Goats being fond of it.*)
Lin. ſyſt. 1290. *p.* 160. *Gen. Reich.* 158. *Schreb.* 173. *Jacq. obſ.* 2. 27.
Manabea. *Aubl. guian.* 61. *t.* 23—25.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Vitices.* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, four-toothed, looſe, very ſhort, permanent.

Cor. one-petalled, ſalver-ſhaped; tube cylindric; narrower and longer than the calyx, border quadrifid, flat, equal; clefts oblong.

Stam. *Filaments* capillary, inſerted into the mouth of the tube, erect. *Anthers* roundiſh.

Pist. *Germ* roundiſh, ſuperior. *Style* capillary, deeply bifid. *Stigmas* ſimple.

Per. a roundiſh two-celled *berry,* ſurrounded with the permanent calyx.

Seed either in pairs or ſolitary.

ESSENTIAL CHARACTER.

Cal. four-toothed. *Cor.* quadrifid. *Style* ſemibifid. *Berry* four-ſeeded.

SPECIES.

1. Ægiphila martinicenſis.
Lin. mant. 198. *ſyſt.* 160. *Reich.* 1. 334. *Jacqu. obſ.* 2. *t.* 27. *amer. pict. t.* 16. *Swartz prodr.* 151.
Leaves ovate-lanceolate acuminate ſmooth, branches diffuſed, panicles terminating or axillary, calyxes ſmooth.

2. Ægiphila elata.
Swartz prodr. 31.
Knoxia. *Brown. jam.* 140. *n.* 2.

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* Rumphius. † Gærtner.

* Scopoli. † Tournef. ‡ Linneus.
§ Linneus. ‖ Cavanilles. ¶ Hort. kew. ** Ibid.

Leaves elliptic acuminate membranaceous, panicles terminating, calyxes pubeſcent.

3. Ægiphila fœtida.
   Swartz prodr. 32.
   Leaves ovate-lanceolate, beneath hirſute, as are alſo the petioles, peduncles axillary ſolitary.

4. Ægiphila trifida.
   Swartz prodr. 32.
   Leaves ovate-lanceolate ſmooth, peduncles axillary trifid crowded.

DESCRIPTIONS, *&c.*

1. *Æ. martinicenſis* is a ſhrub ſix feet high; branches oppoſite, four-cornered, ſmooth. Leaves ſimple, oppoſite, petioled, lanceolate-ovate, acuminate, very ſmooth, quite entire. Panicles terminal and axillary, leafy, compound, ſtiff. Flowers white. Native of Martinico, at the edge of the woods *. It flowers in november; and was introduced in 1780, by Mr. Francis Maſſon †.

2. It is a climber, and riſes frequently to the height of ſix or ſeven feet, or more. This, and the two following ſpecies, are natives of Jamaica ‡.]

ÆGOCERATOS. See *Hugonia.*

[ÆGOPODĬUM. (From Αιξ, *a goat,* and ποδιον *a diminutive of* Πους: *a foot.*)—Engl. *Goutweed.* Fr. *Podagraire.*
   Lin. gen. n. 368. *Reich.* 398. *Schreb.* 500. *Gærtn. t.* 140. *Juſſ.* 219.
   Claſſ. 5. 2. Pentandria Digynia.
   Nat. order of *Umbellatæ* or *Umbelliferæ.*

GENERIC CHARACTER.

CAL. *Umbel univerſal* manifold, convex: *partial* ſimilar, but flat. *Involucre* none. *Proper perianth* ſcarcely obſervable.

COR. *univerſal* uniform, with every floſcule fertile: *particular* with five petals, obovate, concave, inflex at the tip, and equal.

STAM. *Filaments* ſimple, twice as long as the corolla, with roundiſh *anthers.*

PIST. *Germ* inferior. *Styles* ſimple, erect, the length of the corolla, with headed *ſtigmas.*

PER. none. *Fruit* ovate-oblong, ſtreaked, bipartile.

SEEDS two, ovate-oblong, convex and ſtreaked on one ſide, and flat on the other.

ESSENTIAL CHARACTER.

Fruit ovate-oblong, ſtreaked.

SPECIES.

1. Ægopodium Podagraria. *Herb Gerard. Goutweed. Aſhweed. Wild Maſterwort.*
   Lin. ſpec. 379. *Reich.* 1. 726. *Gærtn. fruct.* 2. 274. *Hudſ. angl.* 129. *Relh. cantabr.* 126. *Wither. arr.* 317. *Fl. dan. t.* 670. *Rivin. t.* 47. *Mor. ſ.* 9. *t.* 4. *f.* 11. *Scop. carn. n.* 359. *Hall. helv. n.* 759. *Ger.* 848. *emac.* 1001. 2. *Park. theat.* 943. *Pet. herb. t.* 25. *f.* 10.

DESCRIPTION, *&c.*

This is a weed not uncommon in hedges, orchards, *&c.* It is a perennial, and being a great creeper, cannot be admitted into gardens without great caution. It requires no care, but to plant it in the ſhade and to confine the roots. The ſtem grows from two to three feet in height, is branching and furrowed: the upper leaves are ternate, and oppoſite: leaflets lanceolate, ſerrate. The umbels have about fourteen rays; the flowers are white, and appear from may to july.

Though it has the quality of moſt umbellate plants in being aromatic, yet it is not uſed at all in medicine: nor has it any title to its name of *Goutweed,* though the Germans formerly uſed it to aſſuage the pains both of the gout and piles. Linneus ſays it is eaten in Sweden, boiled for greens, when tender in the ſpring.

Aſh-weed, one of the Engliſh names, is probably a corruption from *Ach-weed.*]

ÆGOPODIUM. See *Cicuta, Smyrnium.*

[ÆGOPRĬCON. (It ſeems to be derived from Αιξ and πριω or πριζω, *to ſaw, tie* or *faſten.*)
   But what is the meaning of it?
   Lin. ſuppl. p. 63. *Syſt.* 840. *n.* 1429. *Schreb.* 1396. *Gærtn. t.* 138. *Smith* 2. *t.* 42.
   Maprounea. *Aublet Guian.* 895. *Juſſ. gen.* 391.
   Claſſ. 21. 1. Monoecia Monandria.

GENERIC CHARACTER.

* *Male flowers ſmall, in an ovate ament.*

CAL. one-leafed, tubulous, trifid.

COR. none.

STAM. *Filaments* one, longer than the calyx, erect; with an ovate *Anther.*

* *Female flowers on the ſame plant, ſolitary.*

CAL. and COR. ſame as in the male.

PIST. *Germ* ovate, ſuperior; *Styles* three, divaricate; with ſimple permanent *ſtigmas.*

PER. a globular *berry,* tricoccous and trilocular within, with a bifid point. (Capſule tricoccous, elaſtic. *G.*)

SEEDS ſolitary, angular on one ſide.

ESSENTIAL CHARACTER.

Male an ament. *Cal. common* trifid; *partial* tubulous. *Anther* four-lobed.

Female flowers ſolitary. *Cal.* as in the male. COR. none. *Styles* three, coadunate at the baſe. *Capſule* tricoccous.

SPECIES.

1. Ægopricon betulinum.
   Lin. ſuppl. 413. *Syſt.* 840. *Smith icon. ined. faſc.* 2. *t.* 42. *Gærtn. fruct.* 2. 266.
   Maprounea guianenſis. *Aubl. guian.* 895. *t.* 342.

DESCRIPTION, *&c.*

This is a tree very much branched. Branchlets alternate, bent different ways, leafy, flowering at the ends. Bark ſomewhat wrinkled, except in the younger ſhoots. Leaves alternate, petioled, ovate, acute, quite entire, reſembling thoſe of Myrtle, ſmooth and even on both ſides, veined, deciduous. No ſtipules. Petioles linear, roundiſh, ſmooth and even. Panicles ſmall, terminating. Common peduncles tubercled; partial two or three, divaricate, ſmooth and even, one-flowered. Male ament uſually ſolitary, terminating the common peduncle, like that of the Alder, ſcarcely ſo big as a grain of wheat. Leaflets of the common calyx concave obtuſe, containing from twenty to thirty florets: partial trifid or quadrifid. Stamen ſtanding out from the centre of the partial calyx, and twice its length: anther ovate four-lobed. In the female flowers, germ globular ſmooth, ſtigmas obtuſe. Capſule the ſize of a pea, obſcurely tricoccous, ſmooth and even, crowned with the permanent ſtyles.

Dalberg noticed it in Surinam; and Aublet in Guiana *.]

ÆSCHYNOMĔNE. (From Αισχυνομαι, *pudiſio: on account of its retreating from the touch.*)
   Lin. gen. n. 888. *Reich.* 960. *Schreb.* 1202. *Gærtn. t.* 155. *Juſſ.* 362.
   Claſſ. 17. 4. Diadelphia Decandria.
   Nat. order of *Papilionaceæ* or *Leguminoſæ.*

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, bell-ſhaped, ſubbilabiate; lips equal; upper bifid, lower three-toothed.

COR. papilionaceous: *Banner* ſubcordate, ſcarcely gaping, large: *wings* ſubovate, obtuſe, ſhorter than the banner: *keel* lunate, acuminate, the length of the wings.

STAM. *Filaments* ten. (ſingle and nine-cleft.) *Anthers* ſmall.

PIST. *Germ* oblong, villous, columnar. *Style* ſubulate, riſing. *Stigmas* ſimple, rather obtuſe.

PER. *Legume* long, flat, jointed, rough, one-celled, opening at the truncate joints.

SEEDS ſolitary, between the joints, kidney-ſhaped.

OBS. Gærtner *is for expunging this genus, and dividing it between* Hedyſarum and Galega.

ESSENTIAL CHARACTER.

Cal. bilabiate. *Legume* with truncate, one-ſeeded joints.

SPECIES.

1. Æſchynomene grandiflora. *Great-flowered Æſchynomene.*

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* Linneus. † Hort. kew. ‡ Browne and Swartz.

* Smith.

Lin. ſpec. 1060. *Reich.* 3. 498. *Swartz obſ.* 283. *Raii hiſt.* 1734. *Rumph. amb.* 1. *t.* 76. *Rheed. mal.* 1. *t.* 51.

Stem arboreſcent, flowers very large, legumes filiform.

2. Æſchynomene arborea. *Arboreſcent Æſchynomene.*

Lin. ſpec. 1060. *Reich.* 3. 499.

Stem arboreſcent, ſmooth, joints of the legumes ſemicordate, ſmooth.

[3. Æſchynomene coccinea. *Scarlet-flowered Æſchynomene.*

Lin. ſyſt. 671. *Suppl.* 330. *Forſt. flor. n.* 273.

Toeri-Mera. *Rumph. amb.* 1. *t.* 77.

Stem arboreſcent, leaves pinnate; leaflets numerous, linear, obtuſe, duſty, legumes compreſſed, equal.]

4. Æſchynomene aſpera. *Rough-ſtalked Æſchynomene.*

Lin. ſpec. 1060. *Reich.* 3. 499. *hort. cliff.* 365. *hort. upſ.* 233. *fl. zeyl.* 298. *Raii hiſt.* 982. *Breyn. cent. t.* 52.

Stem herbaceous, rugged; joints of the legumes rugged in the middle.

5. Æſchynomene americana. *Hairy Æſchynomene.*

Lin. ſpec. 1061. *Reich.* 3. 499. *Gærtn. fruct.* 2. 347. *Swartz obſ.* 284. *Sloane jam.* 1. *t.* 118. *f.* 3. *Brown. jam.* 295.

Stem herbaceous, hiſpid; joints of the legumes ſemicordate; leaflets acuminate, bractes ciliate.

[6. Æſchynomene indica. *Indian Æſchynomene.*

Lin. ſpec. 1061. *Reich.* 3. 499. *Rumph. amb.* 4. *t.* 24. *Rheed. mal.* 9. *t.* 18.

Stem herbaceous, ſmooth: legumes ſmooth, ſwelling on one ſide, obtuſe; leaflets obtuſe.]

7. Æſchynomene Seſban. *Egyptian Æſchynomene.*

Lin. ſpec. 1061. *Reich.* 3. 499. *Alp. Ægypt. t.* 82. *Burm. zeyl. t.* 41. *Mor. hiſt.* 2. 79. *n.* 9.

Stem herbaceous, ſmooth: legumes cylindric, equal: leaflets obtuſe.

8. Æſchynomene pumila. *Dwarf Æſchynomene.*

Lin. ſpec. 1061. *Reich.* 3. 500. *Fl. zeyl.* 551. *Rheed. mal.* 9. *t.* 20.

Stem herbaceous, ſmooth: legumes ſerrate on one ſide, rough in the middle; leaflets acuminate.

[9. Æſchynomene ſenſitiva.

Swartz prodr. 107. *Plum. cat.* 1. *ic.* 149. *f.* 2.

Stem ſhrubby ſmooth; leaflets obtuſe; legumes ſmooth and even, obtuſe; ſtipules acute deciduous.

10. Æſchynomene heterophylla.

Loureiro cochinch. 446.

Stem ſhrubby, lower leaves ternate ovate, upper pinnate roundiſh.

11. Æſchynomene lagenaria.

Loureiro cochinch. 446.

Stem herbaceous, leaflets obtuſe in ſeveral pairs, legumes muricate.

12. Æſchynomene cannabina.

Retz. obſ. 5. *p.* 26, *n.* 71.

Stem herbaceous, leaflets obtuſe acuminate, peduncles ſolitary, legumes compreſſed ſmooth and even.

DESCRIPTIONS, &c.

1. *Æ. grandiflora.* A ſhrub from ten to fifteen feet in height. *Trunk* upright, without ſpines. *Branches* ſpreading a little, round, pubeſcent. *Leaves* pinnate, alternate, ſcattered, a foot long: petioles round, thicker at the baſe, ſmooth: leaflets from twelve to eighteen pairs, oppoſite, oblong, obtuſe, entire, ſmooth on both ſides; on very ſhort petiolules. *Peduncles* axillary, few, ſhort, bifid or trifid: pedicels ſhort, one-flowered. Flowers pendulous, white, very large (the ſize of a hen's egg[*].) Calyx obtuſely five-toothed, ovate-globoſe, ſwelling a little. Corolla reſupinate; banner wide, reflex, ſubcordate at the baſe, elliptic, entire, waving on the edge; wings oblong, ſickle-ſhaped, with claws at the baſe, ſharp, preſſed cloſe to the keel, which is a little ſhorter than the banner, undivided, ſickle-ſhaped, angular in the middle, curved; the outmoſt tip bifid. *Legume* two feet in length, linear, compreſſed, with a membranaceous iſthmus between the *ſeeds*, which are roundiſh[†].

Native of the Eaſt-Indies. Cultivated in gardens at Jamaica[*]: and in England, by Mr. Miller, in 1768[†]. By the French it is called *Pois du Duc de Choiſeul.* The ſeeds are agreeable to domeſtic birds[‡].]

2. *Æ. arborea* grows to the height of ſix or ſeven feet, with a ſingle ſtem; the leaves are ſmooth, and come out towards the top of the ſtalk, forming there a ſort of head; they are compoſed of many pinnas, placed alternately on the mid-rib. The flowers come out from the wings of the leaves, two or three together, are of a copper colour and large.

[3. *Æ. coccinea* is a ſmaller and lower tree than the firſt ſort; but the head and leaves are more denſe. The latter are about a foot long, and have twenty pairs of leaflets. From the axils a ſingle peduncle comes forth, dividing into two, each of which bears a large flower, but ſomewhat ſmaller than that of *Æ. grandiflora*; the colour is red mixed with purple. Legume a foot and half long[§].

Native of the Eaſt-Indies, and of the iſlands Otaheite and Huaheine in the South-Seas.]

4. *Æ. aſpera* riſes to the height of four or five feet, with a ſingle herbaceous ſtem, which is in ſome parts rough. The leaves come out on every ſide towards the top, forming a ſort of head; they are compoſed of a great number of ſmooth glaucous pinnas. The flowers come out from between the leaves, two or three together upon long petioles: they are yellow. The legume is about four inches long. Native of the Eaſt-Indies.

[5. *Æ. americana.* Root annual. Stem from one to two feet in height; ſometimes, but rarely it reaches three feet, but it ſeldom ſtands upright; it is ſubdivided, round, and ſomewhat hirſute, delicate and ſlender. Branches filiform, patulous, round, ſtreaked, hirſute. The hairs are ferruginous at the baſe. Leaves pinnate, alternate: leaflets ſeſſile, alternate, minute, ſickle-ſhaped, ſerrulate, three-nerved beneath, ſmooth on both ſides. Petioles thicker at the baſe, round, hirſute. Stipules ſickle-ſhaped above and below the petiole, oppoſite, acuminate, ſomewhat hirſute. Peduncles longer than the leaves, axillary, ſolitary, erect. Flowers pedicelled, alternate, whitiſh, or browniſh yellow. Bractes ſeſſile, ovate-acuminate, ſerrate, ſtreaked, hirſute at the edge. Calyx, upper lip ſerrate at the tip or bluntly three-toothed, pubeſcent at the edge. Corolla, banner ſtreaked; wings obovate; keel ovate, ſickle-ſhaped, upright, bifid. Legume almoſt upright, pendulous, margined, wrinkled, pubeſcent[‖]: linear-oblong, compreſſed, ſtraight at the ſuture next the ſeeds, lobed and crenate on the other ſuture; joints ſix or ſeven, ſemiorbiculate, gibbous in the middle, compreſſed at the edge, ſeparating ſpontaneouſly. Seeds creſcent-kidney-ſhaped, turgidly lenticular, ſmooth, ſhining, black[¶]. This ſpecies is ſomewhat ſenſitive; during the night, and at the approach of rain, the leaves fold together.

Native of Jamaica, on the ſouth-ſide of the iſland, in dry paſtures[**]. It was cultivated in 1739, by Mr. Miller[††].

6. Native of the Eaſt-Indies.]

7. *Æ. Seſban* has woody ſtems and branches, with ſmooth leaves, compoſed of many blunt oppoſite pinnas. The flowers, which are ſmall, and of a deep yellow colour, come out from the axils in long ſpikes hanging down. Legumes ſmooth and taper-pointed, not jointed: [columnar and equal. Calyxes bell-ſhaped, equal, five-toothed, ſpreading[‡‡]. It was cultivated in 1680, in the Oxford botanic garden; and flowers in july and auguſt[§§]. Native of Egypt.

8. *Æ. pumila* is an annual, about half a foot in height, branching at bottom. The leaves are pinnate and lanceolate; the leaflets crowded and linear. Native of the Eaſt-Indies[‖‖].

9. Native of the Weſt-Indies[¶¶].

10. Stem arboreous, weak, eight feet high, with

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[*] Linneus.

[†] Swartz obſ.

[*] Swartz obſ.

[†] Hort. kew.

[‡] Swartz.

[§] Rumphius.

[‖] Swartz obſ.

[¶] Gærtner.

[**] Swartz and Browne.

[††] Hort. kew.

[‡‡] Linneus.

[§§] Hort. kew.

[‖‖] Linneus.

[¶¶] Swartz prodr.

ſpreading tomentoſe branches. Lower leaves petioled; leaflets of the upper ones roundiſh, ſeſſile. Flowers white ſmall, axillary, on many-flowered peduncles. Calyx four-toothed. Keel of the corolla ovate, longer than the wings, ſhorter than the banner. Filaments united in one body. Legume linear compreſſed hairy, with many truncate cordate joints. Seeds kidney-ſhaped. It has the corolla and legume of this genus, but not the calyx and ſtamens. Native of Northern Cochinchina[*].

11. Stem herbaceous, three feet high, upright, thick, round, ſpongy: with abundance of very ſhort ſpreading branches. Leaves unequally pinnate; leaflets ovate-oblong, blunt, quite entire, ſmooth, ſmalliſh. Flower yellow, on lateral many-flowered peduncles. Legume long ſtraight ſtiff, compreſſed muricate, with truncate longiſh deciduous joints. Seeds compreſſed kidney-ſhaped. The ſheath of the ſtamens is cleft towards the keel, as in *Bauhinia*, and not towards the banner, as uſual in Papilionaceous flowers. The ſtem, being ſpongy and elaſtic, is uſed for ſtopping bottles in a country where there are no corks. Native of Cochinchina, in marſhy places[†].

12. Stem angular, ſtreaked, with a few hairs. Leaflets numerous oppoſite linear hairy, glaucous underneath. Petioles, at the inſertion of the partial ones, bearded. Peduncles axillary one-flowered. Flowers ſmall. Legume long linear. Native of the Eaſt-Indies. Treated as hemp, it may be uſed for the ſame purpoſes[‡].]

PROPAGATION AND CULTURE.

The firſt ſort is with difficulty preſerved through the winter in this country. The ſeedling plants ſhould be brought forward on a hot-bed, and then plunged into the bark-bed in the ſtove, where if they be tenderly treated, they will live through the winter, and flower the ſummer following.

The ſecond, third and ſeventh may in like manner be preſerved through the winter in a warm ſtove, and will flower early the following ſummer, and their ſeeds will ripen in the autumn. The other ſorts uſually flower in july, and their ſeeds ripen in october. As their ſtalks are ſucculent, they muſt be kept dry in winter, otherwiſe they are very ſubject to rot. They ſhould be plunged into the tan-bed, for when put into a dry ſtove, the fibres of their roots ſoon grow dry, and their leaves hang and fade, which ſhows their want of moiſture; but when they have water given them, it cauſes the tender fibres of their roots to periſh, and the plants ſoon after decay.

The fourth, fifth, ſixth and eighth ſpecies are annual, and therefore muſt be brought forward like the firſt, early in the year, otherwiſe they will not perfect their ſeeds. All the ſorts are propagated by ſeeds, which ſhould be ſown on a hot-bed early in the ſpring; and when the plants have ſtrength enough to be removed, they ſhould be put each into a ſeparate ſmall pot, filled with light earth, and plunged into a freſh hot-bed, to bring them forward; and as they advance in their growth, they ſhould be ſhifted into larger pots, but great care ſhould be taken not to over-pot them, for if the pots be too large, the plants will not thrive.

ÆSCŬLUS. (From *eſca* food. It had the old names *Hippocaſtănum* and *Caſtanĕa equīna*, from the ſimilitude of the fruit to that of the Cheſtnut, and from its being given to horſes.)

Lin. gen. n. 462. *Reich.* 498. *Schreb.* 628. *Juſſ.* 251.

Hippocaſtanum. *Tournef.* 382.

Pavĭa. *Boerh.* 260.

Claſſ. 7. 1. Heptandria Monogynia.

Nat. order of *Tribilatæ*. *Acera* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, ventricoſe, ſmall, five-toothed.

COR. *Petals* five, roundiſh, plaited and waving about the edge, flat, ſpreading, claws narrow, inſerted into the calyx, irregularly coloured.

STAM. *Filaments* ſubulate, the length of the corolla, declining. *Anthers* aſcending.

PIST. *Germ* roundiſh, ending in a ſubulate *ſtyle*. *Stigma* acuminate.

PER. *Capſule* leathery, roundiſh, three-celled, three-valved.

SEEDS two, ſubglobular.

OBS. *One ſeed only commonly occurs in the capſule, but on inſpection of the embryos it is evident that the natural number is two.*

Van Royen De Necker and Miller obſerved both hermaphrodite and male flowers in this genus.

ESSENTIAL CHARACTER.

Cal. one-leafed, five-toothed, ventricoſe. *Cor.* five-petalled, irregularly coloured, inſerted into the calyx. *Capſule* three-celled.

SPECIES.

1. Æſculus Hippocaſtanum. *Common Horſe Cheſtnut.* *Lin. ſpec.* 488. *Reich.* 2. 137. *hort. cliff.* 142. *hort. upſ.* 92. *Hunter Evel. ſylv. p.* 159. *Mill. illuſtr. fig.* *Plenck. icon. t.* 293. *Woodv. med. bot.* 349. *t.* 128. *Neck. gallob.* 413. *Hall. helv. n.* 1029. *Raii hiſt.* 683. *Ger.* 1253. *f.* 2. *emac.* 1442. 2. *Park. theat.* 1400. *f.* 2.

The flowers with ſeven ſtamens: leaves digitate with ſeven entire leaflets: capſules prickly.

[2. Æſculus flava. *Yellow-flowered Horſe-Cheſtnut.* *Ait. hort. kew.* 490. *n.* 2.

Leaves digitate, with five leaflets; the laminas of the corolla cordate-roundiſh; the claws twice the length of the calyx.]

3. Æſculus Pavia. *Scarlet Horſe-Cheſtnut.* *Lin. ſpec.* 488. *ſyſt.* 352. *Reich.* 2. 137. *hort. cliff.* 143. *Swartz obſ.* 140. *Mill. fig.* 198. *Trew. Ehret. t.* 15. *Duham. arb.* 2. *p.* 98. *Hort. angl.* 54. *t.* 19. *Boerh. lugdb.* 2. 260. *Pluk. alm. t.* 56. *f.* 4.

Flowers with eight ſtamens: leaves digitate with five or ſix ſerrate leaflets; capſules ſmooth, laminas of the corolla obovate, claws the length of the calyx.

DESCRIPTIONS, &c.

1. [The *Common Horſe-Cheſtnut* is ſufficiently known by the beautiful parabolic form in which the branches are diſpoſed, when the tree ſtands ſingle: by its digitate leaves, compoſed of ſeven leaflets, ſerrate about the edge, the middle one largeſt, the outer ones ſmalleſt: and by its handſome, upright, pyramidal thyrſes of white flowers, variegated with yellow or red towards the centre. Some of theſe, towards the top of the thyrſe, are imperfect and abortive. The capſule, or nut, as it is commonly called, is divided internally into three cells according to Linneus; but into two only, as others affirm[*].]

This tree was in much greater eſteem for avenues and walks formerly, than at preſent. It is come into diſrepute, becauſe the leaves decay early in the ſummer, ſo that it occaſions a litter in gardens and plantations, from july till they are all fallen; but notwithſtanding this inconvenience, the tree has great merit, for it affords a noble ſhade very early; and during the time of its flowering, no tree has more beauty, for the extremities of the branches are terminated by fine ſpikes of flowers, ſo that every part of the tree ſeems covered with them, and being intermixed with the large digitate leaves, they make a noble appearance. [There is however another inconveniency to which this beautiful tree is ſubject, namely, that it does not well reſiſt ſtormy winds[†].]

In the old way of planting theſe trees in avenues, great part of their beauty was loſt; for when their branches meet, fewer flowers are produced, and moſt of theſe are hid from ſight; their leaves will alſo decay much ſooner in cloſe plantations than in ſingle trees: the great beauty of them is to ſtand ſingly upon lawns, or in parks, where their fruit will be of uſe to the deer, who are very fond of them. In ſuch ſituations, eſpecially when they can be placed ſo as to terminate a view, there is not a finer object than they afford during their ſeaſon of flowering, which is in may; and when the weather is moderate, they will continue in beauty near a month.

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[*] Loureiro,

[†] Ibid.

[‡] Retz.

[*] Moench. haſſ. p. 315.

[†] Evelyn.

[In the opinion of Mr. Gilpin, the Horſe-Cheſtnut is a heavy diſagreeable tree. It forms its foliage generally in a round maſs, with little appearance of thoſe breaks which contribute to give an airineſs and lightneſs, at leaſt a richneſs and variety to the whole maſs of foliage. This tree is however chiefly admired for its flower, which in itſelf is beautiful: but the whole tree together in flower is a glaring object, totally unharmonious, and unpictureſque. In ſome ſituations indeed, and among a profuſion of other wood, a ſingle Horſe-Cheſtnut or two, in bloom, may be beautiful. As it forms an admirable ſhade, it may be of uſe too in thickening diſtant ſcenery; or in ſkreening an object near at hand: for there is no ſpecies of foliage, however heavy, nor any ſpecies of bloom, however glaring, which may not be brought, by ſome proper contraſt, to produce a good effect*.]

Few trees make a greater progreſs than this. I have known ſome raiſed from nuts, which in twelve or fourteen years were large enough to ſhade two or three chairs under the ſpread of their branches, and were covered with flowers. There are many old trees now ſtanding, which having been planted ſingly, are grown to a large ſize, their heads forming a fine natural parabola. I have meaſured ſome of them, whoſe branches have extended more than thirty feet, and their heads have been ſo cloſe as to afford a perfect ſhade in the hotteſt ſeaſons. Theſe were planted in 1679; ſo that although they are of quick growth, yet they are not of ſhort duration.

As the wood is of little value, this tree ſhould not however be propagated in too great plenty; but a few of them only placed at proper diſtances in parks, for ornament, and for the deer, who keep much about them in windy weather, watching the falling of the nuts, and greedily devouring them as they fall. In Turkey, the nuts are ground, and mixed with the provender for their horſes, eſpecially thoſe which are troubled with coughs or are broken winded.

[Hanbury affirms, that ſwine will fatten on them; while others on the contrary aſſert that they are ſo bitter, that even hogs will not eat them, either raw, boiled or baked. Haller relates, that ſheep have been fed with the nuts whole, and have done very well with them: and that poultry have been kept with them boiled. He alſo obſerves, that having a ſaponaceous quality, they may be uſed to ſpare ſoap in waſhing: and that the bark of the tree has been given in Italy not without ſucceſs, in intermittent fevers. This bark has alſo been uſed with good ſucceſs, in dying ſeveral ſorts of yellow colours.

The timber, though of inferior quality, does not merit the character that Mr. Miller gives of it, namely, that it is not fit even for burning, nor any other uſe that he knows of. Mr. Boutcher, though he affirms that the timber, except for fuel, anſwers no valuable purpoſe; yet allows that for pipes, to convey water under ground, it will laſt longer than many harder woods. Dr. Hunter informs us, that it is chiefly uſed by the turner, and in the north is worth about ſixpence a foot. And Mr. Hanbury not only admits it to be uſeful for moſt ſorts of turners' ware; but that as the tree grows to a great magnitude, it ſells at ſuch a price, as to make it well worth the planting, for the ſake of the timber. He preſcribes the felling to be performed in november or december.]

The Horſe-Cheſtnut was brought from the northern parts of Aſia into Europe about the year 1550, and was ſent to Vienna about the year 1558. [From Vienna it migrated into Italy and France: but it came to us from the Levant immediately †. Gerard, in his herbal ‡, ſpeaks of it only as a foreign tree. In Johnſon's edition of the ſame work §, it is ſaid,—" Horſe-Cheſtnut groweth in Italy, and in ſundry places of the Eaſt countries; it is now growing with Mr. Tradeſcant at South-Lambeth." Parkinſon * ſays: " our Chriſtian world had firſt the knowledge of it from Conſtantinople."

The ſame author † places the Horſe-Cheſtnut in his orchard, as a fruit-tree, between the Walnut and the Mulberries. How little it was then (1629) known, may be inferred from his ſaying not only that it is of a greater and more pleaſant aſpect, for the fair leaves, but alſo of as good uſe for the fruit, which is of a ſweet taſte, roaſted and eaten as the ordinary ſort. He alſo deſcribes and figures the corolla with four petals.

This tree does not ſeem to have been ſo common even at the beginning of the preſent century as it is now. Mr. Houghton (1700) mentions ſome at Sir William Aſhhurſt's at Highgate, and eſpecially at the Biſhop of London's at Fulham. Thoſe now ſtanding at Chelſea-college were then very young. There was alſo a very fine one in the Poſt-houſe garden near Old-ſtreet, and another not far from the Ice-houſe under the ſhadow of the Obſervatory in Greenwich-Park ‡.

2. Native of North-Carolina. Cultivated in 1764, by Mr. John Greening. It flowers in may and june §.]

3. The *Scarlet Horſe-Cheſtnut* riſes to the height of twenty feet, but does not ſpread its branches to any great extent. The bark is ſmooth. The leaves are of a light green, oppoſite, and on long red petioles. The flowers are produced from the ends of the branches, upon long naked peduncles, each ſuſtaining four or five flowers; theſe are much ſmaller than in the common ſort, wholly red, tubulous without any brims, opening a little at the top, where the ſtamens appear, ſeven or eight in number, terminated by roundiſh anthers. They appear in june, and are ſometimes ſucceeded by fruit in England; but the ſeeds rarely ripen here ||. It grows naturally in Brazil, Carolina, Florida, Japan, and ſeveral parts of the Eaſt; [and was cultivated here in 1712 ¶.]

PROPAGATION AND CULTURE.

1. The *Common Horſe-Cheſtnut* is propagated by ſowing the nuts; the beſt time for doing this is early in the ſpring; but the nuts ſhould be preſerved in ſand during the winter, otherwiſe they are apt to grow mouldy and rot. They may indeed be put into the ground in autumn, but then they will be in danger of rotting, if the winter ſhould prove very wet, as alſo of being diſturbed and eaten by vermin. [Others however affirm, that if they are kept till ſpring, many will miſcarry.]

When the nuts ſucceed, and have a proper ſoil, the plants will ſhoot near a foot the firſt ſummer; ſo that where they grow pretty cloſe together, it will be proper to tranſplant them the following autumn, [or february and march **] planting them in rows at three feet diſtance, and one foot aſunder in the rows: in this nurſery they may remain two years, by which time they will be fit to plant where they are deſigned to be continued; for the younger theſe trees are planted out, the larger they will grow. But there are many who will object to their being planted out young in parks, becauſe they will require a fence to ſecure them againſt cattle; which will alſo be neceſſary whatever ſize they are when planted; and if large, they muſt be well ſtaked to prevent their being diſplaced by ſtrong winds: and when we conſider how much faſter a young tree will grow than one which is removed at a greater age, there can be no excuſe for planting large trees.

The Horſe-Cheſtnut requires little care in the management, [is never injured by cold in our climate,] and will thrive in moſt ſoils and ſituations: but in a ſandy loam it makes the greateſt progreſs; and if the ſoil be inclining to moiſture, the leaves will continue in verdure much longer than in very dry ground.

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* Foreſt Scenery, I. 61.
† Evelyn.
‡ Printed in 1597.
§ Printed in 1633.

* Theat. printed 1640.
† Parad. 595.
‡ Collect. 3. 85.
§ Hort. kew.
|| Mill. fig.
¶ Hort. kew.
** Boutcher.

When theſe trees are tranſplanted, their roots ſhould be preſerved as entire as poſſible, for they do not ſucceed well when torn or cut; nor ſhould any of the branches be ſhortened, for there is ſcarcely any tree which will not bear amputation better than this; ſo that when any branches are by accident broken, they ſhould be cut off cloſe to the ſtem, that the wound may heal over.

There is ſomething very ſingular in the growth of this tree, which is that the whole ſhoot is completed in leſs than three weeks, after the buds are opened, in which time I have meaſured ſhoots a foot and half long, with their leaves fully expanded: and no ſooner are the flowers fallen, than the buds for the ſucceeding year are formed, which continue ſwelling till autumn, at which time the folding covers are ſpread over with a thick tenacious juice, ſerving to defend the tender buds from the froſt and rain in winter; but upon the firſt return of warmth in the ſpring, this melts and runs off, leaving the bud at liberty to extend. This juice is never ſo far hardened as to injure the tender buds, which are always formed at the extremity of the former year's ſhoot; a plain direction not to ſhorten them, for by ſo doing, the future ſhoots are entirely cut off.

There are varieties of this tree in the nurſeries, both with gold and ſilver ſtriped leaves. Theſe are increaſed by layers, and by budding or ingrafting them upon ſtocks of the common ſort.

3. The *Scarlet Horſe-Cheſtnut* may alſo be propagated by the nuts, which muſt be procured from the countries where the trees naturally grow. They ſhould be ſown in pots early in the ſpring; and the pots muſt be plunged into a moderate hot-bed to forward their growth; toward the end of may, the pots ſhould be plunged into the ground in a ſouth-eaſt border, and in dry weather the plants ſhould be duly watered, that they may acquire ſtrength by the autumn; when it will be very proper to ſcreen the plants from early froſts which often pinch the top buds, and occaſion their decay in the winter; for while the plants are young they are impatient of froſts, but when they have obtained ſtrength, it ſeldom hurts them: the ſpring following, the plants ſhould be carefully ſeparated and planted at the diſtance of a foot from each other, in a ſheltered ſituation; and the following winter, when it proves cold, it will be proper to cover the plants with ſome light covering. After the ſecond winter they will require no farther ſheltering.

[Others think it ſufficient to ſow the nuts on a warm border, in a rich, looſe, ſweet mould; to remove them the ſucceeding ſpring to a ſituation and ſoil of the ſame quality, where they may remain three years, when they will have acquired ſtrength enough for any ſituation not too much expoſed.]

The common method practiſed by the nurſerymen, who propagate this tree for ſale, is to graft or bud it upon ſtocks of the common Horſe-cheſtnut; but as the ſtock greatly outgrows the bud or graft, the trees make a bad appearance, nor do they laſt long.

[ÆTHIŎPIS. See *Salvia.*

ÆTHŪSA. (From Αιϑουσα, mendica, beggarly.)
Lin. gen. 355. *Reich.* 385. *Schreb.* 487. *Gærtn. t.* 22. *Juſſ.* 220.
Meum. *Tournef.* 165. *Gærtn.* 23.
Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ* or *Umbelliferæ.*

GENERIC CHARACTER.

CAL. *Umbel univerſal* ſpreading, the rays gradually ſhortening towards the middle: *partial* alſo ſpreading but ſmall. *Involucre* univerſal none: *partial* placed on the outſide, only conſiſting of three very long, linear, pendulous leaflets. *Proper Perianth* ſcarcely obſervable.
COR. *univerſal* nearly uniform, with all the floſcules fertile: *partial* has the petals bent in, heart-ſhaped and unequal.
STAM. *Filaments* ſimple with roundiſh *anthers.*
PIST. *Germ* inferior. *Styles* reflex with obtuſe *ſtigmas.*
PER. none. *Fruit* roundiſh, ſtreaked, bipartile.
SEEDS two, roundiſh, ſtreaked, except on a third part of the ſurface, which is plane.

ESSENTIAL CHARACTER.

Partial Involucre halved, three-leaved, pendulous. *Fruit* ſtreaked.

SPECIES.

1. Æthuſa Cynapium. *Common Fool's-Parſley.*
Lin. ſpec. 367. *Reich.* 1. 703. *ſuec. n.* 254. *hort. cliff.* 100. *Gærtn.* 1. 94. *Hudſ. ang.* 123. *Wither. arr.* 300. *Curtis lond.* I. 18. *Lightf. ſcot.* 165. *Hall. helv. n.* 765. *Scop. carn. n.* 339. *Allion pedem. n.* 1333. *Rivin. t.* 76. *Moriſ. ſ.* 9. *t.* 7. *f.* 2. *Ger. emac.* 1063. 1. *Park. theat.* 933. 2. *Petiv. brit. t.* 28. *f.* 3. *Plenck, icon. t.* 202. *Blackw. herb. t.* 517.
Leaves conform.
2. Æthuſa Bunius. *Coriander-leaved Fool's-Parſley.*
Lin. ſyſt. 286. *Reich.* 1. 703.
Carum Bunius. *Syſt. edit.* 12. 733. *mant.* 733. *Govan illuſtr.* 20. *Jacq. hort.* 2. *t.* 198.
Saxifraga montana, &c. *Moriſ. ſ.* 9. *t.* 2. *f.* 16.
Bunius. *Dalech. hiſt.* 774. *Bauh. hiſt.* 3. 29.
Daucus petroſelini folio vel coriandri. *Bauh. pin.* 150.
Radical leaves pinnate, cauline manifold-ſetaceous.]
3. Æthuſa Meum. *Spignel, Meu, or Bawd money.*
Lin. ſyſt. 287. *Reich.* 1. 704.]
Athamanta Meum. *Lin. ſpec.* 353. *hort. cliff.* 93. *mat. med.* 78. *Mill. dict. n.* 1. *Hudſ. ang.* 116. *Jacq. auſtr.* 4. *t.* 303. *Plenck, ic. t.* 201. *Hall. helv. n.* 761.
Liguſticum Meum. *Crantz. auſtr. p.* 199.
Seſeli Meum. *Scop. carn. n.* 352.
Meum. *Riv. t.* 62. *Blackw. t.* 525.
All the leaves manifold-ſetaceous.
[4. Æthuſa fatua. *Fine-leaved Fool's-Parſley.*
Ait. hort. kew. 1. 355.
All the leaves many-parted-ſetaceous, leaflets ſubverticillate, ſtem many-leaved, ſheaths of the petioles narrow, univerſal involucre many-leaved.

DESCRIPTIONS, &c.

1. Stem from one to two feet high, branched, ſlightly furrowed. Leaves ſmooth, gloſſy: leaflets divided into three ſegments, which are again deeply cloven into three or five. The umbel has often eighteen rays or more. Petals whitiſh. Seeds very large *.

Fool's-Parſley, called alſo *leſſer Hemlock*, is a very common weed in kitchen-gardens, and in a ſlight degree poiſonous. It is eaſily diſtinguiſhed when in flower (july and auguſt) from true Parſley and Chervil, by the three narrow pendent folioles or leaflets of the involucre, placed on the outer part only of the umbel; whereas thoſe of the partial umbels in Chervil ſurround them entirely, growing equally on every ſide: and as to Parſley, it has only a few ſhort leaflets fine almoſt as hairs, and diſtributed indifferently at the baſe of both umbels. Fool's Parſley is a much humbler plant than either of the others. They can only be confounded in a very young ſtate, and even then the leaves may be obſerved to have a different form, a darker hue, and on being bruiſed, to emit in a ſlight degree a diſagreeable venomous ſmell. The ſafeſt way to avoid all doubt is to cultivate the curled Parſley.

Moſt cattle eat it: but it is ſaid to be noxious to geeſe.

2. Lobes of the root-leaves ovate, pinnatifid, gaſhed, ſhining. The leaves on the ſtem reſemble thoſe of *Carui*, are bipinnate, linear, and extremely narrow. The petioles are ſheathing, and have the edges rolled in. The involucres of the outer ſide are generally three, ſetaceous, and longer than the floſcules. Umbels ſeven-cleft. Umbellules ſeven-flowered. Flowers white, equal, abortive. Seeds rather oblong, furrowed with the dorſal ribs membranaceous-compreſſed. Native of the Pyrennees †. Perennial.]

3. *Spignel* is a perennial plant, riſing a foot and a half high, with channelled ſtalks, terminated by

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* Withering.

† Linneus.

an umbel of flowers, that are white with a little tincture of green, and are ſucceeded by oblong, ſmooth ſeeds. The leaves are much branched, and compoſed of fine capillary leaflets, ſet cloſe, and of a deep green.

The root is thick and branching. It has no univerſal involucre, except ſometimes a ſingle leaflet; but having the partial involucres on one ſide, it has been removed to the genus *Æthuſa*. The old name is *Meum*, but it ſtood in the genus *Athamanta* in Linneus's works, till the fourteenth edition of the *Syſtema Naturæ*. It grows wild in the mountains of Switzerland, Germany, Auſtria, Carniola, Italy and Spain. Alſo in the high paſtures of Weſtmoreland, Cumberland, Lancaſhire, and Merionethſhire. The roots and ſeeds are aromatic and acrid: they are recommended as carminatives and ſtomachics; in the ſtone, ſtoppage of urine, and all uterine diſorders; ſometimes they are given to cure tertians. Spignel is an ingredient in Theriaca and Mithridate; and appears to be of the ſame nature with Lovage.

4. It is not known where this is a native, but it was introduced here in 1781, by Monſ. Thouin; and flowers in auguſt and ſeptember.

PROPAGATION AND CULTURE.

1. Fool's Parſley is an annual, and may eaſily be kept down in gardens, by not ſuffering it to ſeed, which it does abundantly.]

3, 4. Are hardy perennial plants, and may be increaſed, either by parting the roots at Michaelmas, or by ſowing the ſeeds ſoon after they are ripe: the plants ſhould have a ſhady ſituation and moiſt ſoil. The ſeeds ripen in july and auguſt.

[2. May be propagated by ſeeds like the foregoing. It flowers in july.

AFRICAN BLADDER-NUT. See *Royena*.
AFRICAN FLEA-BANE. See *Tarchonanthus*.
AFRICAN MARYGOLD. See *Tagetes*.
AFRICAN RAGWORT. See *Othonna*.
AGALLOCHA. See *Excoecaria*.]

[AGAPANTHUS. (q. *αγαπητος ανϑος, a pleaſant* or *delightful flower*.

L'Herit. ſert. 17. *Ait. kew.* 3. *p.* 509. *Crinum Gærtn.* 2. *t.* 83. *Mauhlia Dahl. diſſ.* 25. *Lin. gen. Schreb. n.* 1742.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Lilia* or *Liliaceæ*.—*Spathaceæ* Lin. *Narciſſi* Juſſ.

GENERIC CHARACTER.

CAL. *Spathe common* gaping at the ſide.

COR. one-petalled, funnel-ſhaped, regular. *Tube* cornered, as if compoſed of ſix claws. *Border* ſix-parted: parts oblong, ſpreading.

STAM. *Filaments* ſix, inſerted into the throat, ſhorter than the corolla, declinate. *Anthers* kidney-ſhaped, incumbent.

PIST. *Germ* ſuperior, oblong, three-cornered. *Style* filiform, length of the ſtamens, declinate. *Stigma* ſimple (trifid. *G.*)

PER. *Capſule* oblong, three-ſided, three-celled, three-valved: *valves* navicular, with contrary *diſſepiment*.

SEEDS numerous, oblong, compreſſed, enlarged with a membrane.

ESSENTIAL CHARACTER.

Cor. inferior, funnel-ſhaped, hexapetaloid, regular.

SPECIES.

1. Agapanthus umbellatus. *African Blue Lily*.
L'Herit. ſert. angl. 17. *Ait. hort. kew.* 1. 414.]
Crinum africanum. *Lin. ſpec.* 419. *Gærtn. fruct.* 2. 15. *Mill. dict. n.* 1.
Polianthes floribus umbellatis. *Lin. vir. cliff.* 29. *hort.* 126. *Mill. fig. t.* 210. *Ehret, pict. t.* 10.
[Tulbaghia. *Heiſt. Brunſv.* 10. *n.* 6.
Mauhlia africana. *Dahl. obſ. bot.* 26.
Hyacinthus africanus tuberoſus, fl. cæruleo umbellato.
Breyn. prodr. 1. 25. *icon.* 23. *t.* 10. *f.* 1. *Trew comm. liter.* 1744. *p.* 351. *t.* 4. *f.* 3, 9, 10. *Comm. hort.* 2. 133. *t.* 67. *Seba theſ.* 1. 29. *t.* 19. *f.* 4. *Pluk. phyt. t.* 195. *f.* 1.]

DESCRIPTION, &c.

The root is compoſed of many thick fleſhy fibres, diverging from the ſame head, ſtriking deep into the ground, and putting out many ſmaller fibres, which are white and fleſhy: from the ſame head ariſes a cluſter of leaves ſurrounding each other at the baſe, ſo as to form a kind of herbaceous ſtalk about three inches high, from which the leaves ſpread only two ways, appearing flat the other two. The leaves are thick, ſucculent, about a foot long, and near an inch broad, compreſſed, and of a dark green. Between theſe comes out the flower-ſtalk, from two to three feet in height, round, as large as a man's little finger, naked to the top, where it ſupports a large head or umbel of blue flowers, incloſed in a ſheath, which ſplits into two parts, and is bent back. Each flower ſtands on a pedicel about an inch long. The petals are blunt, and waved on their edges. The umbel being large, the flowers numerous, and of a bright blue colour, make a fine appearance. They come out at the end of auguſt, or the beginning of ſeptember, and frequently continue in beauty till ſpring.

[The flowers are abſolutely thoſe of *Hemerocallis*, but this genus is diſtinct from that in its ſpathe *.]

Native of the Cape of Good-Hope, from whence it was brought to the gardens in Holland. [In 1692, it was cultivated in the Royal Garden at Hampton-Court †.]

PROPAGATION AND CULTURE.

This plant is propagated by offſets, which come out from the ſide of the old plants, and may be taken off the latter end of june, at which time theſe plants are in their greateſt ſtate of reſt; when the plants ſhould be turned out of the pots, and the earth carefully cleared away from the roots, that the fibres of the offſets may be better diſtinguiſhed, which ſhould be ſeparated from thoſe of the old roots, being careful not to break their heads. But where they adhere ſo cloſely to the old plant, as not to be ſo ſeparated, they muſt be cut off with a knife, taking great care not to wound or break the roots of either the offſets or the parent plant. When theſe are parted, they ſhould be planted each into a ſeparate pot, filled with light kitchen-garden earth, and placed in a ſhady ſituation, where they may enjoy the morning ſun, giving them a little water twice a week, if the weather proves dry; but they muſt not have too much wet, eſpecially at this ſeaſon, when they are almoſt inactive; for as the roots are fleſhy and ſucculent, they are apt to rot with great moiſture. In about five weeks time the offſets will have put out new roots, when the pots may be removed to a more ſunny ſituation, and then they may have a little more water, which will ſtrengthen their flowering, but it muſt not be given them too liberally, for the reaſons before given. In ſeptember they will put out their flower-ſtalks, and toward the end of that month the flowers will begin to open, when, if the weather ſhould not be good, they ſhould be removed under ſhelter, to prevent the flowers from being injured by froſt or too much wet; but they ſhould have as much free air as poſſible, otherwiſe the flowers will be pale-coloured and weak. Toward the end of october they ſhould be removed into the green-houſe, and placed where they may enjoy as much free air as poſſible, and not be over-hung by other plants; and during the winter, they may have a little water once a week or oftener in mild weather, but in froſt they ſhould be kept dry. This plant only requires protection from froſt and moiſture, it ſhould not therefore have any artificial warmth in winter, and muſt be placed in the open air in ſummer.

[AGARICUS. (From *Agaria*, a city, or from *Agarus*, a river of Sarmatia, now Malowouda.)

Lin. gen. n. 1209.

Agaricus and Amanita *Dillen.*

Claſſ. 24. 4. Cryptogamia Fungi.

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* L'Heretier.

† Hort. kew. from Pluk.

GENERIC CHARACTER.

Pileus or *Cap* with gills underneath.

Gills differing in ſubſtance from the reſt of the plant, compoſed of two laminas.

Seeds in the gills.

SPECIES.

In the thirteenth edition of Linneus's Syſtema Vegetabilium, we have no more than 27 ſpecies of *Agaricus.* In the fourteenth by Murray there are only 35. Micheli on the contrary has given 634. In the third edition of Ray's ſynopſis are 57 ſpecies, 14 of which are added by Dillenius. Gleditſch reduces the Agarici to 32 ſpecies, but informs us that there are 120 more, involved in much obſcurity. Haller deſcribes 134; and Scopoli 114, of which 11 only have Linneus's names. Mr. Hudſon enumerates 46; and Mr. Lightfoot accurately deſcribes 20, in his Flora Scotica [*]. Allione enumerates 82. But in the third part of Dr. Withering's Botanical Arrangement, the number of Britiſh ſpecies aſcertained and deſcribed amounts to 213.

Out of all theſe, one only has been ſelected for cultivation in our gardens; namely—

Agaricus campeſtris. *Common Muſhroom,* or *Champignon.*

Lin. ſpec. 1641. *Hudſ. angl.* 610. *Wither. arr.* 3. 342. *Lightf. ſcot.* 1016. *Relh. cant. n.* 450. *Bulliard* 514, 134. *Fl. dan. t.* 714. *Bolton* 45. *Mill. illuſtr.* *Sterb. fung. t.* 1. *Schæff.* 310, 311. *Lob. ic.* 271. *Bauh. hiſt.* 3. 824.

Gills crowded, irregular, pink changing to liver-colour; cap convex, white to brown; ſtem white, cylindrical; curtain white.

DESCRIPTION, *&c.*

Gills looſe, in contact but not united with the ſtem, very thick ſet, ſome forked next the ſtem, ſome next the edge of the cap, ſome at both ends, and generally in that caſe excluding the intermediate ſmaller gills. *Cap* white, changing to brown when old, and becoming ſcurfy, fleſhy, regularly convex, but flat with age, and liquefying in decay; fleſh white: diameter commonly from two to four, but ſometimes nine inches. *Stem* ſolid, two to three inches high, and half an inch in diameter [†].

This ſpecies is eſteemed the beſt and moſt ſavoury of the genus, and is in much requeſt for the table in England. It is eaten freſh either ſtewed or broiled; and preſerved, either as a pickle or in powder, The ſauce vulgarly called *Catchup* [‡] is made from its juice with ſalt and ſpices [§]. The wild muſhrooms, from freſh undunged paſtures, are more delicate than thoſe which are raiſed on artificial beds; the fleſh of the latter being leſs tender [‖]: thoſe who are much accuſtomed to them, can immediately tell the difference by their ſmell. Mr. Miller is of a different opinion, probably becauſe the cultivated ones are more ſightly, and may be collected in a proper ſtate for eating more eaſily: they are firmer and better for pickling.

The *Agaricus Georgii* of Linneus much reſembles this, but is far inferior to it in flavour, though not poiſonous, as generally ſuppoſed. It is very common: the cap turns yellow, but the gills are always white.

The *Agaricus procerus,* or tall Muſhroom, which is common in woods and dry hilly paſtures, is ſometimes expoſed to ſale in Covent-garden market. It may be eaſily diſtinguiſhed from the genuine ſort by the ſpongineſs of its fleſh; and from all others by its tallneſs, its bulbous baſe, its large volva or ruffle, and the flakineſs or ſcaly texture of its ſpongy cap: the gills are numerous, brittle and whitiſh [¶].

Agaricus cæſareus or imperial Agaric, is the moſt ſplendid of all the ſpecies. It is common in Italy, and is brought to the markets there for ſale. The ancient Romans eſteemed it one of the greateſt luxuries of the table. Having been made the vehicle for poiſon to Claudius Cæſar, by his wife Agrippina, it has been celebrated by Juvenal and Martial. It was firſt found wild in this country in Red-Rock plantation, Edgbaſton, by Dr. Withering's daughter, on the ſixth of july, 1791 [*].

Agaricus orcades of Bolton and Withering is very different from all theſe. It is a ſmall pale brown, or rather buff-coloured muſhroom, very common in dry paſtures, particularly in the Fairy Rings. It is alſo found in woods and hedges; but in ſuch ſituations the flavour is inferior. Thoſe from dry paſtures have a very pleaſant ſmell, and a moſt luſcious flavour, either ſtewed alone, or in ragouts, haſhes, *&c.* I have eaten them in great quantities, above forty years, without the leaſt injury, nor did I ever perceive any thing of that toughneſs like leather, which is ſo much complained of, except in very dry weather, or when they are in too advanced a ſtate: they ſhould be gathered young, early in a morning, and there is ſome nicety in dreſſing them. This ſort makes excellent catchup, and is admirable in the form of powder.

It is thus deſcribed by Dr. Withering. *Gills* looſe, but the part attached to the cap juts up very cloſe to the ſtem, ſo as to give them almoſt the appearance of being fixed; they are of a watery browniſh white, two or four in a ſet, the ſmall ones often very minute, and the large ones ſometimes ſplitting at the outer end; not numerous, rather broad for the ſize of the plant; frequently connected to the cap by ligaments. *Cap* pale brown buff colour, convex, irregular; a ſudden depreſſion of the border, at ſome diſtance from the centre, often giving the appearance of a large rounded boſs in the middle; central colour generally deeper; it is from an inch to an inch and three quarters in diameter, the edge turning up with age, and frequently much torn. *Stem* ſolid, white, changing to watery brown, cylindrical, but thicker and flattened juſt under the cap, very tough, moſtly crooked, twiſted when dry, rarely central, an inch and half high, the thickneſs of a crow quill [†]. It is in ſeaſon during ſeptember and october, but may be dried ſo as to be in uſe for the table all the winter. Dr. Withering is ſatisfied that the circles in paſture fields, called *Fairy Rings,* are cauſed by the growth of this Agaric. Where the ring is brown or almoſt bare, upon digging up the ſoil to the depth of two inches, the ſpawn of the fungus will be found of a greyiſh white colour; but where the graſs has again grown green and rank there is no ſpawn. Theſe obſervations have been confirmed by my own experience long ſince for many years together. I have frequently remarked the ſame ring to increaſe in diameter, till a part of it has been cut off by a fence of the incloſure.

This Agaric is the twenty-ſeventh Fungus of Ray's Synopſis, edit. 3. p. 6.—Ag. pratenſis of Hudſon, and coriaceus of Lightfoot. The latter ſuppoſes it to be the *Mouceron* of the French, who frequently indeed uſe it in ragouts inſtead of that, and acknowledge it to be equal in flavour, only more tough. But the *Mouceron* has a very thick and fleſhy cap; the gills are fixed to the ſtem, are extremely narrow and numerous; and its ſtem is thick and ſhort. Dr. Withering has carefully diſtinguiſhed ſeveral other ſpecies from our *Fairy Ring* Agaric, or *Scotch Bonnets,* as it is called by Mr. Ray [‡].

Agaricus Chantarellus of Linneus may be eaten with ſafety, but it is more tough and leſs highly flavoured than *Ag. Orcades.* The *Chantarelle* is now conſidered as generically diſtinct from the Agarics, becauſe the gills are of the ſame ſubſtance with the ſtem and cap. It is *Merulius Cantharellus* of Withering; and is diſtinguiſhed as a ſpecies by its ſolid ſtem, often compreſſed; and by its decurrent, branched, anaſtomoſing gills [§].

Allione enumerates the following as eatable—Agaricus candidus—bulboſus—Chantarellus—nitens—delicioſus—mutabilis—brunneus—excoriatus—Georgii—craſſipes—varius—violaceus—ſylvaticus.

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[*] Curtis fl. lond.

[†] Withering.

[‡] From the Japaneſe Kit-jap.

[§] Lightfoot.

[‖] Withering.

[¶] Curtis fl. lond. 4. 69.

[*] Withering arr. 3, 331.

[†] Bot. arr. 3. 336.

[‡] Bot. arr. p. 337, 338.

[§] Idem. p. 281.

It is ſingular that he does not mention the *campeſtris* among them.

In many parts of Europe ſeveral other ſorts are eaten, which we fancy to be poiſonous. Even *Ag. piperatus*, though the moſt acrid and ſuſpicious of all the Agarics, is eaten in great quantity by the Ruſſians. They fill large veſſels with theſe muſhrooms in the autumn, ſeaſon or pickle them with ſalt, and eat them in the enſuing Lent*. Caution however is not amiſs, where ſeveral of the ſpecies are confeſſedly injurious, at leaſt when taken in large quantities.

The nature of this work does not require that we ſhould enter more minutely into the conſideration of the Agarics. The bare enumeration and deſcription of the ſpecies contained in the claſs Cryptogamia, would make a large volume. See Fungi.]

PROPAGATION AND CULTURE OF MUSHROOMS.

In order to cultivate Muſhrooms, if you have no beds in your own, or in neighbouring gardens, which produce them, you muſt look abroad in rich paſtures, during the months of auguſt and ſeptember, that being the ſeaſon when they are naturally produced: open the ground about the roots of Muſhrooms, where you will find the earth very often full of ſmall white knobs, which are the offſets, or young Muſhrooms; theſe ſhould be carefully gathered, preſerving them in lumps with the earth about them: but as this ſpawn cannot be found in the paſture, except at the ſeaſon when Muſhrooms are naturally produced, you may probably find ſome in old dunghills, eſpecially where there has been much litter amongſt it, and the wet has not penetrated to rot it; as likewiſe in old hot-beds; ſhooting out in long ſtrings: or it may be procured by mixing ſome long dung from the ſtable, which has not been thrown on a heap to ferment, with ſtrong earth, and put under cover to prevent wet getting to it; the more the air is excluded from it, the ſooner the ſpawn will appear; but this muſt not be laid ſo cloſe together as to heat, for that will deſtroy the ſpawn; in about two months after, the ſpawn will appear, eſpecially if the heap is cloſely covered with old thatch, or ſuch litter as has lain long abroad, ſo as not to ferment, then the beds may be prepared to receive the ſpawn: theſe ſhould be made of dung, in which there is good ſtore of litter, but this ſhould not be thrown on a heap to ferment; that dung which has lain ſpread abroad for a month or longer, is beſt. Theſe beds ſhould be made on dry ground, and the dung laid upon the ſurface; the width of them at bottom ſhould be about two feet and a half or three feet, the length in proportion to the quantity of Muſhrooms deſired; then lay the dung about a foot thick, covering it about four inches with ſtrong earth. Upon this lay more dung, about ten inches thick; then another layer of earth, ſtill drawing in the ſides of the bed, ſo as to form it like the ridge of a houſe, which may be done by three layers of dung and as many of earth. When the bed is finiſhed, it ſhould be covered with litter or old thatch, to keep out wet, as alſo to prevent its drying; in this ſituation it may remain eight or ten days, by which time the bed will be in a proper temperature of warmth to receive the ſpawn; for there ſhould be only a moderate warmth in it, great heat deſtroying the ſpawn, as will alſo wet; therefore when the ſpawn is found, it ſhould always be kept dry until it is uſed, for the drier it is, the better it will take in the bed; for I had a parcel of this ſpawn, which had lain near the oven of a ſtove upward of four months, and was become ſo dry, that I deſpaired of its ſucceſs; but I never have yet ſeen any which produced ſo ſoon, nor in ſo great quantity as this.

The bed being in a proper temperature for the ſpawn, the covering of litter ſhould be taken off, and the ſides of the bed ſmoothed; then a covering of light rich earth about an inch thick ſhould be laid all over the bed, but this ſhould not be wet; upon this the ſpawn ſhould be thruſt, laying the lumps four or five inches aſunder; then gently cover this with the ſame light earth above half an inch thick, and put the covering of litter over the bed, laying it ſo thick as to keep out wet, and prevent the bed from drying: when theſe beds are made in the ſpring or autumn, as the weather is in thoſe ſeaſons temperate, the ſpawn will then take much ſooner, and the Muſhrooms will appear perhaps in a month after making; but thoſe beds which are made in ſummer, when the ſeaſon is hot, or in winter, when the weather is cold, are much longer before they produce.

The great ſkill in managing theſe beds is, that of keeping them in a proper degree of moiſture, never ſuffering them to receive too much wet: during the ſummer ſeaſon the beds may be uncovered, to receive gentle ſhowers of rain at proper times; and in long dry ſeaſons the beds ſhould be now and then gently watered, but by no means ſuffer much wet to come to them; during the winter ſeaſon they muſt be kept as dry as poſſible, and ſo cloſely covered as to keep out cold. In froſty or very cold weather, if ſome warm litter ſhaken out of a dung heap is laid on, it will promote the growth of the Muſhrooms; but this muſt not be laid next the bed, but a covering of dry litter between the bed and this warm litter; and as often as the litter is found to decay, it ſhould be renewed with freſh; and as the cold increaſes, the covering ſhould be laid ſo much thicker. If theſe things are obſerved, there may be plenty of Muſhrooms produced all the year; and theſe produced in beds, are much better for the table than any of thoſe which are gathered in the fields.

A bed thus managed, if the ſpawn takes kindly, will continue good for ſeveral months, and produce great quantities of Muſhrooms; from theſe beds when they are deſtroyed, you ſhould take the ſpawn for a freſh ſupply, which may be laid up in a dry place until the proper ſeaſon of uſing it, which ſhould not be ſooner than five or ſix weeks, that the ſpawn may have time to dry before it is put into the bed, otherwiſe it will not ſucceed well.

Sometimes it happens, that beds thus made do not produce any Muſhrooms till they have lain five or ſix months, ſo that beds ſhould not be deſtroyed, though they do not at firſt anſwer expectation; for I have frequently known theſe to have produced great quantities of Muſhrooms afterward, and to have continued a long time in perfection.

[This practice of propagating Muſhrooms by the *ſpawn*, or the white fibrous radicles, which produce tubercles in the manner of potatoes, is the moſt common. But they may alſo be increaſed by the ſeed. When this method is uſed, the gills are cut out and put into the beds: or elſe they are infuſed in water, and the beds are ſprinkled with the infuſion. In the ſame manner any other ſpecies of Fungus may be cultivated; and experiments have been made on the *Boletus* and *Phallus* with ſucceſs *.]

[AGATHOPHYLLUM. (From αγαϑος, *good*, and φυλλον, *a leaf*; which is the meaning of the Madagaſcar name *Raven-tſara.*)

Lin. gen. Schreb. 1754. *Juſſ. gen.* 431. Ravenſara. *Sonnerat. ind.* 2. *p.* 226. *t.* 127. Euodia. *Gærtn.* 2. *t.* 103.

Claſſ. 11. 1. Dodecandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* very ſmall, truncate, entire, permanent.

Cor. *Petals* ſix, ovate, ſomewhat villoſe within, inſerted into the calyx.

Stam. *Filaments* twelve, broadiſh, very ſhort, alternately placed at the baſe of the petals and alternately on the calyx. *Anthers* roundiſh.

Pist. *Germ* ſuperior, very ſmall. *Style* very ſhort. *Stigma* pubeſcent.

Per. *Drupe* ſomewhat globoſe, crowned with the calyx.

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* Lightfoot 1014.

* Lightfoot.

Seed. *Nut* ſomewhat globoſe, terminated by a truncate point, half-ſix-celled. *Kernel* convex, beneath ſix-lobed: with coriaceous partitions ſeparating the lobes.

ESSENTIAL CHARACTER.

Cal. ſuperior, very ſhort, toothleſs. *Cor.* ſix-petalled, ſomewhat villoſe. *Stam.* alternately inſerted into the calyx and petals. *Drupe* juiceleſs, with a half-ſix-celled nut; and one ſeed.

SPECIES.

Agathophyllum aromaticum.
Euodia Ravenſara. *Gærtn. fruct.* 2. 101.
Ravenſara aromatica. *Sonner. it. ind.* 2. 226. *t.* 127.

DESCRIPTION, &c.

The *Ravenſara* is a large buſhy tree, with a pyramidal head like the Clove-tree, and a reddiſh odorous bark; the wood is hard, heavy, white with ſome reddiſh fibres, and has no ſmell. Leaves alternate, ſimple, oval, entire, ſometimes a little pointed, but more often obtuſe, ſmooth on both ſides, whitiſh and ſomewhat glaucous underneath, of a firm texture like thoſe of the bay, with a ſtrong longitudinal nerve; they are on petioles half an inch in length. Flowers extremely ſmall, towards the end of the branches, in ſeveral little panicles, one terminating, and two or three axillary: petals only half a line in length, with ſome ſhort hairs on the outſide. There is a ſingle fruit at the end of each branch, the ſize of a large cherry, ſhaped like a pear, with a roundiſh body: it conſiſts of a nut divided into ſix parts, in the ſame manner as the walnut is into four, covered with a hard coriaceous ſhell, and that with a thin green ſhell or bark very cloſely adhering to it; both theſe are aromatic; but the nut has an acrid biting taſte, which is almoſt cauſtic. This tree bears at five or ſix years' growth, and flowers in january and february. The fruit is ten months in ripening. The natives of Madagaſcar gather it before it is ripe, as a ſpice, for the purpoſe of ſeaſoning their meat. It has a fine aromatic ſmell when freſh; and the cauſtic taſte may be abated by keeping it ſome months; after which it may be thrown into boiling water for four or five minutes, and then dried in the ſun. The leaves may be prepared as a ſpice, in the ſame manner *.

The flowers being in panicles, and the fruit ſolitary, perhaps they may grow on different trees. If it be conſidered as polypetalous, the Ravenſara is allied to *Heiſteria*; but if we conſider the corolla as a perianth, it will rather be allied to the *Lauri* †.]

AGAVE. (From 'Αγαυὸς, *admirable, glorious.*)
Lin. gen. n. 431. *Reich.* 465. *Schreb.* 582. *Juſſ.* 51.
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Coronariæ*. *Bromeliæ* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. one-petalled, funnel-ſhaped: *border* ſix-parted, equal: *parts* lanceolate, erect.

Stam. *Filaments* filiform, erect, longer than the corolla. *Anthers* linear, ſhorter than the filaments, verſatile.

Pist. *Germ* oblong, growing thinner towards both ends, inferior. *Style* filiform, the length of the ſtamens, three-cornered. *Stigma* headed, three-cornered.

Per. *Capſule* oblong, three-cornered, three-celled, three-valved.

Seeds numerous.

Obs. *Linneus has ſeparated this genus from the Aloe, becauſe the ſtamens and ſtyle are extended much longer than the corolla, and the corolla reſts upon the germ. There is alſo another difference in the growth of the plants; which is, that all the Agaves have their central leaves cloſely folding over each other, and embracing the flower-ſtem, which is formed in the centre; ſo that theſe never flower until all the leaves are expanded; and when the flower is paſt, the plants die. Whereas the flower-ſtem of the Aloe is produced on one ſide of the centre, annually from the ſame plant, and the leaves are more expanded than in this genus.*

ESSENTIAL CHARACTER.

Cor. erect, ſuperior. *Filaments* longer than the corolla, erect.

SPECIES.

1. Agave americana. *Common American Agave.*
Lin. ſpec. 461. *Reich.* 2. 89. *Amæn.* 3. 22. *hort. upſ.* 81. *cliff.* 130. *Hall. helv. n.* 1249. *Raii hiſt.* 1197. *n.* 5. *Bauh. hiſt.* 3. 701. *Ger.* 409. *emac.* 507. *Park. theat.* 150.
β. A. Karatto. *Red-ſpined American Agave.*
Mill. dict. n. 5.
Stemleſs; leaves tooth-thorny.

2. Agave vivipara. *Viviparous* or *Childing Agave.*
Lin. ſpec. 461. *Reich.* 89. *Herm. lugdb.* 16. *t.* 17; 57. *Comm. præl.* 65. *t.* 15. *Rumph. amb.* 5. 273. *t.* 94.
Stemleſs; leaves toothed.

3. Agave virginica. *Virginian Agave.*
Lin. ſpec. 461. *Reich.* 89. *amæn.* 3. 22.
Stemleſs, herbaceous; leaves tooth-thorny.

4. Agave lurida.
Ait. hort. kew. 472.
α. A. Vera-Cruz. *Broad-leaved Vera-Cruz Agave.*
Mill. dict. n. 7.
β. A. rigida. *Narrow-leaved Vera-Cruz Agave.*
Mill. dict. n. 8.
Subcauleſcent; leaves tooth-thorny.

5. Agave tuberoſa. *Tuberous-rooted Agave.*
Ait. hort. kew. 472.
α. *Single-thorned Agave.*
A. tuberoſa. *Mill. dict. n.* 4.
β. *Double-thorned Agave.*
Cauleſcent; leaves tooth-thorny.

6. Agave fœtida. *Fetid Agave.*
Lin. ſpec. 461. *Reich.* 89. *amæn.* 3. 22. *hort. cliff.* 132. *Comm. hort.* 2. 55. *t.* 18.
Cauleſcent; leaves quite entire.

DESCRIPTIONS, &c.

1. Common American Agave, or Great American Aloe, as it is commonly called, has been long preſerved in the Engliſh gardens, where, for many years paſt, there have been ſeveral of the plants in flower. When they are vigorous, the ſtems generally riſe upwards of twenty feet high, and branch out on every ſide, ſo as to form a kind of pyramid, compoſed of greeniſh yellow flowers, which ſtand erect, and come out in thick cluſters at every joint. The ſeeds do not come to maturity in England. When theſe plants flower, they make a fine appearance, and continue a long time in beauty, if they are protected from the cold in autumn; for there will be a ſucceſſion of new flowers produced, near three months in favourable ſeaſons. It has been generally believed, that this plant does not flower till it is an hundred years old; but this is a great miſtake, for the time of its flowering depends on its growth; ſo that in hot countries where it grows faſt, and expands many leaves every ſeaſon, it will flower in a few years; but in colder climates, where the growth is ſlow, it will be much longer before it ſhoots up a ſtem.

[Cortuſus is ſaid to have been the firſt European who poſſeſſed the Great American Aloe, and that was in the year 1561. Gerard in his Herbal of 1597, ſpeaks of it merely from report. In the edition of 1633, by Johnſon, it is mentioned, but not ſaid to be in England. Parkinſon (Theatr. p. 150, printed in 1640) relates, that it was firſt brought into Spain, and from thence ſpread into all quarters. He gives an account of its flowering at Avignon, and Rome; but is ſilent as to its being in the Engliſh gardens. It flowered at Paris in 1663 and 1664. Mr. Verſprit, of Lambeth, had one twelve or fifteen feet high, and in flower (about 1698 or perhaps ſooner) which was then a great rarity here *.

Two other plants flowered about 1714 at Hampton Court, and one at the Duke of Buckingham's, now the Queen's palace, by St. James's-park.

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* Sonnerat.

† Juſſieu.

* Houghton's Collection, 2, 338.

There is a wooden plate extant, with this inſcription—*Aloe americana quæ Sonderhuſæ floruit,* 1662*. Another flowered at Leipſic in 1700.

Mr. Cowell aſſerts, that the plant which flowered in his garden at Hoxton in 1729, was the firſt which had been ſeen in England; thoſe which are mentioned above, not being the true great American Aloe. There is a plate of this Aloe in Mezzotinto by Kirkall, dated ſeptember 23, 1729. It was publiſhed without the conſent of Cowell, who expreſſes himſelf very angrily about it, in the pamphlet which he printed.

Another flowered in 1737, at Eaton-hall in Cheſhire, the ſeat of Sir Robert Groſvenor, Baronet. There is a plate of it † dedicated to Sir Robert by his gardener John Foſſey, dated november the firſt, 1737. It is engraved by W. H. Toms, from a drawing of Badeſlade's. By the inſcription on the print it appears, that it opened the crown for flowering on june the fifth; the ſtem-bud appeared the fifteenth, and grew five inches a day for ſome weeks; the flower-branches were perfected in twelve weeks; and then it was at a ſtand for a month, whilſt the flower buds were forming. The number of flowers was about 1050.

Two Agaves flowered at Hampton-Court in 1743; they were about fifty years old. Their heights were twenty-ſeven and twenty-four feet. The flower-ſtem appeared on the third of june, was in perfection the middle of auguſt, and continued blooming to the middle of october.

A plant which flowered near Carlſbad in 1754, was twenty-ſix feet high, and produced twenty-eight branches, which bore above 3000 flowers. Another flowered at Leyden in 1760, and a third in the royal garden at Friedrickſberg in Denmark; twenty-two feet high; it had nineteen branches, and more than 4000 flowers. The higheſt, of which I have ſeen any account, was one that flowered in the King of Pruſſia's garden: this was forty feet in height.

Two plants bloſſomed at Smith's nurſery in Dalſton near Hackney, in ſeptember 1790: but they are now ſcarcely conſidered as rarities.

Very few of the variety with yellow-edged leaves have yet bloſſomed. We have an account of one at Sir James Lake's in Edmonton, which was eighty years old, and the height of the flowering-ſtem was twenty-one feet. The top-bud of the ſtem appeared on the ſixth of june, 1785; it was in full bloom on the twelfth of ſeptember, and out of bloom on the nineteenth. One blew in Holland ſix years earlier; and another at Hampton-Court the year before it. There is a print alſo of theſe ‡.

In the conſervatory of the botanic garden at Cambridge, there is a very large variegated Agave, which came out of the Sherardian collection at Eltham, and belonged to Dr. Walker, the founder of the garden. It muſt therefore be more than ſixty years old, and has not yet produced flowers.

There are now hedges of the common Agave in Spain, Portugal, Sicily, and Calabria: it flouriſhes alſo about Naples, between Villafranca and Monaco, and in other parts of Italy.

The leaves of Agave are very uſeful as a ſuccedaneum for ſoap. For this purpoſe, after being cut, they are paſſed between the rollers of a mill with their point foremoſt; and the juice being conducted into wide, ſhallow receivers, through a coarſe cloth or ſtrainer, it is expoſed to a hot ſun, until the aqueous part being exhaled, it is reduced to a thick conſiſtence. It may then be made up into balls, with the help of lye aſhes. It will lather with ſalt water as well as freſh. This ſoap may alſo be prepared by pounding the leaves in a wooden mortar, and then expreſſing the juice, which may be brought to a conſiſtence by the ſun or by boiling. One gallon of juice thus prepared will yield about one pound of a ſoft extract. The juice, in both theſe ways, muſt be carefully ſtrained; and the extract muſt never be combined with tallow or other unctuous materials.

The leaves are alſo uſed for ſcowering pewter, and other kitchen utenſils, and floors. The inward ſpongy ſubſtance of the decayed ſtalk is uſed for tinder. The fibres of the leaves, ſeparated by bruiſing and ſteeping in water, and afterwards beating them, make a ſtrong thread for common uſes *.

The Agave of Mr. Miller's figures (t. 222.) is a variety of this, though he gives it as a very different ſpecies.] It flowered in the Chelſea garden during the ſummer of the year 1757. The leaves are narrower than thoſe of the common ſort, of a paler green, and the indentures on the edges not ſo deep; the ſpines at the indentures are ſhorter, and not ſo ſtrong. The leaves do not grow ſo erect; and are drawn in much narrower toward their points. The flower-ſtem was erect, ten inches in circumference below, gradually diminiſhing like a column; to the height of eight feet, where it divided into ſeveral branches; thoſe in the middle grew three feet high; the others were ſhorter; but they all grew erect; whereas thoſe of the common ſort are horizontal, turning upwards at their ends, like the branches of a chandelier. The flowers were collected in cloſe bunches or cluſters, at the ends of the branches, ſtanding erect; whereas thoſe of the common ſort grow from the ſides of the branches, as well as from the extremities. The flowers of this are alſo larger. The flower-ſtem was about ſix weeks in growing to its full height; and the flowers began to open about a month after: there was a ſucceſſion of them for near ſix weeks, and the germs afterwards grew to their full ſize. Many of the young ſuckers from the root flowered at the ſame time with the old plant †.

Varieties of the common American Agave with gold and ſilver ſtriped leaves, are now pretty common in the Engliſh gardens.

β. The leaves of the *Karatto Agave* are from two feet and a half to three feet long, and about three inches broad, ending in a black ſpine, and ſtanding more erect than in the others. This ſort has not flowered in England. The plants were ſent me from St. Chriſtopher's, by the title of *Karatto*, which I ſuppoſe is given indifferently to other ſpecies of this genus; for I have frequently heard the inhabitants of America call the common Agave by the ſame name.

2. The *Childing Agave* or *Aloe* never grows to a large ſize; the leaves are ſeldom more than a foot and a half long, and about two inches and a half broad at their baſe; theſe end in a ſlender ſpine, being ſlightly indented on their edges; they are alſo reflex, and of a dark green colour. The flower-ſtem riſes about twelve feet high, and branches out towards the top, in the ſame manner as the ſixth ſort; the flowers are nearly of the ſame ſize and colour with that, and after they fall off, are ſucceeded by young plants in the ſame manner. This never produces any ſuckers from the root, and therefore cannot be increaſed till it flowers. [Mr. Miller cultivated it in 1731 ‡.]

3. The *Virginian Agave* is ſo like the firſt ſort, as not to be diſtinguiſhed from it, but by good judges. The principal differences are, that the leaves of this are narrower toward their extremities, and of a paler colour: the ſtems do not riſe ſo high, nor do they branch in the ſame manner, but the flowers are collected into a cloſe head at the top; they are however of the ſame ſhape and colour. This ſort ſeldom puts out ſo many offsets as the common Aloe. [Introduced in 1765, by Mr. John Cree §.]

4. The *Vera-Cruz Agave* greatly reſembles the firſt, but the leaves are much thinner, the indentures on their edges abundantly cloſer, and not ſo deep; the ſpines too are blacker. How this differs in flower I know not, having never ſeen any of the flowers produced in England.

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* In Sir Joſeph Banks's collection. † Ibid. ‡ Ibid.

* Long's Jamaica, 3. 710. † Mill. fig. 148.
‡ Hort. kew. § Ibid.

β. The *rigid* or *narrow-leaved Agave* has long, narrow, ſtiff leaves, entire, and terminated by a ſtiff black ſpine. They are ſeldom more than two feet long, little more than an inch broad, and of a glaucous colour. The ſide leaves ſtand out almoſt horizontally. This ſort never puts out ſuckers, nor have I ſeen any plants of it in flower, although there are many of them in the Engliſh gardens, ſome of which are of a conſiderable age. [Cultivated in 1731, by Mr. Miller[*].]

5. The *tuberous-rooted Agave* has the leaves indented on their edges, and each indenture terminates in a ſpine; the root is thick, and ſwells cloſe above the ſurface of the ground; in other reſpects it agrees with the ſpecies juſt deſcribed. This has not flowered in England. I have raiſed it from ſeeds which were ſent me from America; but the plants never put out ſuckers from the roots. Linneus ſuppoſes it to be the ſame with the *Fetid-leaved,* but whoever ſees the plants, will not doubt of their being different. [Cultivated in 1739, by Mr. Miller[†].

The fourth and fifth are doubtful ſpecies, their fructification being unknown[‡].]

6. *Fetid-leaved Agave* has long narrow, ſtiff leaves, of a pale green colour, not indented on their edges, but frequently a little waved; the ſide leaves ſpread open, but thoſe in the centre fold cloſely over each other, and ſtrictly ſurround the bud. It is ſeldom more than three feet high, but the flower-ſtem riſes near twenty, and branches out much like that of the firſt, but more horizontally; the flowers are of the ſame ſhape, but ſmaller and of a greener colour. A plant of this ſpecies flowered in the Chelſea garden in the year 1755. The ſtem began to ſhoot the beginning of october, and by the end of that month was upwards of ten feet high; by the end of november it was near twenty, and the lower lateral branches were upwards of four feet long, the others decreaſing gradually ſo as to form a regular pyramid. In december the branches were cloſely ſet with flowers; and in the ſpring, when the flowers dropped off, they were ſucceeded by young plants, which as they fell off and dropped into the pots that ſtood near, put out roots, and became good plants. The old plant preſently after died. [It was cultivated in 1690, in the royal garden at Hampton-Court[§].]

PROPAGATION AND CULTURE.

The firſt and third ſorts are hardy. Plants of the former have lived in the open air for ſome years, in mild ſeaſons; but in ſevere winters they are always killed, if not ſheltered. They are propagated by offsets, which the firſt ſends out in plenty. The third ſort generally puts out ſuckers enough for propagation, though not in ſo great plenty as the firſt. They ſhould be planted in pots or tubs filled with light ſandy earth, and houſed in winter with oranges, myrtles, &c. and during that ſeaſon, ſhould have but little wet. In the ſummer they muſt be placed abroad in the open air, where they may remain till toward the end of october.

The Vera-Cruz Agave, being a little more tender than theſe, ſhould be houſed before them, and may remain in the green-houſe a little longer in the ſpring.

The ſecond, fourth and ſixth, never produce offſets or ſuckers from the root; they cannot therefore be increaſed this way, except when they flower; at which time there will be abundance of them. They may however be increaſed, by taking off ſome of the larger roots, when the plants are ſhifted.

The ſecond, fifth, and ſixth, with the Karatto and rigid Agaves, are much more tender than the others, and cannot be preſerved through the winter in England, unleſs they are placed in a warm ſtove; nor will they thrive if ſet abroad in ſummer: therefore they ſhould conſtantly remain in the ſtove; obſerving to let them enjoy a great ſhare of free air in warm weather. They alſo require a light ſandy earth, and ſhould have little wet in winter; but in ſummer they may be gently watered twice a week. If they have too much water, it rots their roots, and then their leaves will decay, and inſects will infeſt them. They ſhould be ſhifted every ſummer into freſh earth; but muſt not be put into large pots; for unleſs their roots are confined, the plants will not thrive.

AGERĂTUM. (Αγήρατον, Dioſc. *from α privative, and γήρας, ſenectus, never old, evergreen.)*

Lin. gen. 936. *Reich.* 1016. *Schreb.* 1273. *Gærtn.* 2. *t.* 165. *Juſſ.* 178.

Claſſ. 19. 1. Syngeneſia Polygamia æqualis.

Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* oblong; with many, lanceolate, ſubequal ſcales.

Cor. *Compound* uniform: *Corollets* hermaphrodite, tubulous, numerous, equal, ſcarcely longer than the calyx. *Proper* monopetalous, funnel-ſhaped; border quadrifid, ſpreading.

Stam. *Filaments* capillary, very ſhort. *Anther* cylindric, tubular.

Pist. *Germ* oblong. *Style* filiform, the length of the ſtamens. *Stigmas* two, very ſlender, erect.

Per. none. *Calyx* unchanged.

Seed ſolitary, oblong, angular, crowned with a chaffy, five-leaved, upright, awned calycle.

Rec. naked, convex, very ſmall.

Obs. *It differs from* Eupatorium *in the crown of the ſeeds; from* Bidens *in the nakedneſs of the receptacle.*

ESSENTIAL CHARACTER.

Recept. naked. *Down* five-awned. *Calyx* oblong, ſubequal. *Corollets* quadrifid.

SPECIES.

1. Ageratum conyzoides. *Hairy Ageratum.*
Lin. ſpec. 1175. *Reich.* 3. 720. *hort. cliff.* 396. *hort. upſ.* 253. *Gærtn. fruct.* 2. 398. *Herm. par. t.* 161. *Pluk. phyt.* 88. *f.* 1.
Conyzaurticæ folio. *Sloane jam.* 1. 258. *t.* 152. *f.* 2.
Leaves ovate, ſtem hairy.

[2. Ageratum ciliare.
Lin. ſpec. 1175. *Reich.* 3. 721. *Lour. cochinch.* 484. *Pluk. alm.* 93. *t.* 81. *f.* 4. (Centaurium.)
Leaves ovate, crenate, obtuſe; ſtem ſmooth.

DESCRIPTIONS, &c.

1. Root annual. Stem woody, ſquare, reddiſh, about a foot and half in height. Leaves oppoſite, hairy, much ſerrate about the edges, an inch and half long, and three quarters of an inch broad, petioled, and reſembling thoſe of nettles[*].

Calyx ovate-cylindric, with two or three rows of ſcales, which ſpread very much when ripe. Receptacle ovate-globular, pitted. Seeds ſmall, columnar, ſmooth, blackiſh, elongated at the baſe into a little white ſwelling navel: crown the length of the ſeed, and white; leaflets membranaceous, ciliate-toothed, ending in a long rough briſtle-ſhaped awn[†].

It flowers in july and auguſt, and is a native of Africa, the iſlands of America, and the iſle of Tanna in the South-Seas. Cultivated in 1714, by the Dutcheſs of Beaufort[‡].

2. Stem herbaceous, two feet high, upright, thick, browniſh, branched. Leaves ſharpiſh, veined, ſmooth, oppoſite. Flowers terminating in a ſort of umbel. Calyx almoſt ovate. Corollets five-cleft. Crown of the ſeeds with five cuſps. Native of the Eaſt-Indies, and of China near Canton[§].

A. Houſtonianum. *Mill. dict. n.* 2. Said to be found wild at La Vera Cruz, by Dr. William Houſtoun; does not ſeem to differ in any thing from the firſt ſort.]

PROPAGATION AND CULTURE.

1. The ſeeds muſt be ſown on a hot-bed in the ſpring; when the plants are ſtrong enough to remove, they ſhould be tranſplanted into another moderate hot-bed, obſerving to water and ſhade them until they have taken root, after which time they muſt have a good ſhare of air in warm wea-

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[*] Hort. kew.

[†] Ibid.

[‡] Ibid.

[§] Ibid.

[*] Sloane.

[†] Gærtner.

[‡] Hort. kew.

[§] Loureiro.

ther. In june they ſhould be inured to the open air; and toward the middle of the month they may be tranſplanted into the full ground, where they will begin to flower in july, and continue flowering till the froſts in autumn deſtroy them. The ſeeds ripen in ſeptember and october, and when any of them ſcatter upon the ground, if the ſame earth happen to be put on a hot-bed the following ſpring, the plants will come up in great plenty; as they frequently do alſo in the open air, but theſe will be too late to produce good ſeeds, unleſs the ſummer prove warm.

AGERATUM. See *Achillea, Athanaſia, Conyza, Erinus, Eupatorium, Senecio.*

AGNANTHUS. See *Cornutia.*

AGNUS CASTUS. See *Vitex.*

AGRIFOLIUM. See *Vitex.*

AGRIMONIA. (Αργεμωνη, *from its curing a diſorder of the eyes*; or perhaps *quod agris abundat.*)
Lin. gen. 607. *Reich.* 663. *Schreb.* 830. *Gærtn. t.* 73. *Tournef.* 155. *Juſſ.* 336.
Agrimonoides. *Tournef.*
Claſſ. 11. 2. Dodecandria Digynia.
Nat. order of *Senticoſæ. Roſaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-cleft, acute, ſmall, ſuperior, permanent, fenced with an outer calyx.

COR. *Petals* five, flat, emarginate; *claws* narrow, inſerted into the calyx.

STAM. *Filaments* capillary, ſhorter than the corolla, inſerted into the calyx. *Anthers* ſmall, twin, compreſſed.

PIST. *Germ* inferior. *Styles* ſimple, the length of the ſtamens. *Stigmas* obtuſe.

PER. none. *Calyx* contracted at the neck, and hardened.

SEEDS two, roundiſh.

OBS. *Number of ſtamens very uncertain,* 12. 10. 7.
Agrimonia Tournef. *has the outer calyx growing to the inner: two ſeeds: ſtamens* 12 to 20: *fruit fenced with briſtles.*
Agrimonoides T. *has the outer calyx detached: one ſeed: ſtamens about ſeven.*

ESSENTIAL CHARACTER.

Cal. five-cleft, fenced with another. *Petals* five. *Seeds* two, at the bottom of the calyx.

SPECIES.

1. Agrimonia Eupatoria. *Common Agrimony.*
Lin. ſpec. 643. *Reich.* 2. 430. *mat. med.* 120. *hort. cliff.* 179. 1. *ſuec.* 423. *hort. upſ.* 118. *Hudſ. angl.* 206. *Wither.* 490. *Curtis* 5. 32. *Lightf. ſcot.* 247. *Jungh. offic. cent.* 1. *f.* 6. *Plenck. ic. t.* 364. *Berg. phyt.* 2. 205. *Mill. illuſtr. Fl. dan. t.* 588. *Blackw. t.* 21. *Scop. carn. n.* 567. *Pollich. palat. n.* 452. *Haller helv. n.* 991. *Raii hiſt.* 400. *Park.* 594. 1. *Ger.* 575. *emac.* 712.
α. A. minor. *White Agrimony.*
Mill. dict. n. 2.
β. A. odorata. *Sweet-ſcented Agrimony.*
Mill. dict. n. 3. *fig. t.* 15. *Raii hiſt.* 400. *n.* 2.
Stem leaves pinnate; the end-lobe petiolate; fruits hiſpid.

2. Agrimonia repens. *Creeping Agrimony.*
Lin. ſpec. 643. *Reich.* 2. 431. *Gærtn. fruct.* 1. 347. *Tourn. cor.* 21.
Stem-leaves pinnate; the end-lobe ſeſſile; fruits hiſpid.

[3. Agrimonia decumbens.
Lin. ſyſt. 448. *ſupp.* 251.
Leaves pinnate hirſute; ſtem procumbent; fruits every way hiſpid-hooked.]

4. Agrimonia Agrimonoides. *Three-leaved Agrimony.*
Lin. ſpec. 643. *Reich.* 2. 431. *hort. cliff.* 179. 2. *Scop. carn. n.* 568. *Col. ecphr.* 1. *p.* 145. *t.* 144. *Barr. ic.* 612. *Raii hiſt.* 400. *n.* 3. *Park. theat.* 594. 3.
Stem-leaves ternate: fruits ſmooth.

[5. Agrimonia parviflora. *Small-flowered Agrimony.*
Ait. hort. kew. 2. 130.
Stem-leaves pinnate, leaflets many lanceolate, petals half as long again as the calyx, fruits hiſpid.

DESCRIPTIONS, *&c.*

1. Stem erect, cylindrical, roughiſh, hairy, a foot and a half in height. Leaves hairy, covered with riſing dots, and ſegments ending in ſmall reddiſh glands, interruptedly pinnate; compoſed of ſix or ſeven pairs of leaflets, beſides the ſmaller ones; the leaſt entire, the others deeply ſerrate. Flowers in a long thin ſpike. Peduncles ſurrounded at the top, with a ſort of outer calyx, cloven into five ſpear-ſhaped irregular ſegments, hairy at the edges and on the outſide; within this, white upright briſtles; above which is, a circle of numerous green awns, hooked at the end, and within this the proper calyx. Corolla yellow. Stamens five to twelve. One of the ſeeds is frequently abortive *.

Native of woods, ſhady places, hedges and borders of corn-fields in Great-Britain, and moſt parts of Europe. It is perennial, and flowers in june and july. The root in ſpring is ſweet-ſcented †. The flowers, freſh gathered, ſmell like apricots ‡. Kalm informs us, that the Canadians uſe an infuſion of the root in burning fevers, with great ſucceſs. Dr. Hill affirms, than an infuſion of ſix ounces of the crown of the root, in a quart of boiling water, ſweetened with honey, and half a pint of it drank three times a day, is an effectual cure for the jaundice. He adviſes to begin with a vomit, afterwards to keep the bowels ſoluble, and to continue the medicine ſo long as any ſymptoms of the diſeaſe remain §. The leaves make a pleaſant tea, ſaid to be ſerviceable in hæmorrhages, and in obſtructions of the liver and ſpleen. The country people alſo uſe them ſometimes by way of cataplaſm in contuſions and freſh wounds ‖. When this plant is coming into flower, it will dye wool a good bright full Nankeen colour: gathered in ſeptember, it yields a darker yellow. It gives a good dye at all times, and being a common plant eaſily cultivated, deſerves to have trials made with it by the dyers. In the Berlin acts it is recommended for dreſſing leather. Sheep and goats eat it, but kine, horſes and ſwine refuſe it ¶.]

α. The *White Agrimony* is ſmaller than the common ſort; the leaves have not ſo many pinnas; the pinnas are rounder, and the indentures on their edges blunter. The ſpike of flowers is ſlender, the flowers are ſmaller, and of a dirty white colour. This grows naturally in Italy.

β. *Sweet-ſcented Agrimony* grows near four feet high: the leaves have more pinnas than either of the former; they are alſo longer and narrower, ending in acute points; the ſerratures are ſharper; and when handled they emit an agreeable odour. The flower-ſtems of this are branching, and the flowers ſtand on longer peduncles than in the common ſort. The leaves alſo make an agreeable cooling tea, which is a very good beverage for perſons in a fever. [It is a native of Italy, and was cultivated here in 1640 **.]

2. Is of humble growth, ſeldom riſing above two feet high; the pinnas of its leaves are longer, and narrower than thoſe of the former, and the ſpikes of flowers very ſhort and thick. The roots ſpreading widely, it multiplies faſter than the common ſort: the ſeeds alſo are much larger and rougher. This was ſent by M. Tournefort to the royal garden at Paris; and from hence other botanic gardens have been ſupplied with it. [It much reſembles the foregoing, but the ſtems are ſhorter, thicker, and hirſute; the ſtipules are the length of the interſtices, are reflected, and almoſt cover the whole ſtem. The end-lobe is not pedicelled. The ſpike is ſhort, denſe, ſeſſile, with bractes the length of the flower ††. Cultivated in 1739, by Mr. Miller ‡‡.

3. Native of the Cape of Good Hope. The leaves ſpread upon the ground as in *Potentilla anſerina,* or common Silver-weed: the lobes are about twenty, equal, ſerrate, ovate, and very villous. Stems a foot high, with ſcarcely any leaves, quite

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* Withering, Haller. † Haller. ‡ Withering.
§ Withering. ‖ Lightfoot. ¶ Linneus.
** Hort. kew. †† Linneus. ‡‡ Hort. kew.

ſimple, and ending in a raceme. Seeds ovate, tomentoſe, adhering on every ſide by hooks, generally ſingle. This ſpecies is uſually monogynous [*].

4. Root-leaves pinnate, with two or three pairs of pinnas, and ſmaller ones intermixed; the end-lobe larger than the others: the pinnas ovate, villous, and toothed. Stem-leaves ternate. Bractes ovate, acuminate. Flowers in corymbs; ſmall, yellow, rarely ſix. Calyx ten or twelve-cleft: petals ovate, obtuſe: ſtamens ſeldom more than eight [†], tender, yellow [‡]. Native of Italy and Carniola, in moiſt woods, and among buſhes. Cultivated in 1739, by Mr. Miller [§].

5. Native of North-America. Cultivated in 1766, by Mr. James Gordon. Flowering in july [||].]

PROPAGATION AND CULTURE.

Theſe are hardy perennial plants, which will thrive in almoſt any ſoil or ſituation, and require no other care than to keep them clear from weeds. They may be propagated by parting their roots, which ſhould be done in autumn, when their leaves begin to decay, that the plants may be well eſtabliſhed before the ſpring. They ſhould not be planted nearer than two feet, that their roots may have room to ſpread. They may alſo be propagated by ſeeds, which ſhould be ſown in autumn, for if they are kept out of the ground till ſpring, they ſeldom come up the ſame ſeaſon.

Agrimonia. See *Bidens*, and *Triumfetta*.

Agrimonoides. See *Agrimonia*.

Agrimony, Baſtard-Hemp. See *Ageratum*.

————, Hemp. See *Eupatorium*.

————, Water-Hemp. See *Bidens*.

AGROSTEMMA. (Αγρου στεμμα, *the garland of the field.*)

Lin. gen. n. 583. *Reich.* 635. *Schreb.* 795. *Gærtn.* 2. *t.* 130. *Juſſ.* 302.

Claſſ. 10. 4. Decandria Pentagynia.

Nat. order of *Caryophyllei.*

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, coriaceous, tubulous, five-toothed, permanent.

Cor. *Petals* five; *claws* the length of the tube of the calyx; *border* ſpreading, obtuſe.

Stam. *Filaments* awl-ſhaped, five alternately later than the other five, inserted into each claw of the petals. *Anthers* ſimple.

Pist. *Germ* ovate. *Styles* filiform, erect, the length of the ſtamens. *Stigmas* ſimple.

Per. *Capſule* oblong-ovate, covered, one-celled, five-valved.

Seeds very many, kidney-ſhaped, dotted.

Receptacles free, as many as ſeeds; the interior ones gradually longer.

Obs. *In* Agr. Githago, *the corolla is not crowned, as in the other ſpecies.*

ESSENTIAL CHARACTER.

Cal. one-leafed, coriaceous. *Petals* five, clawed; border obtuſe, undivided.

Capſ. one-celled.

SPECIES.

1. Agroſtemma Githago. *Corn Campion*, or *Cockle.*
Lin. ſpec. 624. *Reich.* 2. 393. *hort. cliff.* 175. *fl. ſuec. n.* 407. *Hudſ. ang.* 198. *With.* 471. *Lightf. ſcot.* 238. *Curt. lond.* 3. 27. *Plenck. icon. t.* 356. *Fl. dan. t.* 576. *Pollich palat. n.* 436. *Scop. carn. n.* 527. *Hall. helv. n.* 926. *Raii hiſt.* 998. *Mor. hiſt. ſ.* 5. *t.* 21. *f.* 31. *Park.* 632. 9. *Ger.* 926. *emac.* 1087.
Hirſute, calyx longer than the corolla, petals entire or ſlightly emarginate, and naked.

2. Agroſtemma coronaria. *Roſe Campion.*
Lin. ſpec. 625. *ſyſt.* 435. *Reich.* 2. 394. *hort. cliff.* 174. *upſ.* 115. *Curtis magaz. t.* 24. *Hall. helv. n.* 925. *Park. parad.* 252. *fig.* 255. *f.* 1. 2.
Tomentoſe, leaves ovate-lanceolate, petals ſlightly emarginate, crowned, ſerrate.

3. Agroſtemma Flos Jovis. *Umbellate Roſe Campion.*
Lin. ſpec. 625. *ſyſt.* 435. *Reich.* 2. 394. *Pollich palat. n.* 437. *Hall. helv. n.* 924. *Barrel. ic.* 1005. *Bocc. muſ. t.* 42. *Mor. hiſt. ſ.* 5. *t.* 36. *f.* 2. *Zan. hiſt.* 128. *t.* 51. *Raii hiſt.* 993.
Tomentoſe, petals emarginate, flowers in a corymb.

4. Agroſtemma Cœli Roſa. *Smooth Campion.*
Lin. ſpec. 624. *Reich.* 2. 395. *hort. upſ.* 115. *Herm. lugdb.* 391. *t.* 393. *Mor. hiſt. ſ.* 5. *t.* 22. *f.* 32. *Bocc. ſic.* 27. *Raii hiſt.* 999.
Smooth, leaves linear-lanceolate, petals emarginate, crowned.

DESCRIPTIONS, &c.

1. [Root annual, ſtem upright, two feet high, hirſute, branched at top. Leaves oblong-lanceolate, keeled, connate, hairy on both ſides. Peduncles very long, from the axils, flowers ſolitary. Calyx deeply grooved, angular, hairy; ſegments lanceolate, ſlightly hairy, with a prominent midrib. Petals large, ſhowy, purple, obcordate, the baſe whitiſh, with a few interrupted dark green veins. Five filaments inſerted into the baſes of the petals, and five later ones placed betwixt the petals: anthers pale purple, ſhaped ſomewhat like the head of an arrow. Germ ſmooth: ſtyles hairy. Capſule almoſt the ſize of an acorn, covered with its dried calyx, having ten ribs, the mouth ſplitting into five teeth. Seeds black, with a ſurface like ſhagreen [*]. In the microſcope they appear like a hedge-hog rolled up [†]. The nectary is formed by a membrane under the germ. The filaments ſometimes ſeparate with the petals, but in general remain with the receptacle. The ſeeds are obovate, compreſſed, each on a pedicel ſpringing from a common receptacle [‡]. Cockle is a common weed in corn-fields, enlivening them at the expenſe of the careleſs huſbandman, along with Poppy and Blue-bottle; and flowering in june or july.

2. In its natural ſtate the corolla is white, with the middle red [§]. It has the habit of the next ſpecies, but is harder, more pulpy, and more tomentoſe. The calyxes are much harder, callous, covered with a white pile, with hard thick ribs, not green hairy lines as that has. Petals much broader, ſlightly emarginate: auricles bifid. Flowers not heaped into an umbel, but ſcattered on the branches of the ſtem on very long peduncles [||]. Native of Italy, the Valais, and Siberia. Biennial.] The ſingle Roſe Campion has been long an inhabitant of the Engliſh gardens, where by its ſeed having ſcattered, it is become a kind of weed. There are three varieties of this plant, one with deep red, another with fleſh-coloured, and a third with white flowers, but theſe are of ſmall eſteem; for the double Roſe Campion, being a fine flower, has turned the others out of moſt good gardens.

3. [The ſtem is erect, dichotomous at the top, covered with a white nap. Leaves conjugate, connate, ovate-lanceolate, quite entire, erect, and preſſed to the ſtem; all over nappy. Flowers from the top and forks, ſolitary [¶].] The flower-ſtem riſes near a foot or a foot and a half high. The flowers grow in umbels on the top of the ſtalk, and are of a bright red colour. It flowers in july, and the ſeeds ripen in ſeptember. [It grows naturally on the Swiſs and Piedmonteſe mountains, and in the Palatinate, and was cultivated in 1726, by Mr. Miller [**].

4. Annual. Stem ſometimes ſimple, ſometimes divided, round, ſlender, ſmooth, a foot or eighteen inches high. Leaves with ſcattered hairs. Flowers on long peduncles at the top of the ſtem and branches; corollas pale purple; ſeeds ſmall, brown [††]. Native of Italy, Sicily, and the Levant,] and being a plant of little beauty, is only preſerved in botanic gardens, for the ſake of variety. [It was cultivated in 1739, by Mr. Miller [‡‡].]

PROPAGATION AND CULTURE.

2. The ſingle Roſe Campions propagate faſt enough by their ſeeds, and come up better from

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[*] Linneus. [†] Ibid. [‡] Scop. [§] Hort. kew. [||] Ibid.

[*] Curtis. [†] Ray. [‡] Withering. [§] Linneus. [||] Haller. [¶] Pollich. [**] Hort. kew. [††] Ray. [‡‡] Hort. kew.

ſelf-ſown ſeeds, than when they are ſown by hand. The variety with double flowers, never producing any ſeeds, is propagated by parting the roots; the beſt time for this is in autumn, after the flowers are paſt; and in doing this, every head which can be ſlipped off with roots ſhould be parted. Theſe muſt be planted in a border of freſh undunged earth, at the diſtance of ſix inches one from the other, obſerving to water them gently until they have taken root; after which they will require no more, for much wet is very injurious to them; as is alſo dung. In this border they may remain until ſpring, when they ſhould be removed into the borders of the flower-garden, where they will be very ornamental during the time of flowering, which is july and auguſt.

3. Umbellate Roſe Campion muſt have a ſhady ſituation, and will thrive beſt in a moiſt ſoil.

[AGROSTIS. (Αγρωστις *Theophr. and Dioſc.* from αγρος, *a field.*)

Lin. gen. n. 80. *Reich.* 86. *Schreb.* 111.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

CAL. a one-flowered, bivalve, acuminate glume.

COR. bivalve, acuminate, one valve larger than the other.

STAM. *Filaments* longer than the corolla, with forked *anthers.*

PIST. *Germ* roundiſh; *Styles* reflex, villous, with *ſtigmas* longitudinally hiſpid.

PER. Corolla growing to the ſeed, not gaping.

SEED roundiſh, pointed at both ends, the corolla adhering cloſely to it.

OBS. *In the* genera *it is ſaid that the corolla is ſcarcely the length of the calyx: in the* ſyſtema *that the calyx is a little ſhorter than the corolla.*

ESSENTIAL CHARACTER.

Cal. bivalve, one-flowered, a little leſs than the corolla. *Stigmas* longitudinally hiſpid.

SPECIES.

* *Awned.*

1. Agroſtis Spica venti. *Silky Bent-graſs.*
Lin. ſpec. 91. *ſyſt.* 110. *Reich.* 1. 169. *ſuec.* 62. *Hudſ. angl.* 30. *With.* 70. *Flor. dan. t.* 853. *Leers t.* 4. *f.* 1. *Scop. carn. n.* 84. *Hall. helv. n.* 1480. (Avena.)
The outer petal has a very long ſtiff awn; the panicle is ſpreading.

2. Agroſtis interrupta. *Interrupted-ſpike Bent-graſs.*
Lin. ſyſt. 110. *Reich.* 1. 170. *Scop. carn. n.* 85. *Vaill. t.* 71. *f.* 4.
The outer petal awned; the panicle attenuated, contracted, interrupted.

3. Agroſtis miliacea. *Millet Bent-graſs.*
Lin. ſpec. 91. *Reich.* 1. 170.
The outer petal terminating in a ſtraight ſtiff awn of a moderate length.

4. Agroſtis bromoides. *Brome-like Bent-graſs.*
Lin. mant. 30. *ſyſt.* 110. *Reich.* 1. 170. *Gouan illuſtr.* 3. *t.* 1. *f.* 3.
Panicle ſimple, narrowed; corolla pubeſcent; awn ſtraight, longer than the calyx.

5. Agroſtis auſtralis. *Southern Bent-graſs.*
Lin. mant. 30. *ſyſt.* 110. *Reich.* 1. 170.
The panicle approaching to a ſpike; the ſeed ovate, pubeſcent; awn the length of the calyx.

6. Agroſtis arundinacea. *Reedy Bent-graſs.*
Lin. ſpec. 91. *Reich.* 1. 171. *ſuec.* 63. *lapp.* 44. *Pollich palat. n.* 69. *Scop. carn. n.* 126. *Hall. helv. n.* 1522. *Wigg. primit.* 10. (Arundo.)
Panicle oblong, outer petal villous at the baſe, and furniſhed with a writhed awn, longer than the calyx.

7. Agroſtis Calamagroſtis. *Branching Bent-graſs.*
Lin. ſpec. 92. *Reich.* 1. 17. *Hall. helv. n.* 1521. (Arundo.)
Panicle thickened; whole of the outer petal woolly, awned at the tip; culm branching.

8. Agroſtis ſerotina. *Late Bent-graſs.*
Lin. mant. 30. *ſyſt.* 110. *Reich.* 1. 171.
Feſtuca ſerotina. *Lin. ſpec.* 111. *Segu. ver.* 83. *t.* 3. *f.* 2.
Floſcules oblong mucronate: culm covered with very ſhort leaves.

9. Agroſtis rubra. *Red Bent-graſs.*
Lin. ſpec. 92. *Reich.* 1. 172. *ſuec.* 64. *lapp.* 46. *Hudſ. angl. edit.* 1. *p.* 26. *Raii ſyn.* 394. *hiſt.* 1288.
Flowering part of the panicle very ſpreading; outer petal ſmooth; awn terminal, ſpiral, recurved.

10. Agroſtis ſpiciformis. *Spiky Bent-graſs.*
Lin. ſuppl. 108. *ſyſt.* 110.
Panicle reſembling a ſpike; flowers two-awned: one awn inſerted into the receptacle, jointed and longer than the other, which is ſtraight, and inſerted below the tip of the corolla, which is rough.

11. Agroſtis hirſuta. *Hairy Bent-graſs.*
Lin. ſuppl. 108. *ſyſt.* 110.
Panicle approaching to a ſpike, culm and leaves hirſute, glumes of the corolla awned on the back, and bifid at the tip.

12. Agroſtis Matrella.
Lin. mant. 185. *ſyſt.* 110. *Reich.* 1. 172.
The flowers in racemes, outer valve of the calyx bent in, the tip of the keel only gaping.

13. Agroſtis canina. *Brown Bent-graſs.*
Lin. ſpec. 92. *Reich.* 1. 173. *ſuec.* 65. *Hudſ. angl.* 30. *With.* 70. *Leers t.* 4. *f.* 2.
Calyx elongate, a recurved awn on the back of the petals; culms proſtrate, a little branching.

** *Naked or awnleſs.*

14. Agroſtis ſtolonifera. *Creeping Bent-graſs.*
Lin. ſpec. 93. *Reich.* 1. 173. *ſuec. n.* 66. *Hudſ. angl.* 31. *With.* 72. *Leers t.* 4. *f.* 6. *Pollich palat. n.* 71. *Oeder dan. t.* 564? *Hall. helv. n.* 1473. (Poa.) *Ger.* 24. 1. *emac.* 26. 1. *Park.* 1174. 4. *Bauh. hiſt.* 2. 480. 1.
Branches of the panicle ſpreading, naked; culm creeping; calyxes equal.

15. Agroſtis capillaris. *Fine Bent-graſs.*
Lin. ſpec. 93. *Reich.* 1. 174. *ſyſt.* 111. *fl. lapp. n.* 45.
Panicle capillary, ſpreading, flexuoſe; calyxes ſubulate, equal, ſmooth, coloured.

16. Agroſtis ſylvatica. *Wood Bent-graſs.*
Lin. ſpec. 1665. *Reich.* 1. 174. *Hudſ. angl.* 32. *With.* 74. *Raii ſyn.* 404. 13. *Pollich palat. n.* 73.
Panicle contracted; calyxes equal, thoſe of the barren flowers ſhorter than the corolla, thoſe of the fertile ones twice as long.

17. Agroſtis alba. *White Bent-graſs.*
Lin. ſpec. 93. *ſyſt.* 111. *Reich.* 1. 175. *With.* 74. *Pollich palat. n.* 74. *Leers t.* 4. *f.* 5. *Mor. hiſt. ſ.* 8. *t.* 6. *f.* 27. *row.* 1.
Agroſtis polymorpha paluſtris. *Hudſ. angl.* 32. *Relh. cant. n.* 53. *Lightf. ſcot. p.* 93.
Panicle looſe; calyxes equal; culm creeping.

18. Agroſtis pumila. *Dwarf Bent-graſs.*
Lin. mant. 31. *ſyſt.* 111. *Reich.* 1. 175. *Hudſ. angl.* 31. *With.* 75. *Lightf. ſcot.* 1081. *fig. Pollich palat. n.* 75. *Hall. helv. n.* 1474. (Poa.)
Panicle on one ſide, culms erect in bunches.

19. Agroſtis minima. *Leaſt Bent-graſs.*
Lin. ſpec. 93. *Reich.* 1. 175. *Hudſ. angl.* 32. *With.* 75. *Mor. hiſt.* 3. *ſ.* 8. *t.* 2. *f.* 10. *Pollich palat. n.* 76. *Bauh. theat.* 26. *Bauh. hiſt.* 2. 465. 4.
Panicle filiform.

20. Agroſtis tenaciſſima. *Tough Bent-graſs.*
Lin. ſuppl. 107. *ſyſt.* 111.
Panicle contracted, filiform: flowers linear, valves parallel.

21. Agroſtis virginica. *Virginian Bent-graſs.*
Lin. ſpec. 94. *Reich.* 1. 176. *Brown. jam.* 137. *n.* 5.
Panicle contracted, leaves rolled inwards, ſubulate, rigid, ſtanding out.

22. Agroſtis mexicana. *Mexican Bent-graſs.*
Lin. mant. 31. *ſyſt.* 111. *Reich.* 1. 176.
Panicle oblong heaped, calyx and corolla acuminate and nearly equal.

23. Agroſtis purpuraſcens. *Purple Bent-graſs.*
Swartz prodr. 25.

Gramen pratenſe panicula & foliis anguſtiſſimis, &c.
Sloan. jam. 1. 115. 35. *t.* 73. *f.* 1.
Panicle contracted elongate, branches preſſed cloſe upright, florets unequal acuminate.

24. Agroſtis indica. *Indian Bent-graſs.*
Lin. ſpec. 94. *Reich.* 1. 176. *Swartz obſ.* 38.
Panicle contracted, racemes lateral, erect, alternate.

25. Agroſtis ciliata. *Ciliate Bent-graſs.*
Lin. ſyſt. 111. *Thunb. jap.* 49.
Glume of the calyx angular, and ciliate.

26. Agroſtis panicea. *Bearded Bent-graſs.*
Ait. hort. kew. 1. 94.
Alopecurus ariſtatus. *Hudſ. angl.* 28.
α. Alopecurus monſpelienſis. *Lin. ſpec.* 89.
Branches of the panicle divulſed.
β. Alopecurus paniceus. *Lin. ſpec.* 90. *Hudſ.* 28. 4. β.
Branches of the panicle appreſſed.
Panicle ſubſpiked, branches and branchlets faſcicled, valves of the calyx, and one of the corolla awned; that of the corolla very ſhort.

27. Agroſtis lenta. *Forked Bent-graſs.*
Ait. hort. kew. 1. 96.
Spikes ſubtern, umbellate, floſcules awnleſs, oblong, acute, calycine valves ſubequal, leaves and ſheaths ſmooth.

28. Agroſtis complanata. *Flat-ſtalked Bent-graſs.*
Ait. hort. kew. 1. 96.
Spikes umbelled, ſmooth; outer calycine valves awned; flatted leaves, and ſheaths ſmooth.

29. Agroſtis pungens. *Prickly Bent-graſs.*
Schreb. 2. 46. *t.* 27. *f.* 3. *Allion. pedem. n.* 2163.
Panicle contracted, leaves involute ſtiff pungent; the upper ones obliquely oppoſite; culm branching.

30. Agroſtis vinealis. *Short-awned Bent-graſs.*
Schreb. gram. 2. *p.* 37. *ſpicil. p.* 47. *Hall. n.* 1481. (Avena.) *Scheuch. p.* 143. *n.* 1. *With.* 72.
Culms aſcending; calyx coloured, awn nearly ſtraight, from below the middle of the back, about as long as the calyx.

31. Agroſtis ovata. *Ovate-panicled Bent-graſs.*
Forſt. florul. n. 40.
Outer petal awned below the tip: panicle ovate, contracted, ſpike-form.

32. Agroſtis odorata. *Sweet Bent-graſs.*
Loureiro cochinch. 50.
Spikes with the florets pointing one way, heaped together, awnleſs.

33. Agroſtis plicata. *Plaited-leaved Bent-graſs.*
Loureiro cochinch. 51.
Leaves plaited; ſpike linear awnleſs.

34. Agroſtis Cinna.
Retz. obſ. 5. *p.* 18. *n.* 36.
Cinna arundinacea. *Lin. ſpec.* 7.
Panicle contracted awnleſs, flowers acuminate, with one two or three ſtamens, leaves flat, ſcabrous.

35. Agroſtis diandra.
Retz. obſ. 5. *p.* 19. *n.* 37.
Panicle elongate contracted, flowers ſubulate awnleſs two-ſtamened, leaves convolute.

DESCRIPTIONS, *&c.*

It is well obſerved by Dr. Stokes, that this is an artificial genus; that ſome of the ſpecies have the ſtructure of *Bromus* and others of *Avena*; and that in general they are very ill aſcertained. The abſence or preſence of the awn in the corolla, which is fixed upon as a primary mark of diſtinction, is inconſtant; and therefore he recommends particular attention to be paid to the open or cloſed ſtate in which the valves of the calyx are found, immediately after the ſhedding of the pollen and the ripening of the ſeed; and alſo whether the flowers are ſcattered or cluſtered.

Some of the ſpecies are referred by Swartz to *Andropogon*; and of others he has formed a new genus under the name of *Chloris*.

1. Culm three and four feet high, leafy, ſmooth, with four joints. Leaves from a line and half to three lines in breadth[*]. Pubeſcent on the upper, ſcabrous on the under ſurface. Strap long, truncate, cleft. Sheaths ſtriated, ſubſcabrous. Peduncles in whirls, numerous, ſpreading, compreſſed, ſcabrous[*]. Panicle very large, enormouſly many-flowered, often nodding, green when young, purple when ripe[†]. Valves of the calyx roughiſh towards the points. Annual, and frequent in ſandy corn-fields, flowering from june to auguſt.

2. According to Haller this is a variety of the former. Scopoli affirms, that the appearance and ſtructure is totally different. His *diagnoſis* is: Panicle contracted; petals entire; the larger one having a long, ſtraight awn, coming out below the tip. Native of France, Italy, Switzerland, Carniola, Germany. Annual.

3. Reſembling the firſt, but the awn only the length of the flowers. More culms from the root. Panicle ſmaller, perennial, and continuing to be different when cultivated. Native of Montpellier, Spain, Siberia[‡]. Introduced in 1778, by M. Thouin[§].

4. Culms a foot and half high, ſtiff, ſmooth, erect. Leaves ſmooth, extremely narrow, ſubfiliform, channelled. Panicle or raceme erect, oblong, at each tooth of the rachis, either two pedicels with two flowers on each, one of them ſubſeſſile; or elſe two flowers only, one of which is ſeſſile. Calyx oblong, ſtreaked, lanceolate; the two leaflets nearly equal. Corolla ſubpubeſcent, inveſting the ſeed: awn ſcabrous, twice or three times the length of the calyx, as in the Bromes[‖]. It grows wild about Montpellier. Perennial.

5. Culms three feet high, jointed, leafy, ſmooth. It much reſembles the following ſpecies; but the panicle approaches more to a ſpike; the ſeeds are not hirſute at the baſe, but pubeſcent on all ſides; calyxes almoſt ſetaceous at the end; leaves broader, flatter; and the culms have more knots. Native of Portugal[¶].

6. Height ſometimes four, but moſt frequently two feet; very erect, with two or three knots. Leaves almoſt reedy, broad, hard; panicle contracted into the form of a ſpike. Calyx acuminate, one-flowered; valve of the outer petal villous at the baſe, near which or below the baſe it puts out a writhed awn, ſomewhat longer than the calyx. When the lower part of the panicle flowers, that part is dilated, and the upper contracted; but when the upper part flowers, the lower is contracted. The whole panicle expands about the time of flowering; but is contracted both before and after that time. The goat will almoſt die of hunger rather than eat it. The Calmuc Tartars weave mats of it, and thatch their huts with it[**]. Scopoli makes this a ſpecies of *Arundo*, and aſks how it can be an *Agroſtis*, when the down is ſo evident between the flowers; and the awn not ſtraight, but gently broken from the middle. Haller alſo ranks it among the *Arundines*. Native of many parts of Europe. Perennial.

7. This reſembles the former, but the whole corolla is very hirſute: awn ſtraight, not from the baſe, but top of the petal. Culms branched. Panicle cloſe[††]. Culms three feet high, bulbous at the baſe. Leaves from two to three lines broad. Panicle narrow, erect; half a foot long and more[‡‡]. Perennial. Native of Germany, Switzerland, and about Verona.

8. Culms a foot high, aſcending. Leaves ſcarcely longer than the joints, expanding. Branches of the panicle alternate, a little branched. Moſt of the flowers ſeſſile. Glume of the calyx, membranaceous, ſhort: of the corolla lanceolate, reedy, one of them ſlightly awned. Piſtils purple. Obſerved by Seguier near Verona[§§].

9. The whirls of the panicle, when in flower, horizontal, before they flower, contracted into a kind of ſpike, when they are paſt flowering, the whole turns red. Common in Sweden[‖‖]. Scotland.

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[*] Haller.

[*] Leers.
[†] Haller.
[‡] Linneus.
[§] Hort. kew.
[‖] Linneus.
[¶] Ibid.
[**] Ibid.
[††] Ibid.
[‡‡] Haller.
[§§] Linneus.
[‖‖] Ibid.

10. Nine inches high, erect, very ſmooth, culms perfectly ſimple. Panicle contracted, ſlender. Calyxes large, ovate, compreſſed, quite ſmooth, edge membranaceous; outer glume larger. Corolla equal, ſhorter than the calyx, obtuſe. Nectary ſhort, embracing the genitals [*].

11. Eaſily diſtinguiſhed by its ſhagginefs. The panicle reſembles that of *Alopecurus paniceus*. Both theſe were found in the iſland of Teneriffe by Maſſon [†].

12. Root creeping, ſcaly. Culms at bottom decumbent, branching; then erect four inches; the ſheaths covering the joints. Leaves involute, ſubulate, in two rows, diſtant, expanding. Raceme quite ſimple, almoſt ſpiked, erect, flexuoſe. Flowers often ſo, ſubſeſſile, erect, quite ſmooth. It differs ſomewhat in character from the other ſpecies. In the ſandy lands of Malabar.

13. Panicle uſually elongate, contracted in its branches, purple. Awn ſetaceous, white, twice the length of the flower, ſtraight, with a brown joint in the middle [‡]. According to Mr. Hudſon, the culm is from half a foot to three feet in height, a little branching. Leaves at the root and baſe of the culm filiform, in bunches. Panicle ſometimes looſe, ſometimes contracted. Keels of the glumes rough. He makes n. 1477 and 1478 of Haller to be varieties of n. 1479, growing in dry ſoils, which when brought into a moiſt one, become the ſame with that which is common in meadows, paſtures, and moiſt heaths. Perennial. Dr. Stokes, in Dr. Withering's arrangement, has made theſe two varieties a diſtinct ſpecies, under the name of *Agroſtis alpina*. The character is—Leaves ſetaceous, culm erect, awn bent back, inſerted at the baſe of the corolla, which is hairy.

α. rough. *Scop. carn. n.* 86. A. canina. β. Hudſ.
β. ſmooth. A. canina. γ. Hudſ. A rupeſtris. *Allion. pedem. n.* 2161.

14. Known by its creeping ſtems, putting out roots and producing new plants; by its culm, firſt proſtrate, then erect: by its leaves a line broad and more, ſmooth; by the young panicle being contracted, but afterwards more expanded. Glumes of the calyx equal, conical, long pointed, tuberculate on the back below the tip. Glumes of the corolla contracted into an acute conical bag, white or purple [§]. Native of moſt parts of Europe, in moiſt meadows, flowering from june to auguſt. Perennial. Mr. Hudſon joins this with the *capillaris*, n. 15. *pumila*, n. 18. *alba*, n. 17. and *ſylvatica*, n. 16. under the name of *polymorpha*.

15. *Culm* aſcending, a foot high, branched, round, very ſmooth and even, with three or four knots obſcurely purple. *Leaves* ſheathing at the baſe, ſomewhat ventricoſe, ſtreaked, ſmooth, ending in a narrow, ſharp lamina. *Stipule* ſhort, very blunt, membranaceous. *Panicle* terminating, upright, many-flowered, very ſmooth: *branchlets* ſeveral from the ſame origin, but not in whirls, many times ſubdivided, filiform, knotted at the divarications, all divaricating and ſpreading: *pedicels* ſo ſlender as to be ſcarcely viſible, flexuoſe, each ending in a pretty large, obconical, ſmooth receptacle, as in the Avenæ. *Calyx* on the apex of the receptacle, rutilant; valves nearly equal, ovate-lanceolate, bluntiſh, concave. *Corolla* twice as long as the calyx, very ſlender, two-valved; valves connected on one ſide, diſtant on the other, very blunt at the end, ſomewhat crenate. *Seed* ſingle, oval, ſharp at both ends, ſmooth.—It ſeems rather to be a ſpecies of Milium. Native of Lapland? Annual [‖].

The graſs which other authors have taken to be *Agroſtis capillaris* of Linneus, is made by Hudſon a variety of his *Agr. polymorpha*. This is figured by *Stillingfleet miſc. t.* 3. *Fl. dan: t.* 163. *Scheuch. t.* 3. *f.* 5. B. *Muſ. ruſt.* 4. *t.* 10. *f.* 10. and *Leers t.* 4. *f.* 3? See *Wither. arr.* 69. *Lightf. ſcot.* 93. *Hall. helv. n.* 1475. *Scop. carn. n.* 87.

Scopoli doubts whether *A. alba* be different from this: and Lightfoot obſerves, that this with *A. alba* and *ſtolonifera* have a ſlight roughneſs in the flowers, that they are extremely related to each other; but that *A. capillaris* is the fineſt and moſt delicate, and grows erect without any ſhoots at the joints.

The ſtrap is ſhort and truncate: the ſheaths ſmooth, uſually purple [*]. Corolla ſometimes awned [†]: one of the petals ſometimes ſo minute as ſcarcely to be viſible [‡]. Panicle green in the young plant, afterwards purple, and in the old plant pale. Glumes of the calyx equal, more evidently toothletted on the back; theſe are permanent, gaping wide after the floſcule is dropped. Floral glumes narrow, white, and forming a cone [§].

Common in paſtures and by road ſides. Perennial.

16. Panicle ſpreading, bay-coloured; ſpicules lanceolate; ſome are ſcarce a line long, others are more than three lines in length. In the ſmaller ſpicules, the calyx is longer than the corolla, in the larger ones, it is only half the length. In dry woods [‖]. With us it grows in moiſtiſh woods, as Biſhop's wood, and Hornſey wood near London [¶]. Perennial.

17. Anthers purple. Glumes of the calyx green [**]. According to Haller this is only a larger variety of the foregoing. Leers makes it a variety of the fifteenth. Grows in ditches, marſhes, and moiſt meadows. Perennial.

18. Culms numerous, in bunches, ſmooth, two inches high, covered with leaves like the radical ones; ſheath ſtreaked, a little involute. Panicle extremely expanded, rather on one ſide. Flowers coloured, awnleſs, acuminate. Seeds largiſh. It differs from *Agroſtis ſtolonifera*, with which it grows promiſcuouſly, in being only half the ſize, in having the panicle leſs erect, and a little on one ſide, in being more tufted, and in having the pedicels not at all undulated, but bent this way and that. Native of Iceland, Sweden, Germany, Switzerland [††]. England in dry places [‡‡]. Wales, Scotland [§§]. Perennial.

19. A ſpring plant [‖‖]. Flowers early and ripens its ſeed in may [¶¶]. Mr. Hudſon ſays, it flowers in july. Panicle ſmall, ſpiked, on one ſide, conſiſting of nine or ten ſpikelets. Peduncles ſolitary, very ſhort, one-flowered. Floſcules browniſh-purple, ſhining, ſmooth. Culm erect, ſetaceous, an inch or more in height, ſmooth, leafy at the baſe, then naked; a joint or two at bottom. Leaves ſhort, ſetaceous, ſmooth. Sheaths ſmooth [†††]. Native of France and Germany: diſcovered by Mr. Stillingfleet in Wales. Annual.

20. Culms many, ſix inches high, very narrow, tough, and ſmooth, jointed. Panicle very narrow, with the flowers preſſed cloſe. Valvelets of the calyx linear, diſtant, the length of the flower. Corolla linear or ſubulate. Native of the Eaſt Indies. Perennial.

21. It is an elegant little plant; the ſtalk ſomewhat compreſſed, and ſeldom riſing above four or five inches from the root [‡‡‡].

The reference in Linneus's ſpecies to Clayton, n. 507. occurs again under *Uniola ſpicata*. See Gron. virg. 2. 14.

22. Culms numerous, a foot high, ſmooth, erect. Branches undivided. Leaves ſmoothiſh with a truncate ſtrap. Panicle green, conſiſting of abundance of ſcabrous flowers, crowded together. Calyxes ſubulate at top, a little ſcabrous. Corolla the length of the calyx, acuminate at the end, hairy at the baſe. Stigmas dark-purple, branching; filaments white. It is very difficult to determine this ſpecies. It flowers the ſecond year, and has the appearance of *Cinna* [§§§]. Native of South America. Introduced in 1780, by Mr. Gilbert Alexander [‖‖‖].

23. Leaves many, forming a great tuft, five inches long, narrow or almoſt round, dry, pale-green.

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[*] Linneus.
[†] Ibid.
[‡] Ibid.
[§] Haller.
[‖] Smith ic. ined. 3. 54.

[*] Leers.
[†] Relhan.
[‡] Scopoli.
[§] Haller.
[‖] Pollich.
[¶] Hudſ.
[**] Reich. ex Moench.
[††] Linneus.
[‡‡] Hudſ.
[§§] Lightfoot.
[‖‖] Linneus.
[¶¶] Pollich.
[†††] Pollich.
[‡‡‡] Browne, who names it Crab-graſs.
[§§§] Linneus.
[‖‖‖] Hort. kew.

Stalks round, ſolid, hard, ſmooth, a foot and half high, of a clay colour, having ſmall leaves to nine inches high; whence it has a very narrow panicle, divided into many branches three-quarters of an inch in length, ſometimes black, ſometimes gray. Seeds ſmall, oblong, reddiſh, in a gray or black naked huſk. Native of Jamaica[*].

24. Culm erect. Leaves flat, narrow. Panicle oblong, compoſed of lateral, alternate racemes, approximating to the rachis: glumes very ſhort, acute. Native of India[†]. Introduced in 1773, by John Earl of Bute[‡].

25. Culm ſimple, round, erect, ſmooth, two feet high. Leaves ſcabrous, ſhorter than the culm. Sheaths dotted and ciliate at the opening and edge. Panicle heaped, a foot long, peduncles filiform, wand-like, angular, ciliate. Floſcules on ſhort pedicels, angular, ciliate, preſſed cloſe. Glume of the calyx lanceolate, acute. Native of Japan[§].

26. Glume bivalve; valves linear, diverging and awned at the tip; awn terminating, very long; corolla very ſmall, with a ſhort awn on the back[‖]. Linneus, who makes two ſpecies of this, allows that his *paniceus* reſembles his *monſpelienſis* very much, but that the whole plant is ſoft, and only a palm in height; the glumes pubeſcent with a villoſe edge; the awn of the corolla even, ſhorter than thoſe of the calyx. The firſt grows in marſhes and wet paſtures; the ſecond in a dry ſoil; to which their difference is probably owing.

27. Native of the Eaſt Indies. Found there by John Gerard Koenig, M. D. Introduced in 1778, by Sir Joſeph Banks. It flowers in july and auguſt. Annual[¶].

28. Native of Jamaica. Found by Mr. Gilbert Alexander. Introduced in 1779. It flowers in july and auguſt. Perennial[**].

29. Native of Arabia and Barbary. The Arabs uſe it in the hæmorrhoids[††]. In dry places off the coaſt of the county of Nice. Perennial[‡‡].

30. Flowers twice as long as in *A. canina*. Awns in general not longer than the calyx; but ſometimes a line longer, and ſometimes none. Size of the flowers the only circumſtance conſtant. Approaches to *A. capillaris*[§§]. Panicle cloſe, from three to five inches long. Outer valve of the calyx juſt perceptibly longer than the inner: keel beſet above with rough points[‖‖]. Native of Switzerland and the north of England.

31. Native of New Zealand[¶¶].

32. Culm ſix inches high, ſlender, upright, leafy. Leaves ſubulate, ſhort, ſmooth, ſtem-claſping. Spikes preſſed cloſe, in bundles; valves of the calyx awnleſs, acute, one-flowered—of the corolla nearly equal, longer than thoſe of the calyx. Native of Cochinchina, near the coaſt.

This graſs is eſteemed by the Cochinchineſe, for the excellence and permanency of its odour; they dry it to perfume their clothes with[***].

33. Culm a foot and half high, ancipital, upright, leafy. Leaves large, lanceolate. Spike preſſed cloſe, diſtich; all the valves ſharp, without any awns, the calycine valves rather ſhorter than thoſe of the corolla. Calyx one-flowered. Native of the ſuburbs of Canton[†††].

34. Leaves broad, many-nerved, ſcabrous. Panicle of a bluiſh glaucous colour, with imbricate racemes. Since it varies in the number of ſtamens from one to three, it may be admitted into this genus[‡‡‡]. See *Cinna*.

35. Culm filiform, a foot and half high, leafy. Leaves ſlender. Panicle ſlender, a ſpan long, with ſhort, upright racemes. Flowers pedicelled. Sent by Koenig, from the Eaſt Indies, under the name of Cinna[§§§].

PROPAGATION AND CULTURE.

See Grass.

Agrostis. See *Schoenus*, *Aira*, *Milium*, *Melica*, *Cenchrus*.

Agul. See *Hedyſarum*.]

[AGYNEIA. (*α priv. and γυνη, a wife.*)
Lin. mant. p. 145. *ſyſt.* 1320. *p.* 871. *Reich.* 1197. *Schreb.* 1467. *Juſſ.* 387.
Claſſ. 21. 11. Monoecia Monadelphia.
Nat. order of *Tricoccæ*. *Euphorbiæ* Juſſ.

GENERIC CHARACTER.

Male flowers below the female.

Cal. ſix-leaved: leaflets oblong, obtuſe, equal, permanent.

Cor. none.

In the male inſtead of *filaments*, a column ſhorter than the calyx. Three or four *anthers*, oblong, growing to the column below the top.

In the female flowers. *Germ* of the ſize of the calyx, ſubovate, obtuſe, perforated at top with a ſix-notched hole: neither *ſtyle* nor *ſtigma*.

Per. ſuppoſed to be a tricoccous *Capſule*.

Obs. *Very diſtinct in the want of a ſtyle and ſtigma.*

ESSENTIAL CHARACTER.

Cal. ſix-leaved. *Cor.* none.

Male. Anthers three, growing to the rudiment of a ſtyle.

Female. Germ perforated at top: without ſtyle or ſtigma.

SPECIES.

1. Agyneia impubes.
Lin. mant. 296. *ſyſt.* 871. *Reich.* 4. 211.
Leaves ſmooth on both ſides.

2. Agyneia pubera.
Lin. mant. 296. *ſyſt.* 871. *Reich.* 4. 212.
Leaves downy underneath.

DESCRIPTIONS.

1. An erect ſhrub, with the laſt branches rather downy. Leaves alternate, in two rows, ſubpetiolate, elliptic, quite entire, an inch long, glaucous and veined underneath. Flowers axillary, many, cloſe, peduncles one-flowered, very ſlender, the length of the flower. Male flowers ſmall and ſmooth: female larger with downy peduncles[*].

2. A ſhrub rather erect, with pubeſcent branches. Leaves alternate in two rows, ſubpetiolate, oval-oblong, obtuſe, quite entire, an inch and half long. Flowers as in the former; but the appearance very different.

Both are natives of China[†].

Ahouai. See *Cerbera*.]

[AILANTHUS. (From the Amboina name *Aylanto*, which ſignifies *the tree of heaven*; ſo called from its lofty growth.)
Deſfontaines in act. par. 1786. *p.* 265. *t.* 8. *Juſſ. gen.* 373. *Lin. gen. Schreb. n.* 1767.
Claſſ. 23. 1. Polygamia Monoecia.
22. 9. Dioecia Decandria. *Schreb.*

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* one-leafed, five-parted, very ſmall.

Cor. *Petals* five, lanceolate, acute, convolute at the baſe, ſpreading.

Stam. *Filaments* ten, compreſſed, the length of the corolla. *Anthers* oblong, verſatile.

* *Female.*

Cal. as in the Male, permanent.

Cor. as in the Male.

Pist. *Germs* 3—5, curved inwards. *Styles* lateral. *Stigmas* capitate.

Per. *Capſules* as many as there are germs, compreſſed, membranaceous, ſabre-ſhaped, acute, on one of the edges emarginate.

Seeds ſolitary, lens-ſhaped, bony, cloſe to the emarginature.

* *Hermaphrodite.*

Cal. as in the Male and Female.

Cor. as in the Male.

Stam. *Filaments* two or three, as in the Male.

Pist. Per. and Seed as in the Female.

ESSENTIAL CHARACTER.

Male. *Cal.* five-parted. *Cor.* five-petalled. *Stam.* ten.

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[*] Sloane.
[†] Linneus.
[‡] Hort. kew.
[§] Thunberg.
[‖] Hudſon.
[¶] Hort. kew.
[**] Ibid.
[††] Schreb.
[‡‡] Allione.
[§§] Schreb.
[‖‖] Stokes in With.
[¶¶] Forſter.
[***] Loureiro.
[†††] Ibid.
[‡‡‡] Retz.
[§§§] Ibid.

[*] Linneus.
[†] Linn. mant.

Fem. *Cal.* and *Cor.* as in the Male. *Germs* 3—5. *Styles* lateral. *Peric.* membranaceous, one-ſeeded.

Herm. *Cal.* and *Cor.* as in the Male. *Stam.* 2—3.

SPECIES.

1. Ailanthus glanduloſa. *Tall Ailanthus.*

Ait. hort. kew. 1. 443. *Desf. act. par.* 1786. 265. *t.* 8. *L'Herit. ſtirp. nov.* 6. 117. *t.* 84. *Ait. hort. kew.* 3. 443.

Rhus Cacodendrum. *Ehrhart Hanov. mag.* 1783. 227.

R. ſinenſe, &c. *Ellis in philoſ. tranſ.* 49. 870. *t.* 25. *f.* 5. *and* 50. 446. *t.* 17.

DESCRIPTION, *&c.*

This tree riſes with a ſtraight trunk to the height of forty or fifty feet; the bark is gray, ſlightly furrowed, and has white marks on it; the young twigs are covered with a fine velvet down. Leaves large, ſmooth, alternate, unequally pinnate, diſpoſed horizontally. The common petioles form an angle more or leſs acute, or ſometimes a right one with the branch: they are ſlender, from one to two feet in length. Leaflets from twenty to thirty, alternate and oppoſite, from two to three inches in length, and from one to two in breadth, on a ſhort petiolule; laterally towards the baſe are ſome blunt teeth glanduloſe beneath; the reſt of the leaflet is commonly entire. Flowers very numerous in a cloſe terminating panicle, uſually in groups on a common peduncle, and each flower on its proper pedicel: they are male and female, with a few hermaphrodites; the males are the moſt numerous. They exhale a diſagreeable odour.

The Ailanthus grows very faſt in our climate, and being a handſome tree riſing to a conſiderable height, is proper for ornamental plantations. If the bark be wounded, a reſinous juice flows out, which hardens in a few days. The wood is hard, heavy, gloſſy like ſattin, and ſuſceptible of a very fine poliſh *.

Before the fructification was known, this tree paſſed for a ſpecies of *Rhus*; and it is memorable among us for the diſpute it occaſioned between Mr. Ellis and Mr. Miller, which is recorded in the Philoſophical Tranſactions, as quoted above. The latter contended that this tree was the *Faſi-no-ki* or ſpurious Varniſh-tree of the Japoneſe: but it is clear that he was miſtaken; for the leaves of that tree are entire, and have none of thoſe ſingular glands which are found in this; nor does the *Ailanthus* yield any juice.

It is a native of China; and was firſt raiſed in England by Mr. Miller, and Philip Carteret Webb, Eſq. about the year 1751, from ſeeds ſent over by Father D'Incarville. With us it has hitherto produced only male flowers; at Paris and Leyden it has borne female flowers and fruit, but the fruit has not ripened. Some years it bears only male flowers; but about twice in ten years it has both male and female flowers, in France †.

[AIRA. (Αιρα *Hippocr.* and *Theophr. revived by Linneus.*)

Lin. gen. n. 81. *Reich.* 87. *Schreb.* 122. *Gærtn. t.* 1.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

Cal. a two-flowered, two-valved *glume:* valves ovate-lanceolate, acute, equal.

Cor. bivalve; valves like thoſe of the calyx. *Nectary* two-leaved; leaflets acute, gibbous at the baſe.

Stam. *Filaments* capillary, the length of the flower, with oblong *anthers,* forked at each end.

Pist. *Germ* ovate. *Styles* ſetaceous ſpreading, with pubeſcent *ſtigmas.*

Per. none.

Seed ſubovate, covered by the corolla.

Obs. *It differs from* Melica *in having no rudiment of a third between each pair of floſcules: the number of which varies.*

ESSENTIAL CHARACTER.

Calyx two-valved, two-flowered, without any rudiment of a third.

SPECIES.

* *Naked or awnleſs.*

1. Aira arundinacea. *Reedy Aira-graſs.*

Lin. ſpec. 95. *Reich.* 1. 177. *Tourn. cor.* 39. *Loureiro cochinch.* 54.

Panicle oblong, on one ſide, imbricate; leaves flat.

2. Aira minuta. *Minute Aira-graſs.*

Lin. ſpec. 95. *Reich.* 1. 177. *Schreb. gram. t.* 21. *f.* 2. *Buxb. cent.* 5. *p.* 35. *t.* 67.

Panicle looſe, almoſt level-topped, very branching.

3. Aira aquatica. *Water Aira-graſs.*

Lin. ſpec. 95. *ſyſt.* 112. *Reich.* 1. 177. *Hudſ. angl.* 33. *With.* 76. *Curtis fl. lond.* 1. 5. *Abr. t.* 113. *Lightf. ſcot.* 94. *Fl. dan. t.* 381? *Vaill. t.* 17. *f.* 7. *Pollich palat. n.* 77. *Scop. carn. n.* 94. *Hall. helv. n.* 1471.

Panicle ſpreading, flowers ſmooth, longer than the calyx, leaves flat.

** *Awned.*

4. Aira ſubſpicata. *Spiked Aira-graſs.*

Lin. ſpec. 95. *ſyſt.* 112. *Reich.* 1. 178. *ſuec.* 69. *lapp.* 47. *Fl. dan. t.* 228. *Hall. helv. r.* 1490.

Leaves flat, panicle ſpiked, flowers awned on the middle: awn reflex, looſe.

5. Aira cæſpitoſa. *Turfy Aira-graſs.*

Lin. ſpec. 96. *Reich.* 1. 178. *ſuec. n.* 70. *lapp.* 50. *Hudſ. angl.* 34. *With.* 77. *Lightf. ſcot.* 94. *Fl. dan. t.* 240. *Leers t.* 4. *f.* 8. *Pollich palat. n.* 78. *Scop. carn. n.* 93. *Hall. helv. n.* 1487. *Mor. ſ.* 8. *t.* 5. *f.* 17. *row* 3. *and row* 2. 1. *Ger.* 5. 1, 2. *emac.* 5. 1, 2. *Park.* 1158. 2, 3.

Leaves flat: panicle ſpreading: petals villous and awned at the baſe: awn ſtraight, ſhort.

6. Aira flexuoſa. *Heath Aira-graſs.*

Lin. ſpec. 96. *Reich.* 1. 179. *ſuec. n.* 71. *lapp.* 28. *Hudſ. angl.* 34. *With.* 78. *Lightf. ſcot.* 95. *Fl. dan. t.* 157. *Mor. hiſt. ſ.* 8. *t.* 7. *f.* 9. *Leers t.* 5. *f.* 1. *Scheuchz. t.* 6. *f.* 1. *Schreb.* 57. *t.* 30. *Pollich pal. n.* 79. *Hall. helv. n.* 1486. β.

Leaves ſetaceous, culms almoſt naked, panicle divaricated, peduncles flexuoſe.

7. Aira montana. *Mountain Aira-graſs.*

Lin. ſpec. 96. *ſyſt.* 112. *Reich.* 1. 179. *Stillingf. gram. t.* 4. *Hudſ. angl.* 35. *With.* 78. *Scheuch. t.* 4. *f.* 16. *Leers t.* 5. *f.* 2. *Hall. helv. n.* 1486. α.

Leaves ſetaceous, panicle narrowed, flowers hairy at the baſe and awned, awn twiſted and very long.

8. Aira alpina. *Alpine Aira-graſs.*

Lin. ſpec. 96. *Reich.* 1. 179. *ſuec. n.* 73.

Leaves ſubulate, panicle denſe, flowers hairy at the baſe and awned; awn ſhort.

9. Aira villoſa. *Villoſe Aira-graſs.*

Lin. ſuppl. 109. *ſyſt.* 112.

Leaves ſubulate, panicle long and narrow, flowers ſeſquialteral, ſhaggy, awned; awn ſtraight, ſhort.

10. Aira caneſcens. *Gray Aira-graſs.*

Lin. ſpec. 97. *Reich.* 1. 180. *ſuec. n.* 74. *Gærtn. fruct.* 1. 4. *Hudſ. ang.* 36. *With.* 79. *Pollich pal. n.* 80. *Hall. helv. n.* 1483. *Mor. hiſt. ſ.* 8. *t.* 3. *f.* 10.

Leaves ſetaceous, the upper one involving the panicle at bottom like a ſpathe.

11. Aira præcox. *Early Aira-graſs.*

Lin. ſpec. 97. *Reich.* 1. 180. *ſuec. n.* 75. *Hudſ. angl.* 36. *With.* 79. *Pollich palat. n.* 81. *Raii ſynop. t.* 22. *f.* 2. *Curtis fl. lond.* 3. 7. *Fl. dan. t.* 383. *Pluk. alm. t.* 33. *f.* 9.

Leaves ſetaceous, ſheaths angled, flowers panicle-ſpiked, and awned at the baſe.

12. Aira caryophyllea. *Silver Aira-graſs.*

Lin. ſpec. 97. *Reich.* 1. 180. *Hudſ. angl.* 36. *With.* 80. *Curt. lond. n.* 65. *Stillingf. miſc. t.* 5. *Fl. dan. t.* 382. *Mor. hiſt. ſ.* 8. *t.* 5. *f.* 11. *Pollich palat. n.* 82. *Hall. helv. n.* 1482. *Barrel. ic. t.* 44. *f.* 1. *Scheuch. t.* 4. *f.* 15.

Leaves ſetaceous, panicle divaricated, flowers awned diſtant.

13. Aira antarctica. *South-ſea Aira-graſs.*

Forſt. florul. n. 41.

Leaves flat, panicle compound, ſpreading, calyxes three-flowered, floſcules awned in the middle; awn elongated ſtraightiſh.

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* Desfontaines.

† L'Heritier.

14. Aira involucrata. *Involucred Aira-graſs.* *Cavanilles hiſp.* 33. *n.* 48. *t.* 44. *f.* 1.
Panicle ſpreading, involucred with briſtles at the baſe; floſcules awnleſs.

DESCRIPTIONS, &c.

1. Found by Tournefort in the Levant, and by Loureiro in Cochinchina.

2. An annual graſs found by Loefling in Spain. It differs from that which is figured by Buxbaum, only in being much ſmaller, and not an inch high[*].

3. Root perennial. Stem creeping, culms a foot high. Leaves ſmooth, carinated; the ſheaths ſtriated, red at bottom. Panicle upright, ſpreading, looſe with ſeveral racemes from one point, frequently flexuoſe. Spicules generally contain two flowers, one ſeſſile; they are purple with white tips. Valves of the calyx unequal, purple, ſmooth, much ſhorter than the corolla. Valves of the corolla equal, ſubtruncate, folded or angular[†]. Culm with two joints. Racemes capillaceous. Calyxes ſcarcely ſhorter than the corollas. The inner petals, ſeen through a magnifying-glaſs, bifid[‡]. In the water this graſs runs to a conſiderable diſtance, throwing off roots and young ſhoots as it paſſes along; the ſtalk is hollow, and remarkably tender. It is eaſily known by the purple or bluiſh colour of the panicles; the flowers alſo have a ſweet taſte. It flowers in june and july, and is not worth cultivating. *Poa aquatica* is a much ſtronger plant[§]. There is a variety of this (according to Schreber,) in dry ſoils, which has the calyxes five-flowered, and the flowers very remote from each other. Mr. Hudſon, who alſo has placed it as a variety of this ſpecies, thus deſcribes it: Culms many, oblique, and rather erect, round, ſmooth. Root-leaves few, enſiform, erect, obtuſe, naked. Stem-leaves petioled, obtuſe, involute, glaucous. Petiole ſheathing, cylindrical, ſtreaked, ſmooth. Stipule membranaceous, very ſhort, obtuſe. Panicle diffuſed, with about four branches. Spicules lineal. Floſcules from three to ſix, or ſeven, remote, obtuſe, as it were truncate, purple with a white edge. Glumes unequal, very obtuſe. It occurs in ſandy lands near Exmouth; about Northfleet in Kent; in Yorkſhire and Lancaſhire[||]. In Dr. Withering's arrangement it is placed among the *Poas,* under the name of *Poa diſtans. Lin. mant.* 32. Dr. Stokes ſuſpects Mr. Curtis's *Poa retrofacta* to be the ſame with this[¶].

4. The top of the culm pubeſcent. Panicle very like the ſpike of Vernal-graſs (Anthoxanthum odoratum) with peduncles ſhorter than the flower. Glume of the calyx nearly the length of the petals: awn ſtiff, longer than the floſcules. Found on the mountains of Switzerland, Savoy, Denmark, and Lapland. Perennial[**].

5. Culm a yard high. The leaves grow in a thick tuft, are flat, rigid, and rough to the touch. Panicle often a foot long, and when not in flower, leans all one way; it conſiſts of a vaſt number of ſmall flowers, which have a gray-purple ſilvery appearance[††]. Culms with two knots, ſmooth. Root-leaves narrow, the younger ones doubled; ſtem-leaves broadiſh, ſpreading. Strap oblong, obtuſe, bifid. Sheaths ſtreaked, ſmooth. In moiſt meadows, it ſometimes produces three or four floſcules in one calyx[‡‡]. In marſhes it is frequently viviparous. Growing in tufts, it occaſions irregularities, tuſſocks, or haſſocks, as they are vulgarly called in meadows. Cows, goats, and ſwine, eat it, but horſes are not fond of it[§§]. Found in meadows, fields, and woods. Perennial.

6. Each floret has a twiſted awn as long as the flower, inſerted outwardly into the baſe of the petal[||||]. Culm about a foot high, bearing a looſe open panicle of ſilvery-purple flowers. On rocks and in woods it frequently varies with white flowers[¶¶]. Culms with two or three knots, ſmooth. Root-leaves with white, ſhining ſheaths; they are variouſly curved and ſmooth; ſtem-leaves ſtraight and roughiſh. Strap ovate, obtuſe, bifid. Sheaths roughiſh, reddiſh. Panicle with few flowers. Peduncles and pedicels twin, angular. Calyx unequal. Lower floſcule ſeſſile, upper on a very ſhort pedicel; both white, four-nerved, hairy at the baſe, at the top quadrifid[*]. A variety only of *A. montana,* or rather the ſame in a more mature ſtate, according to Wiggers. Horſes, kine and ſheep eat it[†]. Native of heaths, barren paſtures, and rocky moors. Perennial.

7. According to Haller, Leers, &c. this is only a variety of the foregoing. Gerard in *fl. galloprov.* ſays, that it agrees with the *flexuoſa* in habit, and differs only in the bloſſom being hairy at the baſe; but this is the caſe with that alſo. The root-leaves are longer and erect. The culms aggregate and purple. The panicle more elegantly and fully coloured and ſhining. The peduncles ſtraight and not waving. The flowers more numerous. The calyxes at flowering-time more gaping. The floſcules more hairy at the baſe, and the awns longer. However, they are ſcarcely different[‡]. Mr. Hudſon has a variety of this which he calls *ſetacea.* Native of high heaths and barren paſtures. Perennial. Sheep are very fond of it.

8. Grows on the mountains of Germany, Savoy, and Lapland[§].

9. Root covered with ovate-oblong, villous ſcales. Culm ſmooth. Leaves flat, remote: ſheaths often villous. Panicle terminating, a foot long, branched as in *Melica:* pedicels ſimple and branching, aggregate. Calyx ſcarioſe, ſmooth. Flowers large, ferruginous: one longer, thicker, hermaphrodite; the other narrower, in a manner barren. Corolla hirſute. Found at the Cape of Good Hope by Thunberg[||].

10. Awn in the middle ſurrounded by toothlets; below thicker, brown; above more ſlender, rather club-ſhaped, and whitiſh. After flowering the panicle riſes higher out of the ſheath. It may be known at firſt ſight from moſt other graſſes by its paleneſs[¶]. Culms many, half a foot high, oblique, ſmooth. Root-leaves in bundles, ſtiff, rough, glaucous; ſtem-leaves erect, petioled, involute, acute, rough. Petioles cylindrical, ſheathing, rough, almoſt as long as the interval between the joints. Panicle oblong, erect, contracted, branching. One flower ſeſſile, the other peduncled, half the length only of the glume. Valves of the calyx with a rough keel. Valves of the corolla unequal, rather acute, ſmooth; the outer one awned from the middle; the awn as long as the calyx[**]. Native of ſandy ſhores, the walls of Baſil, and the ſandy fields of Germany and Piedmont. Avena caneſcens of Wiggers.

11. Common height two or three inches, ſometimes ſix. Scheuchzer mentions fourteen. Culms round, ſmooth, upright. Panicle crowded ſo as to reſemble a ſpike; half an inch or an inch in length[††]. Calyx ſometimes contains three floſcules. Leaves blunt[‡‡]. Wiggers names it Avena puſilla. It has a ſweet taſte; cows are very fond of it; horſes and ſheep eat it[§§]. In ditches, on banks of ſtreams, and in wet meadows; flowering in june and july.

12. Culms from two to nine inches high, erect, leafy, ſmooth, with two knots. Root-leaves ſmooth, many collected at the baſe into bunches reſembling bulbs; ſtem-leaves ſhort, ſtraight, rough; ſtrap oblong, bifid. Sheaths rough, the upper one wide, inveſting the panicle before it flowers. Peduncles twin, long: pedicels ſhort. Calyx rather unequal, white ſpotted with purple, ſhining. Floſcules about the length of the calyx, a little hairy at the baſe, ſlightly bifid at the top; the upper pedicelled, diſtant. A ſtraight awn, purple with a white tip, a little twiſted, ſcarcely longer than the calyx, proceeds from the baſe of each floſcule[||||]. It is an Avena, according to Wiggers. Native of ſandy paſtures and heaths of England, France, Switzerland, Piedmont, Germany and Denmark. Annual.

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[*] Linneus. [†] Curtis. [‡] Scopoli. [§] Curtis.
[||] Hudſon. [¶] With. 91. [**] Linneus. [††] Lightf.
[‡‡] Leers. [§§] Linneus. [||||] Ibid. [¶¶] Lightf.

[*] Leers. [†] Linneus. [‡] Leers. [§] Linneus.
[||] Linneus. [¶] Ibid. [**] Hudſon. [††] Curtis.
[‡‡] St. in With. [§§] With. [||||] Leers.

13. Native of New Zealand.

14. Culms almoſt a foot high, round, ſlender, upright, with four or five browniſh-red joints. Root-leaves two inches long, broadiſh at the baſe, afterwards convolute ſo as to appear ſubulate; a ſingle leaf at each joint, ſheathing the culm from one joint to the next, ſtreaked, reddiſh green; ſtrap white, bifid. Branches of the panicle red, alternately ternate and doubly trifid. Below the panicle are two involucres, ſometimes three, half an inch diſtant from each other, compoſed of about twenty little briſtles, diſpoſed in a whirl, capillary, red, from erect ſpreading. It is annual, and flowers in june and july. Native of Spain, near Madrid, on barren hills *.]

PROPAGATION AND CULTURE.

See Grass.

[Aira. See *Melica*, *Poa*, *Cynoſurus*, *Holcus*.
Aira capensis. See *Ehrharta*.
—— indica. See *Panicum*.
—— varia. See *Cynoſurus*.]

[AITONĬA. (*So named from Mr. William Aiton, late gardener to his Majeſty at Kew.*)

Lin. ſuppl. p. 49. *ſyſt.* 612. *Schreb.* 1113. *Thunb. nov. gen.* 52. *Cavan. diſſ.* 5. 301. *t.* 159. *f.* 1.

Claſſ. 16. 2. Monadelphia Octandria.
Nat. order of *Columniferæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, erect, four-parted, ſhort, divided into four ovate, ſharp ſegments.

Cor. has four, erect, equal, broadly-ovate, concave, very obtuſe *petals*.

Stam. *Filaments* joined as far as the middle, divided above into eight; awl-ſhaped, furrowed, ſtanding out of the corolla; and having ovate, furrowed *anthers*.

Pist. *Germ* ſuperior, ovate, ſmooth, ſubangular; *ſtyle* one, filiform, of the ſame length with the ſtamens; *ſtigma* obtuſe, undivided.

Per. an ovate, dry, membranaceous, four-cornered, one-celled, brittle, *berry*; the corners are produced and ſharp.

Seeds many, fixed to a column, globular and ſmooth.

Obs. *It varies with five-cleft, ten-ſtamened flowers.*

ESSENTIAL CHARACTER.

Style one. *Cal.* four-parted. *Cor.* four-petalled. *Berry* dry, quadrangular, one-celled, many-ſeeded.

SPECIES.

1. Aitonia capenſis.
Lin. ſuppl. p. 303. *ſyſt.* 612. *Curtis magaz. t.* 173.
Cotyledon. *Burm. afr. t.* 21. *f.* 2.

DESCRIPTION, &c.

1. Stalk ſhrubby, ſix feet high: branches alternate, roundiſh, wrinkled, erect, ſmooth; leaves in bunches, lanceolate, obtuſe, quite entire, ſmooth; peduncles lateral, ſolitary, one-flowered, ſmooth, ſhorter than the leaves, often recurved: petals ſcarlet; anthers yellow, ſtriped with brown; fruit reſembling that of the winter Cherry †. Found at the Cape by Thunberg. Introduced in 1774, by Mr. Francis Maſſon ‡.

This ſhrub is of ſlow growth with us, and ſeldom exceeds three feet in height. When it is of ſufficient age, it produces flowers and fruit through moſt of the year. The ſegments of the calyx, and the petals are red at the ends; the fruit is alſo of a fine red colour, and large.

PROPAGATION AND CULTURE.

It is raiſed only from ſeeds, which are ſparingly produced in this country §; and it muſt be kept in the Greenhouſe or Cape Stove.]

[AJŬGA. (*Either from* Abigo; *or from* α *and* Juga, *one of Juno's names; both from a ſuppoſed power of procuring abortion; which however this plant does not poſſeſs.*]

Lin. gen. n. 705. *Reich.* 763. *Schreb.* 959.
Bugŭla. *Tournef.* 98. *Juſſ.* 112. *Mill. dict.*
Claſſ. 14. 1. Didynamia Gymnoſpermia.
Nat. order of *Verticillatæ* or *Labiatæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ſhort, cut half-way into five clefts, with the ſegments nearly equal.

Cor. monopetalous, ringent; *tube* cylindric, bent in; *upper lip* very ſmall, erect, bifid, obtuſe; *lower* large, ſpreading, trifid, obtuſe; *middle diviſion* very large and obcordate; *ſide-ones* ſmall.

Stam. *Filaments* ſubulate, erect, longer than the upper lip: *anthers* twin.

Pist. *Germ* four-parted; *ſtyle* filiform, ſituation and length as in the ſtamens; *ſtigmas* two, ſlender, the loweſt ſhorter.

Per. none; the calyx, which is converging, foſters the ſeeds.

Seeds ſomewhat oblong.

ESSENTIAL CHARACTER.

Cor. upper lip very ſmall. *Stam.* longer than the upper lip.]

SPECIES.

1. Ajuga orientalis. *Eaſtern Bugle.*
Lin. ſpec. 785. *Reich.* 3. 8. *Loureiro cochinch.* 363. *Thunb. jap.* 243.
Bugula. *Dill. elth. t.* 53. *f.* 61.
B. orientalis. *Mill. dict. n.* 5.
Flowers inverted.

2. Ajuga pyramidalis. *Pyramidal Bugle.*
Lin. ſpec. 785. *Reich.* 3. 8. *ſuec.* 512. *Hudſ. angl.* 248. *Wither.* 588. *Lightf. ſcot.* 302. *Berg. phyt.* 1126. *Fl. dan. t.* 185.
Bugula pyramidalis. *Mill. dict. n.* 3.
Spike a quadrangular villous pyramid, leaves approximating, root-leaves very large, bractes nearly entire.

3. Ajuga alpina. *Alpine Bugle.*
Lin. mant. 80. *ſyſt.* 525. *Reich.* 3. 8.
Bugula decumbens. *Mill. dict. n.* 2. *Boerh. ind. alt.* 1. 184.
B. alpina. *Allion. n.* 157.
Stem ſimple, ſtem-leaves equalling the radical ones.

4. Ajuga genevenſis. *Geneva Bugle.*
Lin. ſpec. 785. *Reich.* 1. 9. *Scop. carn. n.* 717. *Pollich palat. n.* 542. *Hall. helv. n.* 283. *Crantz. auſtr.* 252.
Bugula genevenſis. *Mill. dict. n.* 4.
B. montana. *Riv. mon. t.* 140. *f.* 2. *Raii hiſt.* 575. 2.
Leaves downy, ſtreaked with lines, lowermoſt narrower; calyxes ſhaggy; bractes generally three-lobed.

5. Ajuga reptans. *Common Bugle.*
Lin. ſpec. 785. *Reich.* 3. 9. *Berg. phyt.* 2. 131. *Scop. carn. n.* 716. *Pollich palat. n.* 543. *Hudſ. angl.* 248. *Wither.* 589. *Curtis lond.* 2. 43. *Lightf. ſcot.* 302.
Bugula. *Riv. mon. t.* 75. *f.* 1. *Mor. ſ.* 11. *t.* 5. *f.* 1. *Ger.* 506. 1. *emac.* 631. 1. *Park. theat.* 525. *Blackw. t.* 64. *f.* 1. *Hall. helv. n.* 282. *Raii hiſt.* 575. 1.
B. reptans. *Mill. dict. n.* 1.
Smooth, and creeping by runners.

[6. Ajuga decumbens. *Japoneſe Bugle.*
Lin. ſyſt. 525. *Thunb. jap.* 243.
Decumbent and villous; leaves obovate, toothed.

DESCRIPTIONS, &c.

1. *Eaſtern Bugle.* Stem a foot and half high, upright, perennial, browniſh-purple. Leaves ovate, ſharpiſh, crenate, tomentoſe underneath. Flowers purpliſh, terminating and axillary, in ſpikes: calyx ſharp, hirſute, converging: corolla with ſcarcely any upper lip, but two very ſmall divaricating ſegments, adhering on each ſide to the lower lip, which is trifid *.

Firſt brought into Europe from the Levant, by Tournefort. It has ſince been obſerved by Thunberg in Japan, and by Loureiro in Cochinchina. There are two or three varieties differing only in the colours of their flowers. Cultivated in 1732, by James Sherard, M. D. †

2. *Pyramidal Bugle* has a ſingle ſtem four or five inches high and very hairy, clothed with leaves pointing four ways. Root-leaves oblong-wedge-ſhaped, ſeſſile, entire; ſtem-leaves oval or oblong-

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* Cavanilles. † Linneus. ‡ Hort. kew. § Curtis mag.

* Loureiro. † Hort. kew.

obovate, ſlightly toothed or ſcolloped, not three-lobed, diminiſhing upwards ſo as to give the whole plant ſomewhat of a pyramidal form; the upper ones tinged with purple. Bractes longer than the flowers, which are axillary, not more than three together: calyx very hairy; corolla narrow, twice as long as the calyx, hairy at the tip *. It has no runners; and differs from the fifth in being more hairy; the ſpike of flowers longer, and not ſo cloſe; corolla deeper coloured, and often not variegated with white lines; ſegments of the calyx longer and narrower; fewer flowers in the whirls; the leaves often brown. Biennial. It flowers in april; with us uſually later. A native of Italy, France, Germany, Switzerland, Sweden, Denmark, Wales and Scotland.]

3. *Alpine Bugle* has the leaves much longer than thoſe of the common ſort; the ſtalks are weaker, and decline on every ſide; and the whirls of flowers are much ſmaller, and more diſtant. [It differs from the ſecond in the leaves being wrinkled, more ovate and crowded, hirſute, the petioles ſhorter and broader, the ſpike proceeding immediately from the root. At the top of the root are circles of leaves, whence ariſe leafy ſtems, four or ſix inches high. Leaves ovate, hirſute, hiſpid, with three ſtrong nerves. From each axil three flowers; of which the two ſide ones are on ſhorter peduncles. Calyx inflated, divided beyond the middle, two-lipped, the two upper ſegments approximating. Two obtuſe toothlets form the upper lip of the corolla; the lower lip has the large middle ſegment roſe-coloured with purple lines. The whole ſtem is hirſute, flower-bearing, and leafy; the flowers being concealed among the leaves †. It alſo differs from the ſecond, according to Linneus, in the root-leaves being ſcarcely larger than the others: flowers on both ſides ten, not three; deep blue, not white; bractes green, not coloured.] Grows naturally on the Alps, and is admitted into ſome gardens for the ſake of variety, and propagates in plenty by its trailing ſtalks. It requires a moiſt, ſhady ſituation. [Introduced in 1775, by Drs. Pitcairn and Fothergill ‡.

4. *Geneva Bugle* approaches near to the common ſort, but the leaves are downy, and the calyxes very rough. There are two varieties of this, one with a white, the other with a red flower. [Haller makes this a variety of the common ſort, and Gerard thinks it a variety of the ſecond; to Linneus it ſeems more like the third. Allione affirms it to be a mere variety of the ſecond, n. 156. Schreber joins the ſecond, third, and fourth, with the character of ſimple erect ſtems, and oblong toothed leaves; the ſecond has the lower leaves very large: the fourth has them very narrow, and the floral leaves uſually three-lobed; in the third they are entire, but the lower alſo very narrow §. It grows wild not only about Geneva, but alſo in many of the ſouthern countries of Europe; and was cultivated in 1759, by Mr. Miller ‖.

5. *Common Bugle* has the ſtalk upright, ſix inches high, hairy, purple. Leaves ovate, narrowing to the baſe, connate, toothed, veined, in winter purple; floral leaves ſmaller and ſhorter. Flowers in whirls one above another, forming in the whole a ſpike. Calyx hairy, nerved, bluiſh. Corolla blue with white veins. It flowers from may to june ¶.] It grows naturally in woods and moiſt meadows in moſt parts of England, and the countries of Europe ſouth of us. It increaſes greatly by the ſide-ſhoots, which put out roots at their joints. There are two varieties of this, one with a white, and the other with a pale purple flower, which grow in ſeveral parts of Weſtmoreland; but theſe do not differ in any other reſpect, than in the colour of their flowers, from the blue ſort. The common Bugle is recommended as a vulnerary herb, both internally and externally. [It is numbered amongſt cooling and gently aſtringent vegetables. The roots ſtrike a black colour with vitriol of iron. Some foreign phyſicians of eminence recommended a decoction of this herb in the Quinſey, but it is out of uſe among us.] It is conſtantly found mixed with the vulnerary herbs imported from Switzerland. Officinal writers call it *Conſolida media* or *Middle Conſound.* This is ſo common wild, that it is ſeldom admitted into gardens.

[6. Sends up many ſtems. Simple, or but little branched, decumbent with the ends ſtanding up, four or five inches in length. Root-leaves many, larger than thoſe on the ſtem, all petiolate. The whole plant is villous. Flowers in whirls ſmall and blue *. Loureiro makes it a variety of *A. reptans.*]

PROPAGATION AND CULTURE.

1. Requires a little protection in winter, the plants ſhould be put into pots filled with a loamy ſoil; they may ſtand in a ſhady ſituation during ſummer; but in winter they muſt be removed under a common frame, where they may enjoy as much free air as poſſible in mild weather; in hard froſt however they muſt be covered. It may be propagated by ſeeds, which ſhould be ſown ſoon after they are ripe, in a pot filled with loam, placed in a ſhady ſituation till autumn, and then removed under a frame. In the ſpring, they ſhould be tranſplanted into ſeparate pots, as ſoon as they are ſtrong enough to remove, and treated as directed for the old plants. It may be alſo increaſed by offsets; but this is a very ſlow method, becauſe this ſpecies puts out few of them.

The ſixth ſort may be increaſed and treated in the ſame manner. As to all the reſt, they are hardy, and eaſily multiplied by the ſide-ſhoots: they delight in a moiſt ſhady ſituation, and are apt to ſpread too much.

AJUGA. See *Teucrium.*

AIZŌON. (Aει ζωον, *ſempervivum* or *ever-living.*)
Lin. gen. 629. *Reich.* 685. *Schreb.* 861. *Gærtn. t.* 76. *Juſſ.* 316.
Ficoidea. *Niſſ. act. gall.* 1711. *Dill. gen.* 12. *elth.* 177.
Claſſ. 12. 4. Icoſandria Pentagynia.
Nat. order of *Succulentæ. Ficoideæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed: divided into five lanceolate, permanent ſegments.
COR. none.
STAM. *Filaments* very many, capillary, inſerted by bunches into the ſinuſes of the calyx. *Anthers* ſimple.
PIST. *Germ* five-cornered, ſuperior. *Styles* five, ſimple. *Stigmas* ſimple.
PER. *Capſule* five-celled, five-valved, ſwelling and retuſe.
SEEDS ſeveral, roundiſh, or kidney-ſhaped.

ESSENTIAL CHARACTER.

Cal. five-parted. *Petals* none. *Capſ.* ſuperior, five-celled, five-valved.

SPECIES.

1. Aizoon canarienſe. *Purſlane-leaved Aizoon.*
Lin. ſpec. 700. *ſyſt.* 471. *Reich.* 2. 518. *hort. cliff.* 215. *upſ.* 127.
Ficoides. *Niſſol. act. par.* 1711. *t.* 13, *f.* 1.
Kali. *Pluk. alm. t.* 303. *f.* 4.
Leaves wedge-ovate, flowers ſeſſile.

2. Aizoon hiſpanicum. *Spaniſh Aizoon.*
Lin. ſpec. 700. *Reich.* 2. 519. *Gærtn. fruct.* 1. 370.
Ficoidea. *Dill. elth.* 143. *t.* 117. *f.* 143. *Boerh. ind.* 292. *n.* 12.
Leaves lanceolate, flowers ſeſſile.

3. Aizoon lanceolatum. *Panicled Aizoon.*
Lin. ſyſt. 471.
Aizoon paniculatum. *Lin. ſpec.* 700. *Reich.* 2. 519. *Mill. dict. n.* 3.
Leaves lanceolate, flowers panicled.

[4. Aizoon ſarmentoſum.
Lin. ſuppl. p. 260. *ſyſt.* 471.

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* Woodward in Withering.
† Allione.
‡ Hort. kew.
§ Schreb. vert-unil. p. 23.
‖ Hort. kew.
¶ Curtis.

* Thunb.

Leaves linear-filiform, panicle dichotomous, flowers ſolitary, peduncled.

5. Aizoon paniculatum. *Panicled Aizoon.*
Lin. ſuppl. p. 261. *ſyſt.* 471.
Shaggy; leaves lanceolate; flowers ſeſſile; branches erect.

6. Aizoon perfoliatum. *Perfoliate Aizoon.*
Lin. ſuppl. p. 261. *ſyſt.* 471.
Downy; leaves inverſely-ovate, conjoined, cryſtalline-dotted; flowers peduncled.

7. Aizoon Glinoides. *Hairy Aizoon.*
Lin. ſuppl. 261. *ſyſt.* 471.
Shaggy, herbaceous, procumbent; leaves ovate, flowers ſeſſile, diſtinct.

8. Aizoon ſecundum.
Lin. ſuppl. p. 261. *ſyſt.* 471.
Shag-hoary, herbaceous, procumbent; leaves ovate; flowers ſeſſile, imbricate, one-ranked.

9. Aizoon fruticoſum. *Shrubby Aizoon.*
Lin. ſuppl. p. 261. *ſyſt.* 471.
Shrubby, erect, ſmooth; leaves lanceolate; flowers ſeſſile.

10. Aizoon rigidum. *Stiff Aizoon.*
Lin. ſuppl. p. 261. *ſyſt.* 471.
Shrubby, procumbent, downy; leaves ovate; flowers ſeſſile, remote.

DESCRIPTIONS, &c.

1. A native of the Canary iſlands. Annual. [Cultivated in 1731, by Mr. Miller[*].]

2. Grows naturally in Spain, and Africa. This is alſo an annual plant, whoſe branches trail on the ground. The flowers have no beauty; theſe plants therefore are preſerved only by thoſe who are curious in collecting rare plants. [A variety of this comes from the Cape, with the ſtem and leaves ſhaggy, but the upper ſurface of the leaves leſs ſo[†]. Cultivated in 1728, by James Sherard, M. D.[‡].]

3. Grows naturally at the Cape of Good Hope. This is of humble growth, and periſhes ſoon after the ſeeds are ripe. [Cultivated in 1759, by Mr. Miller[§]. Biennial.

All the other ſpecies were found at the Cape; the fourth by Sparrman, the reſt by Thunberg.

4. Stems proſtrate, running, a foot in length. Leaves oppoſite, remote, ſmooth, approximating at the baſe, broadiſh, permanent. Flowers towards the top of the ſtem, alternate, axillary, pubeſcent, on a peduncle the length of the leaves[‖].]

PROPAGATION AND CULTURE.

1. The firſt ſort muſt be raiſed on a moderate hot-bed in the ſpring; and when the plants are fit to remove, they ſhould be carefully taken up, and planted each in a ſmall pot filled with freſh light earth, and plunged into another moderate hot-bed, obſerving to ſhade them from the ſun, until they have taken freſh root; after which they muſt be hardened by degrees to bear the open air, into which they ſhould be removed in june, placing them in a ſheltered ſituation, where they will flower, and ripen their ſeeds in ſeptember, ſoon after which the plants will periſh.

2.—3. The ſecond and third ſorts may be propagated in the ſame manner; and when the plants have acquired ſtrength, they may be removed into the full ground; but they require a poor ſandy ſoil, for in rich ground they grow very luxuriant in branches, but will not flower till late in the ſeaſon, and therefore rarely perfect their ſeeds; but when they are planted in dry ſand, or lime-rubbiſh, they will be more productive of flowers, and leſs vigorous in their branches.

The other ſpecies muſt be managed in the ſame manner as other Cape plants.

Aizoon. See *Sedum.*

Alaternoides. See *Phylica, Clutia, Ceanothus, Myrica.*

Alaternus. See *Rhamnus, Phylica.*

Albara. See *Canna.*

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[*] Hort. kew.

[†] Linneus.

[‡] Hort. kew.

[§] Hort. kew.

[‖] Linneus.

ALBŪCA. (*This name is taken from* Pliny, *and is derived from* Albus, *white.*)
Lin. gen. n. 416. *Reich.* 449. *Schreb.* 1564. *Dryander act. holm.* 1784. *Juſſ.* 53.
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Lilia* or *Liliaceæ. Coronariæ* Lin. *Aſphodeli* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. *Petals* ſix, oblong-oval, permanent; the *three outer* ſpreading, the *three inner* converging.

Stam. *Filaments* ſhorter than the corolla, *three* oppoſite to the inner petals, linear-ſubulate, complicate a little above the baſe, then flat: *three* oppoſite to the outer petals, thicker. *Anthers* on the former, oblong, fixed to the inflex tip of the filament below the middle, upright; on the latter, ſimilar but effete, or none.

Pist. *Germ* oblong, triangular; *ſtyle* three-ſided; *ſtigma* a triangular pyramid.

Per. an oblong, obtuſe, triangular, three-celled, three-valved *capſule.*

Seeds numerous, flat, lying over each other, and widening outwards.

ESSENTIAL CHARACTER.

Cor. ſix-petalled; the inner ones difform. *Stam.* three of the ſix caſtrated. *Stigma* ſurrounded by three cuſps.

SPECIES.

* *Three ſtamens only fertile.*

[1. Albuca altiſſima. *Tall Albuca.*
Dryander in act. holm. 1784. *p.* 292. *Ait. hort. kew.* 1. 435. *Jacqu. ic.* 1. *t.* 63. *collect.* 2. 264.
Interior petals glanduloſe and bent in at the tip, leaves ſubulate, channelled-convolute.]

2. Albuca major. *Great Albuca.*
Lin. ſpec. 438. *Reich.* 2. 51. *Berg. cap.* 87. *Dryander in act. holm.* 1784. *p.* 293. *Ait. hort. kew.* 1. 436. *Corn. canad.* 160. *fig. p.* 161. *Rudb. elys.* 2. 140. *f.* 7. *Mor. hiſt. ſ.* 4. *t.* 24. *f.* 7. *Raii hiſt.* 1154. (Ornithogalum.)
Interior petals glanduloſe and bent in at the tip, leaves linear-lanceolate, flattiſh.

3. Albuca minor. *Small Albuca.*
Lin. ſpec. 438. *Reich.* 2. 51. *Dryander in act. holm.* 1784. *p.* 294. *Ait. hort. kew.* 1. 436. *Herm. par. t.* 209.
Interior petals glanduloſe and bent in at the pit, leaves linear-ſubulate, channelled.

[4. Albuca coarctata. *Channel-leaved Albuca.*
Dryander in act. holm. 1784. *p.* 295. *Ait. hort. kew.* 1. 436.
Interior petals vaulted at the tip; leaves ſmooth, linear-ſubulate, channelled; peduncles the length of the bractes.

5. Albuca ſpiralis. *Spiral-leaved Albuca.*
Lin. ſuppl. 196. *ſyſt.* 326. *Thunb. act. holm.* 1786. *p.* 59. *t.* 2. *f.* 1.
Interior petals vaulted at the tip, leaves ſpiral.

** *All the ſtamens fertile.*

6. Albuca faſtigiata. *Upright-flowered Albuca.*
Dryander act. holm. 1784. *p.* 296. *Ait. hort. kew.* 1. 436.
Interior petals vaulted at the tip, leaves ſmooth, peduncles very long.

7. Albuca viſcoſa. *Viſcoſe Albuca.*
Lin. ſuppl. 196. *ſyſt.* 326. *Dryander in act. holm. p.* 297. *Ait. hort. kew.* 1. 437. *Thunb. in act. holm.* 1786. *p.* 58.
Interior petals vaulted at the tip, leaves hairy-glanduloſe.

8. Albuca abyſſinica. *Abyſſinian Albuca.*
Lin. ſyſt. 326. *Jacqu. icon. rar.* 1. *t.* 64. *collect.* 1. 55.
A. alba. *Lamarck dict.* 1. 76.
Leaves linear, channelled, ſmooth.

DESCRIPTIONS, &c.

1. Leaves ſo deeply channelled as to be almoſt rolled into a cylinder; they are two feet long, and almoſt three inches broad at the baſe. Scape a little ſhorter than the leaves, the thickneſs of a finger.

Raceme two feet long and more. Peduncles bent down in flowering time, afterwards ſpreading and becoming finally erect; they are three inches in length. Bractes green, except at the edge, where they are clear white, an inch long. Flowers white: petals more than an inch in length, the outer ſharp and thickened at the tip, inner blunt, bent in, and having a twin gland, compoſed of two globes, at the end: the fertile filaments are waved on the edge, with the anthers curved inwards beneath the glands of the petals; the barren filaments are triangular, furrowed on the outſide, a little longer than the others, and have no anthers. Germ ſubpedicelled: ſtyle obverſely pyramidal, the length of the germ, covered with glandulous ſcales; the angles terminate in ſubulate horns covered alſo with ſcales; the centre is elongated into a pyramidal ſtigma [*].

It flowers in april and may; and was introduced about 1780, by Meſſrs. Kennedy and Lee [†].

2. Scape a foot high, upright, roundiſh, very minutely ſtreaked, ſmooth, aſh-coloured, with a glaucous bloom on it. Leaves ſharp, ſmooth, ſtreaked, a foot long. Bractes ſheath-form, lanceolate, concave, with a long linear-ſubulate tip, red, nerved, ſmooth, ſtraight, ſolitary, at the baſe of the peduncles. Raceme terminating, long, crimſon, ſmooth; the flowers alternate, peduncled, ſlightly nodding; fewer at bottom. Peduncles round, ſmooth, one-flowered, longer than the bractes, ſpreading. Petals linear, longitudinally nerved, marceſcent; the three outer broader, a little concave, red, blunt at the end, bent in with a ſmall marginal ſcale; the three inner narrower, upright, pale red, with a broad, thin, membranaceous, whitiſh rim on each ſide, and an ovate, membranaceous inflex ſcale at the tip. Filaments erect, the length of the corolla, linear, membranaceous, whitiſh, joined at the baſe, inſerted into the receptacle; they are alternately free, and faſtened below by a broader baſe to the inner petals. Anthers from incumbent upright; on the looſe filaments barren; on the three others whitiſh with yellow pollen, linear, blunt at each end, emarginate, a little curved inwards, convex at the back, plano-concave in front, twin-furrowed. Germ fleſhy, pyramidal-cylindric, blunt, crimſon, ſmooth, with three calluſes at the tip, on a ſhort peduncle, ending in ſeveral ſmall, blunt teeth preſſed cloſe to it. Style very thick, ſomewhat flatted, with two of the angles nearer to each other, a little attenuated at the baſe, pubeſcent, red, ſhorter than the germ. Stigma blunt, yellowiſh red, pubeſcent at the edge. Capſule oval, ſmooth, tranſverſely nerved, compreſſed, with two rims along the back. Seeds orbiculate [‡].

Mr. Miller has, by miſtake, made this a native of Canada, whereas all the ſpecies come from the Cape of Good Hope. It flowers in may; and was introduced about 1767, by Mr. William Malcolm.

3. Leaves a foot long and more, half an inch broad at the baſe. Scape half a foot high, ſcarcely a line in diameter. Raceme ſix inches in length, and even longer. Peduncles an inch and half long. Bractes green, with clear white edges; they are half an inch long and quickly wither. Flowers yellow. Petals leſs than an inch in length; the outer ones thickened at the tip; the inner having a white, inflex, kidney-ſhaped gland. Barren filaments linear, with a filiform inflex tip, and no anthers. Style obverſely pyramidal, the length of the germ, covered with glandulous ſcales. Stigma pyramidal, prominent between the inner converging petals [§].

It flowers in may and june; and was cultivated by Mr. Miller, in 1768 [||].

4. Leaves linear-ſubulate, deeply channelled, two feet long and upwards, ſcarcely half an inch wide at the baſe. Scape a little ſhorter than the leaves, not ſo thick as a gooſe quill. Raceme cloſe, half a foot in length. Peduncles ſpreading, a little more than an inch long. Bractes almoſt the length of the peduncle. Flowers yellow. Outer petals oblong, thickened at the tip, above an inch in length; inner oval, a little ſhorter than the outer ones. Barren filaments ſomewhat ſhorter than the fertile ones, convex without, channelled within: anthers ſagittate, effete. Style priſm-ſhaped, the length of the germ; terminated by a ſtigma from the angles of the ſtyle rounded at the tip [*].

It flowers in may; and was introduced in 1774.

5. Root-leaves few (4—6) linear-filiform, upright at bottom, then ſpiral, when the plant is more mature, flexuoſe, villoſe-ſcabrous, ſhorter than the ſcape. This is ſimple, filiform, flexuoſe, nodding at the top, ſtreaked, villoſe-ſcabrous, of a finger's length, ſeldom a ſpan long after flowering, one-flowered, ſeldom two-flowered. Bracte lanceolate, acuminate, ſhorter than the peduncle. Three filaments without anthers [†].

6. Leaves linear, firſt channelled, then flattiſh, a foot and half in length, and an inch in breadth. Scape only half the length of the leaves, the thickneſs of a gooſe-quill. Raceme faſtigiate, the length of the ſcape. Peduncles in flowering-time ſpreading, afterwards upright, three or four inches in length. Bractes membranaceous, watery white, ruſeſcent on the back, half an inch long. Flowers white. Outer petals linear-oblong, thickened at the tip, not an inch in length; inner oval-oblong a little ſhorter than the outer ones. All the filaments fertile; three alternately ſomewhat ſhorter, convex without, channelled within. Style priſm-ſhaped, furrowed, a little longer than the germ, rather higher than the ſtamens, covered with very ſhort ſcales, eſpecially towards the tip, green with yellow furrows, terminating in a ſtigma from the angles of the ſtyle, rounded at the tip [‡].

It flowers in may; and was introduced in 1774 [§].

7. Root-leaves very many, linear, narrowing gradually to the tip, where they are acuminate, very finely glanduloſe, viſcid, upright; ſcarcely half a line wide, not half ſo long as the ſcape. This is ſimple, ſtreaked, villoſe-ſcabrous, flexuoſe-erect, a foot high. Flowers in racemes, ſeveral, ſomewhat drooping. Bracte at the baſe of the peduncle, lanceolate, acuminate, concave, membranaceous on the edge. Peduncles very glanduloſe, drooping, longer than the bracte. Anthers fertile [||].

It flowers in may and june; and was introduced about 1779, by John Fothergill, M. D. [¶].

8. Leaves two or three feet high, an inch wide at moſt, narrowing gradually towards the tip, ſharp, channelled, quite entire, marked with duſky lines on both ſides, ſomewhat erect. Scape erect, round, the thickneſs of a reed, ſomewhat glaucous, from three to five feet in height, including the raceme. Peduncles one-flowered, ſhort, ſcattered, ſupported by channelled, narrow, ſharp, aſcending, greeniſh bractes, longer than the flower. Flowers drooping, without ſcent. Petals longitudinally greeniſh in the middle, whitiſh on the edges, yellow at the tip, flat on the back, concave at the end and on the ſides; the three outer narrower. Filaments linear, compreſſed, a little ſhorter than the petals, upright, whitiſh, at the baſe next the germ dilated and concave; above it, ſwelling out within into a green bump; they are all equal, and have large, oblong, pale, yellow anthers. Germ pyramidal, three-ſided, ſeſſile, ſmooth. Style filiform, three-ſided at the baſe, round above, upright, yellowiſh, the length of the ſtamens. Stigma blunt, quite ſimple. Capſule ovate, three-ſided, ſmooth, ſix-valved at the tip, upright. Seeds black, oblong, unequally triangular, flat [**].]

PROPAGATION AND CULTURE.

If the roots are kept in pots, filled with light earth, and ſheltered under a hot-bed frame in winter, they will thrive and produce flowers; but the beſt method is to have a border in the front of a green-houſe, or ſtove, where the roots of moſt of the bulbous flowers may be planted in the full ground, and ſcreened in winter from froſt; in ſuch ſituations they thrive much better, and flower ſtronger, than when kept in pots.

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[*] Dryander in act. Stockholm. [†] Hort. kew. [‡] Bergius.
[§] Dryander in act. Stockholm. [||] Hort. kew.

[*] Dryander in act. Stockholm. [†] Thunberg ibid.
[‡] Dryander ibid. [§] Hort. kew.
[||] Thunberg in act. Stockh. [¶] Hort. kew. [**] Jacqu. collect.

Mr. Miller ſays, that he raiſed the third ſort from ſeed, and that it generally flowers twice a year, firſt in march or april, and again in july or auguſt; but that it did not produce any ſeeds.

He affirms, that the ſecond ſort is ſo hardy, that the roots may be planted about four inches deep in a border of light earth, where they will thrive, and produce their flowers late in the ſummer.

ALCEA. (From Αλκη. robur: on account of its ſuppoſed ſtrength as a remedy in the dyſentery, *&c.*)

Lin. gen. n. 840. *Reich.* 905.

Malva. *Tournef.* 24.

Claſſ. 16. 7. Monadelphia Polyandria.

Nat. order of *Columniferæ.* *Malvaceæ* Juſſ.

GENERIC CHARACTER.

CAL. double, each one-leafed: the *outer* cut half way into ſix parts, permanent, and very ſpreading: the *inner* cut half way into five parts, larger, and permanent.

COR. of five, obcordate, emarginate, ſpreading *petals,* coaleſcing at their baſes.

STAM. *Filaments* uniting into a ſort of five-angled cylinder at bottom, looſe at top, and inſerted into the corolla: *Anthers* almoſt kidney-ſhaped.

PIST. *Germ* orbiculate: *Style* cylindric, ſhort: *ſtigmas* about twenty, ſetaceous, the length of the ſtyle.

PER. many jointed *arils* in a ring round a columnar flatted receptacle, parting and opening on the inſide.

SEED one, flat, kidney-ſhaped in each aril.

OBS. *Schreber and Juſſieu join this genus to* Althæa.

ESSENTIAL CHARACTER.

Cal. double: outer ſix-cleft. *Arils* many, one-ſeeded.

SPECIES.

1. Alcea roſea. *Common Hollyhock.*
Lin. ſpec. 966. *Reich.* 3. 342. *hort. cliff.* 348. *hort. upſ.* 204. *mat. med.* 166. *Mill. illuſtr. Raii hiſt.* 600.
Leaves ſinuate-angular.

2. Alcea ficifolia. *Fig-leaved Hollyhock.*
Lin. ſpec. 967. *Reich.* 3. 342. *hort. cliff.* 348. *upſ.* 204. *Blackw. t.* 54.
Leaves palmate.

[3. Alcea africana. *African Hollyhock.*
Loureiro cochinch. 421.
Leaves three-lobed crenate, flowers ſolitary axillary, both calyxes ſix-parted.]

DESCRIPTIONS, *&c.*

1, 2. The firſt and ſecond are diſtinct ſpecies, whoſe difference in the form of their leaves always continues. The leaves of the firſt ſort are roundiſh, and cut at their extremity into angles; whereas thoſe of the ſecond are deeply cut into ſix or ſeven ſegments, ſo as to reſemble a hand. [Linneus however doubts whether they are diſtinct ſpecies, and ſeems to think the ſecond is a variety of the firſt. Allione ſays, that the Hollyhock grows wild in the county of Nice. Both ſorts were cultivated by Gerard, in 1597 *.]

The colours of their flowers being accidental, and the double flowers being only varieties which have riſen from culture, I have not enumerated them here, but ſhall only mention the various colours which are commonly obſerved: theſe are, white, pale, red, deep-red, blackiſh red, purple, yellow and fleſh-colour. Beſides theſe, I many years ago ſaw ſome plants with variegated flowers, in the garden of the late Lord Burlington in London, raiſed from ſeeds which came from China. Although theſe varieties of double Hollyhocks are not conſtant, yet where the ſeeds are carefully ſaved from the moſt double flowers, the greateſt number of the plants will ariſe nearly the ſame, as the plants from which they were taken, both as to their colour and the fulneſs of their flowers, provided no plants with ſingle or bad coloured flowers are permitted to grow near them. Therefore ſo ſoon as any ſuch appear, they ſhould be removed from the good ones, that their farina may not ſpread into the other flowers, which would cauſe them to degenerate.

The firſt ſpecies grows naturally in China, from whence I have often received the ſeeds. The ſecond ſort I have received from Iſtria, where it was gathered in the fields, but theſe ſeeds produced ſingle red flowers only: whereas from ſome ſeeds of this ſort, which were given me by the late Charles Du Bois, Eſq. of Mitcham, in 1726, which he procured from Madras, I raiſed many double flowers of ſeveral colours. [Linneus refers it to Siberia. A dwarf ſort with beautiful, double, variegated flowers, has been in great eſteem for ſome years paſt, under the name of Chineſe Hollyhock.]

Theſe plants, although natives of warm countries; yet are hardy enough to thrive in the open air in England, and have for many years been ſome of the greateſt ornaments in the garden, toward the latter part of ſummer; but ſince they have become very common, have not been regarded ſo much as they deſerve, partly from their growing too large for ſmall gardens, and their requiring tall ſtakes to ſecure them from being broken by ſtrong winds. But in large gardens, where they are properly diſpoſed, they make a fine appearance; for as their ſpikes of flowers grow very tall, there will be a ſucceſſion of them on the ſame ſtems, more than two months; the flowers on the lower part of the ſpike appearing in july, and as their ſtalks advance, new flowers are produced till near the end of ſeptember. When they are planted in good ground, their ſtalks often riſe to the height of eight or nine feet, ſo that near ſix feet of each will be garniſhed with flowers; which when double and of good colours, will make a fine appearance, eſpecially if the various colours are properly intermixed.

[3. Stem ſuffruticoſe, four feet high, upright, branched, hiſpid. Leaves rough, alternate, petioled. Flowers ſcarlet, lateral, on a ſolitary, long, one-flowered peduncle. Piſtil five-ſtyled. Arils five, ſmooth. Native of the eaſtern ſhore of Africa.

Alcea indica, *Burm. ind. p.* 149, agrees with this, in having three-lobed, crenate leaves; but differs from it in having the flowers terminating and yellow; with the inner calyx five-cleft *.]

PROPAGATION AND CULTURE.

They are propagated by ſeeds, which, as has been already obſerved, ſhould be carefully ſaved from thoſe plants whoſe flowers are the moſt double, and of the beſt colours. If theſe are preſerved in their covers until ſpring, the ſeeds will be better, provided they are gathered very dry, and care be taken that no damp comes to them in winter, which will cauſe their covers to be mouldy, and thereby ſpoil the ſeeds.

The ſeeds ſhould be ſown on a bed of light earth, about the middle of april, and muſt be covered about half an inch deep: ſome perſons ſow them in ſhallow drills, and others ſcatter the ſeeds thinly over the whole bed. When they are ſown in the former method, the plants generally come up thick, and will require to be tranſplanted ſooner than thoſe which are ſown in the latter. By the firſt, the ſeeds may be more equally covered, and kept clean with leſs trouble, becauſe the ground between the drills may be hoed. When the plants have put out ſix or eight leaves, they ſhould be tranſplanted into nurſery-beds, at a foot diſtance from each other, obſerving to water them until they have taken good root; after which they will require no farther care, but to keep them clean from weeds till october, when they ſhould be tranſplanted where they are to remain.

Some perſons let their plants remain a year longer in the nurſery-beds to ſee their flowers, before they remove them to the flower-garden; but when this is intended, the plants ſhould be planted at a greater diſtance in the nurſery-beds, otherwiſe they will not have room to grow. However, I have always choſen to remove my plants the firſt autumn, for young plants more ſurely grow, than thoſe which are older; and if the ſeeds are carefully ſaved, there will not be one in ten of the plants come ſingle or of bad colours.

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* Hort. kew.

* Loureiro.

Alcea. See *Hibiſcus* and *Malva*.

——— floridana. See *Gordonia*.

ALCHEMILLA. (From having been celebrated by the Alchemiſts.)

Lin. gen. n. 165. *Reich.* 177. *Schreb.* 222. *Tourneſ.* 289. *Juſſ.* 337. *Gærtn.* 73.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Senticoſæ*. *Roſaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubulous, permanent; edge flat, divided into eight ſegments.

Cor. none.

Stam. *Filaments* erect, awl-ſhaped, very ſmall, on the edge of the calyx; *anthers* roundiſh.

Pist. *Germ* ovate; *ſtyle* filiform, length of the ſtamens, inſerted at the baſe of the germ; ſtigma globular.

Per. none, the neck of the calyx cloſes and never opens.

Seed ſolitary, elliptic, compreſſed.

ESSENTIAL CHARACTER.

Cal. eight-cleft. *Cor.* none. *Seed* one.

SPECIES.

1. Alchemilla vulgaris. *Common Ladies mantle or Bearsfoot.*
Lin. ſpec. 178. *Reich.* 1. 349. *ſuec.* 141. *lapp.* 66. *mat. med.* 53. *hort. cliff.* 38. *Hudſ. angl.* 71. *With.* 162. *Jungh. offic. cent.* 1. *f.* 3 *Berg. phyt.* 2. 127. *Mill. fig. t.* 18. *f.* 2. *Fl. dan. t.* 693. *Blackw. t.* 72. *Plenck. ic. t.* 69. *Mor. hiſt. ſ.* 2. *t.* 20. *f.* 1. *Park.* 538. *Ger.* 802. *emac.* 949. *Pollich pal. n.* 168. *Scop. carn. n.* 174. *Hall. helv. n.* 1566. *Raii hiſt.* 208. *Bauh. hiſt.* 2. 398.
β. A. hybrida. *Lin.* pubeſcens. *With.* minor. *Hudſ.* *Lin ſyſt. Reich.* 1. 349. *Mill. dict. n.* 2. *fig. t.* 18. *f.* 1. *Hudſ. n.* 1. β. *Tourneſ. inſt.* 508. *Pluk. phyt.* 240. *f.* 1. *Hall. helv.* δ.
Leaves lobed.

2. Alchemilla alpina. *Cinquefoil or Alpine Ladies mantle.*
Lin. ſpec. 179. *Reich.* 1. 349. *lapp.* 61. *ſuec.* 142. *hort. cliff.* 39. *Hudſ. angl.* 71. *With.* 162. *Lightf. ſcot.* 120. *Berg. phyt.* 2. 125. *Fl. dan. t.* 49. *Mor. hiſt. ſ.* 2. *t.* 20. *f.* 3. *Pet. herb. t.* 9. *f.* 11. *Munting. phyt. t.* 90. *Park.* 394. 3. *Ger.* 837. 5. *emac.* 988. 5. *Hall. helv. n.* 1567. *Raii hiſt.* 209. 4.
Leaves digitate, ſerrate.

[3. Alchemilla aphanoides.
Lin. ſuppl. 129. *ſyſt.* 166.
Leaves many-parted; ſtem erect.]

4. Alchemilla pentaphyllea. *Five-leaved Ladies mantle.*
Lin. ſpec. 179. *Reich.* 1. 350. *Hall. helv. n.* 1568. *Bocc. muſ.* 1. *p.* 18. *t.* 1.
Leaves quinate, multifid, ſmooth.

DESCRIPTIONS, &c.

1. [Stems proſtrate, filiform, branched, a little hairy. Root-leaves roundiſh, plaited; ſtem-leaves three-or-five-lobed. Stipules oppoſite, ovate, toothed. Diviſions of the calyx alternately larger and ſmaller[*]. Under ſurface of the leaves hairy: the radical ones on long hairy peduncles; the ſtem-leaves ſeſſile[†]. The flowers form a kind of umbel, the univerſal involucre being a leaf which entirely ſurrounds the ſtem, but the partial involucre goes only half way round. The mouth of the calyx is cloſed by a yellow, fleſhy ring, which perhaps anſwers the purpoſe of a nectary. The anthers and ſtigma turn black after flowering. Seeds generally one, but ſometimes two in each ſeed-veſſel. The whole plant is aſtringent. In the province of Smolandia in Gothland, they make a tincture of the leaves, and give it in ſpaſmodic or convulſive diſeaſes. Horſes, ſheep, and goats eat it. Cows are not fond of it[*].] It grows naturally in high paſtures in ſeveral parts of England, but is not very common near London: the roots are compoſed of many thick fibres, which ſpread greatly when they are in a proper ſoil; the leaves riſe immediately from the root ſuſtained by long petioles; they are roundiſh, and divided into ſeven or eight lobes, ſcalloped round the edges, ſomewhat like the Ladies ſcalloped Mantles, from whence it had its name. The flower-ſtems ariſe between the leaves about a foot high, which divide into many branches, and have at each joint one ſmall leaf, ſhaped like thoſe below; the flowers are compoſed of an herbaceous calyx, without any corolla, ſo that the only beauty of this plant is in the leaves, which are uſed in medicine, and are eſteemed to be vulnerary, drying and binding, and are of great force to ſtop inward bleeding.

The variety β is much ſmaller, the leaves are much whiter, and appear ſilky; the flower ſtems do not branch out ſo much, nor are the flowers produced in ſo large cluſters; their calyx is broader; and the ſegments more obtuſe. [Beſides this, the ſpecies varies much in ſize, being abundantly larger in a moiſt ſoil, and in gardens, than on its native dry hills and mountains. Dr. Withering mentions another variety with a white calyx.]

2. Grows naturally on the mountains in Yorkſhire, Weſtmoreland and Cumberland, generally upon moiſt boggy places. It is alſo a native of Sweden, Denmark, the Alps, and other cold parts of Europe; and is admitted into gardens for the ſake of its elegance. The leaves of this ſort are very white, and conſiſt of from five to nine folioles: the flower-ſtems ſeldom riſe more than ſix inches high, nor do the flowers make a better appearance than the other. [It has a great affinity with the foregoing; for it agrees with that in the leafed ſtipules, leaflets, bractes, and every thing, except that the leaves conſiſt of ſeven folioles, ſhining underneath, and ſerrated only at the ends[†]. The ſtem-leaves have only three folioles[‡].

3. This is a ſmall plant, about the ſize of Parſley Piert, or *Aphanes arvenſis*, and much reſembling it in the leaves; it is alſo annual like that; but has the eight-cleft calyx of this genus. The ſtems are a little branched, round and pubeſcent. The root-leaves petiolate, the others ſtem-claſping. Racemes terminating, ſubverticillate. Found in New Granada, by Mutis[§].]

4. Grows naturally on the high Alps, as Gothard, Furca, Speluga, Pilat, &c. and is only to be found in ſome few curious botanic gardens in this country. [Cultivated by Mr. Miller, in 1748[‖].]

Theſe are all, except the third, abiding plants, which have perennial roots, and annual ſtalks, periſhing in autumn.

PROPAGATION AND CULTURE.

They may be propagated by parting their roots; the beſt time for doing this is in autumn, that their roots may be eſtabliſhed before the drying winds of the ſpring come on. They ſhould have a moiſt ſoil, and a ſhady ſituation, otherwiſe they will not thrive in the ſouthern parts of England. When they are propagated by ſeeds, they ſhould be ſown in the autumn, on a ſhady moiſt border, and when the plants come up, they will require no other care but to be kept clean from weeds.

[ALCHORNEA. (*So named after Mr. Stainſby Alchorne, apothecary, of London.*)

Lin. gen. Schreb. 1556. *Solander. Swartz prodr.* 98.

Claſſ. 22. 13. Dioecia Monadelphia.

Monadelphia Octandria. *Swartz.*

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[*] Lyons. [†] Relh.

[*] With. [†] Linneus. [‡] Woodw. in With. [§] Linneus. [‖] Hort. kew.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* three or five-leaved: *leaflets* ovate, concave, equal, coloured, deciduous.

Cor. none.

Stam. *Filaments* eight, equal, ſcarce longer than the calyx, ſlightly connate at the baſe. *Anthers* ovate, upright.

Pist. a rudiment.

* *Female.*

Cal. *Perianth* one-leafed, four or five-toothed, *teeth* equal, ſmall.

Cor. none.

Pist. *Germ* twin, ſuperior. *Styles* two, very long, filiform. *Stigmas* ſimple, acute.

Per. *Capſule* berried, two-ſeeded, two-celled, two-valved.

Seeds ſolitary, large, oblong.

ESSENTIAL CHARACTER.

Male. *Cal.* three-five-leaved. *Cor.* none.

Female. *Cal.* five-toothed. *Cor.* none. *Style* two-parted. *Capſule* berried, dicoccous.

SPECIES.

1. Alchornea latifolia.
Swartz prodr. 98.]

Alder-tree. See *Betula.*

Alder, Black. See *Rhamnus.*

[ALDROVANDA. (*Named by Monti after Ulyſſes Aldrovandus, a great traveller and collector; præfect of the botanic garden at Bologna.*)

Lin. gen. n. 390. *Reich.* 420. *Schreb.* 529. *Mont. Act. Bonon. Juſſ.* 429.

Claſſ. 5. 5. Pentandria Pentagynia.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, erect, equal, permanent.

Cor. *Petals* five, oblong, acuminate, length of the calyx, permanent.

Stam. *Filaments* length of the flowers; *anthers* ſimple.

Pist. *Germ* globoſe; *ſtyles* very ſhort; *ſtigmas* obtuſe.

Per. a globoſe *capſule* with five blunt angles, five-valved, one-celled.

Seeds ten, longiſh, fixed to the inner wall of the pericarp.

ESSENTIAL CHARACTER.

Cal. five-parted. *Pet.* five. *Capſ.* five-valved, one-celled, ten-ſeeded.

SPECIES.

1. Aldrovanda veſiculoſa.
Lin. ſpec. 402. *ſyſt.* 303. *Reich.* 1. 766. *Mont. Act. Bonon.* 2. *p.* 3. *t.* 12. *Allion. pedem. n.* 1599.
Lenticula. *Pluk. alm. t.* 41. *f.* 6.

DESCRIPTION, *&c.*

1. This plant is found in marſhes both in Italy and India. It has bladders like *Utricularia,* but in bunches *.

Root perennial. Flowers ſolitary; the ſtem ſeeming to terminate in a peduncle, whilſt it continues the ſtem, or produces a branch, from the ſide. Peduncle round, longer than the leaves. Calyx green, deeply five-cleft, with ovate, concave leaflets. Petals ovate, dirty white, ſcarcely larger than the calyx, growing between the leaflets of it, and converging. Stamens between the petals. Anthers yellow, twin †.

Ale-cost. See *Tanacetum.*

Alectorolophus. See *Bartſia, Pedicularis, Rhinanthus.*

ALECTRA. (*The derivation, at leaſt to me, is unknown.*)

Lin. gen. Schreb. 1066. *Thunb. nov. gen. pl.* 81.

Claſſ. 14. 2. Didynamia Angioſpermia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, two-lipped, upper *lip* two-cleft, lower three-cleft; *clefts* ovate, obtuſe, ſhorter than the tube.

Cor. one-petalled, tubular. *Tube* by degrees widened a little. *Border* expanding, five-parted; *parts* broad-lanceolate, obtuſe.

Stam. *Filaments* four, inſerted into the tube, filiform, bearded; length of the tube; two of them are a little ſhorter. *Anthers* twin.

Pist. *Germ* ovate. *Style* filiform, length of the filaments. *Stigma* incurved, a little thicker than the ſtyle, and of the ſame length, ſtriated on both ſides.

Per. *Capſule* ovate, obtuſe, twin, ſmooth, two-celled, two-valved.

Seeds ſolitary, ovate.

ESSENTIAL CHARACTER.

Cor. bell-ſhaped. *Filam.* bearded. *Capſule* two-celled.

SPECIES.

1. Alectra capenſis.
Thunb. nova gen. 82.

DESCRIPTION, *&c.*

Root annual. Stem ſimple, round, ſtriated, erect, villoſe, a ſpan or a foot in height. Leaves ſcattered, ſeſſile, ovate, obtuſe, erect, villoſe; the lower ones ſmaller; the upper ones gradually larger. Flowers terminating, in ſpikes, yellow ſtreaked with purple. Spike leafy, flowering by degrees. It has the habit of Orobanche; and grows black in drying.

Native of the Cape of Good Hope, in graſſy places near rivers; flowering in november and december*.

Ale-hoof. See *Glecoma.*]

ALĔTRIS. (Αλετρις, *from* αλετρευω or αλεω, *molo, to grind.*)

Lin. gen. 428. *Reich.* 462. *Schreb.* 579. *Gærtn. t.* 15. *Juſſ.* 51.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Lilia* or *Liliaceæ. Coronariæ* Lin. *Aſphodeli* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. one-petalled, ovate-oblong, hexangular, funnel-ſhaped, ſemiſexfid, very much wrinkled; the diviſions lanceolate, acuminate, ſpreading, erect, permanent.

Stam. *Filaments* awl-ſhaped, length of the corolla, inſerted into the baſe of the diviſions: *anthers* oblong, erect.

Pist. *Germ* ovate; *ſtyle* ſubulate, length of the ſtamens; *ſtigma* trifid.

Per. an ovate, three-cornered, acuminate, three-celled *capſule.*

Seeds very many.

Obs. *The ſtamens not being alternate with, but oppoſite to the ſegments of the corolla; and this being very much wrinkled and in a manner farinaceous, theſe circumſtances render this a genus perfectly diſtinct.*

In A. hyacinthoides *the ſeeds are ſolitary.*

ESSENTIAL CHARACTER.

Cor. funnel-ſhaped. *Stam.* inſerted into the baſe of the ſegments. *Capſule* three-celled.

SPECIES.

1. Aletris farinoſa. *American Aletris.*
Lin. ſpec. 456. *Reich.* 2. 81. *amæn.* 3. 11. *Gron. virg.* 38. 52. *Pluk. amalth. t.* 437. *f.* 2.
Stemleſs, leaves lanceolate membranaceous, flowers alternate.

2. Aletris capenſis. *Waved-leaved Aletris.*
Lin. ſpec. 456. *ſyſt.* 336. *Reich.* 2. 81. *Gleditſch act. berol.* 1769. *p.* 66. *Burm. prodr.* 10. *Buxb. cent.* 2. 12. *t.* 20. (Orchis.) *Murr. fl. gott.* 205. *in act. holm.* 1770. *p.* 226. *t.* 5.
Veltheimia. *Gled. in act. berol.* 1771.
Stemleſs, leaves lanceolate waved, ſpike ovate, flowers nodding.

[3. Aletris glauca. *Glaucous Aletris.*
Ait. hort. kew. 1. 463.
Stemleſs, leaves lanceolate glaucous, flowers nodding with a ſpreading border.]

4. Aletris Uvaria. *Great orange-flowered Aletris.*
Lin. ſyſt. 337. *Reich.* 2. 83. *Ait. hort. kew.* 1. 464.
Aloe Uvaria. *Lin. ſpec.* 460. *Mill. dict. n.* 23. *Comm. hort.* 2. 29. *t.* 15. *Seba theſ.* 1. 29. *t.* 19. *f.* 3.

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* Linnæus.

† Allione.

* Thunberg nova genera.

Stemleſs, ſcape longer than the ſword-ſhaped keeled leaves.

[5. Aletris pumila. *Small orange-flowered Aletris.*
Ait. hort. kew. 1. 464.
Stemleſs, ſcape ſhorter than the linear ſharply-keeled leaves.]

6. Aletris hyacinthoides.
Lin. ſpec. 456. *Reich.* 2. 82. *mant.* 367. *hort. cliff.* 132. *upſ.* 85. *fl. zeyl. n.* 130. *Gærtn. fruct.* 54.
Stemleſs, leaves lanceolate fleſhy, flowers geminate.
α. A. zeylanica. *Ceylon Aletris* or *Aloe.*
Mill. dict. n. 4. *Comm. hort.* 2. 41. *t.* 21.
Some of the leaves ſubulate and compreſſed.
β. A. guineenſis. *Guinea Aletris* or *Aloe.*
Jacqu. hort. 1. 36. *t.* 84. *Comm. hort.* 2. 39. *t.* 20.
A. hyacinthoides. *Mill. dict. n.* 3.
All the leaves lanceolate.

7. Aletris fragrans. *Sweet-ſcented Aletris.*
Lin. ſpec. 456. *Reich.* 2. 83. *Comm. hort.* 2. 7. *t.* 4. *&* 1. 93. *t.* 49.
Cauleſcent, leaves lanceolate looſe.

[8. Aletris cochinchinenſis.
Loureiro cochinch. 204.
Cauleſcent, leaves lanceolate-linear reflex, flowers panicled.]

DESCRIPTIONS, *&c.*

1. *American Aletris* has a tuberous root, from which ariſe ſeveral lanceolate leaves, and a naked ſtalk ſupporting a ſpike of flowers placed alternately, of a greeniſh white colour; theſe appear in june, but are rarely ſucceeded by ſeeds in England. It grows naturally in North America: and was cultivated in 1768, by Mr. Miller. The natives uſe it frequently in coughs, and in the pleuriſy.

2. [Bulb tunicated, violet. Root-leaves ſix, ſpotted with violet. Spike or raceme terminating, imbricated with great abundance of flowers, on very ſhort peduncles; the bracte to each ſetaceous. Corolla ſubcylindrical, with fleſh-coloured dots, and a very ſhort obtuſe border: the filaments adhere to it as far as the very edge. The germ is ſhut up in the bottom of the corolla; the ſtyle is incurvated: the ſtigma is obtuſe. The capſule is a little inflated, acutely keeled, compreſſed at the corners, and large *.

Juſſieu doubts whether this be of the ſame genus with the other ſpecies. He remarks, that the calyx is even, with the border ſmaller; that the cells of the capſule are compreſſed and membranaceous, as it were winged; with one ſeed in each; that the apex of the ſcape is covered with leaflets or void ſpathes; and that the ſeſſile lobe of the germinating ſeed is faſtened above to the primary ſheath of the leaves †. Native of the Cape of Good Hope. It flowers with us from november to april; and was introduced in 1768, by Mr. William Malcolm ‡.

3. *Glaucous Aletris* differs from the foregoing in having glaucous leaves ſcarcely waved; whereas in that they are very much waved, and of a bright green on their upper ſurface. The border of the corolla is ſpreading, with longer ſegments than in the Cape Aletris; blunt indeed, but not round, as in that. The flowers are ſmaller and narrower. This alſo is a native of the Cape of Good Hope; flowers in january; and was introduced in 1781, by George Wynch, Eſq §.]

4. *Aletris* or *Aloe Uvaria*, commonly called *Iris Uvaria*, has very long, narrow, triangular leaves; ſhaped like thoſe of the Bullruſh; the flowers are produced in cloſe thick ſpikes, upon ſtalks near three feet high. They are of an orange colour, ſo that when the plants are ſtrong, and produce large ſpikes, they make a fine appearance. It flowers in auguſt and ſeptember. There is a variety of this with narrrower leaves, and longer ſpikes of flowers.

[It is a native of the Cape of Good Hope; and was cultivated in the botanic garden at Chelſea, in 1707 ||.

5. This alſo is a native of the Cape, where it was diſcovered by Mr. Francis Maſſon. It was introduced in 1774; and flowers from ſeptember to november *.

6. α. *Ceylon Aletris*, has the firſt leaves lanceolate, flat, erect and ſhort; the reſt ſubulate, ſemicylindrical, channelled, and very long †.] It has fleſhy, creeping roots, which multiply greatly; and ſeldom riſes more than ſix inches in height. It is pretty common in gardens, where there are conveniencies for preſerving exotic plants.

β. [*Guinea Aletris* has all the leaves lanceolate, flat, and erect. The leaves of both are pale green, with bands of a darker green; and do not ſeem to be ſpecifically different ‡. This was cultivated in 1690 in the royal garden at Hampton-court §,] and is known by the title of *Guinea Aloe*; it has thick fleſhy roots, like thoſe of the flag, creeping far where they have room. The leaves ariſe ſingly from the root, and are near a foot and half long, ſtiff, waved, and proceeding immediately from the root, as do alſo the flower-ſtems; which when the roots are ſtrong, are often a foot and half high, adorned almoſt the whole length with flowers of a clear white, ſeldom continuing in beauty more than two or three days, and never producing ſeeds in England.

7. *Sweet-ſcented Aletris* riſes with an herbaceous ſtalk to the height of eight or ten feet, having many joints, and is adorned toward the top with a head of leaves, which are of a deep-green colour, and reflex at their ends, embracing the ſtalks with their baſe. The flower-ſtems ariſe from the centre of the heads, which are generally two feet high, branching out on each ſide, and fully garniſhed with white flowers, in ſhape ſomewhat like thoſe of the ſecond ſort; but theſe open only in the evening, when they emit a moſt fragrant odour, but cloſe again in the morning, and are not of long duration; but theſe are ſometimes ſucceeded by ſeeds, which although fair to appearance, yet I could never raiſe any plants from them. [It was cultivated in 1768, by Mr. Miller ||.

8. Stem ſhrubby, ſix feet high, quite ſimple, upright. Leaves quite entire, ſhining, alternate, ſtem-claſping. Flower terminating, greeniſh-yellow, in a looſe raceme. Segments of the corolla linear, reflex. Capſule obtuſely three-cornered, with one ſeed in each cell. Native of Cochinchina; cultivated in their gardens. The natives uſe the juice of the leaves to dye green; they alſo eat the flowers ¶.]

PROPAGATION AND CULTURE.

1. This plant is tolerably hardy, and may be preſerved through the winter, if ſheltered under a hot-bed frame; but as the ſeeds do not ripen here, and the roots increaſe but ſlowly, the plants are at preſent rare in England.

2. The roots of the ſecond ſort muſt be planted in pots, filled with light earth, that they may be ſheltered in a dry airy glaſs-caſe in winter, being too tender to thrive in the open air in England; therefore the pots ſhould be removed into ſhelter in october, and during the winter ſeaſon ſparingly watered. In may they ſhould be placed abroad in a ſheltered ſituation, and in warm weather muſt be frequently refreſhed with water; with this management the plants will flower; but as they do not perfect their ſeeds here, nor increaſe faſt by roots, the plants are ſcarce in England.

4. The fourth ſort is hardy enough to live abroad in mild winters, provided it be planted in a warm border, and a dry ſoil; but as it is often deſtroyed in ſevere winters, ſome plants ſhould be kept in pots to preſerve the ſort. This is propagated by ſeeds, which the plants generally produce in plenty; the ſeeds muſt be ſown in pots ſoon after they are ripe, and in winter ſhould be ſheltered under a common hot-bed frame; in the ſpring, the plants will come up, when they ſhould be inured to bear the open air by degrees; and when they are large enough to be removed, ſome of them ſhould be planted in pots, and

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* Linneus. † Genera, 51. ‡ Hort. kew. § Hort. kew. || Ibid.

* Hort. kew. † Linneus. ‡ Ibid. § Hort. kew. || Ibid. ¶ Loureiro.

the others in a warm border, where they will require to be ſheltered the following winter, as they will not have acquired ſufficient ſtrength to reſiſt the cold.

6. 7. The Ceylon, Guinea, and ſweet-ſcented Aletris are too tender to live through the winter in England, unleſs they are placed in a warm ſtove; nor will they produce their flowers, if the plants are not plunged into a tan-bed; for although they may be preſerved in a dry ſtove, yet they make but little progreſs there; in a tan-bed they will advance faſter, the leaves will be much larger, and the whole plant much ſtronger. The Guinea Aletris will ſometimes flower in a dry ſtove, but the flower-ſtems will be weak, and do not produce half ſo many flowers as when in tan; but the fragrant Aletris has not yet flowered here when kept in the dry ſtove.

The Ceylon and Guinea ſorts propagate very faſt by their creeping roots, which ſend up many heads; theſe may be cut off in june, and laid in the ſtove for a fortnight, that the part wounded may be healed over; they ſhould then be planted in ſmall pots, filled with light ſandy earth, and plunged into a moderate hot-bed of tanners' bark, giving them but little water till they have put out good roots; then they muſt be treated like other tender ſucculent plants, never ſetting them abroad in ſummer.

7. The ſeventh ſort is eaſily propagated from the ſide-heads, which it puts out after flowering. Theſe heads when taken from the ſtems, ſhould be laid in the ſtove for a week, for their wounds to heal, before they are planted in pots, when they may be treated in the ſame manner as the others.

[ALEURITES. (Αλευριτης, *farinaceous, various parts of the tree having a meal ſcattered over them:* from αλευρον *meal*, from αλεω, *molo.*)

Lin. gen. Schreb. 1472. *Forſt. gen.* 56. *Juſſ.* 389.

Claſſ. 21. 8. Monoecia Monadelphia.

Nat. order of *Tricoccæ. Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male Flowers.*

CAL. *Perianth* three-cleft, very ſhort: *clefts* ovate, obtuſe.

COR. *Petals* five, oblong, ſpreading, obtuſe, much longer than the calyx.

Nectary, five *ſcales*, ſomewhat cornered, very ſhort, at the baſes of the petals.

STAM. *Filaments* numerous, connate into a conic columnar receptacle. *Anthers* roundiſh.

* *Female Flowers* few, in the ſame corymb.

CAL. *Cor. Nect.* as in the male, but larger.

PIST. *Germ* conic ſuperior. *Style* none. *Stigmas* two, very ſhort.

PER. *Berry* large, globoſe, two-ſeeded.

SEEDS two, globoſe, coated with a double bark.

OBS. Ambinux *of Commerſon, in French* Noix de Bancoul, *the ſame with* Croton moluccanum *of Linneus*; Anda *of Piſo, braſ.* 148. and Camirium *Rumph. amb.* 2. *t.* 58, *are of the ſame genus, or nearly allied to it.* Juſſieu.

SPECIES.

1. Aleurites triloba.
Forſt. gen. 56. *fl. auſtr. n.* 360.

ALEXANDERS. See *Smyrnium.*

ALEXANDRIAN LAUREL. See *Ruſcus.*

ALGÆ. See *Cryptogamia.*

ALHAGI. See *Hedyſarum.*

ALHENNA. See *Lawſonia.*

ALISANUS. See *Rhexia.*]

[ALISMA. (Αλισμα *Dioſc. Aliſma. Plin.* ſaid to be from Αλύσμα, *anxiety:* rather, as I ſhould ſuppoſe by the orthography, from Αλς, *the ſea.*)

Lin. gen. 460. *Reich.* 495. *Schreb.* 625. *Juſſ.* 46. *Gærtn. t.* 84.

Damaſonium. *Tournef.* 132. *Vaill. act. gall.* 1716.

Claſſ. 6. 5. Hexandria Polygynia.

Nat. order of *Tripetaloideæ. Junci* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* three-leaved; leaflets ovate, concave, permanent.

COR. three-petalled. *Petals* roundiſh, large, flat, very ſpreading.

STAM. *Filaments* awl-ſhaped, ſhorter than the corolla; *anthers* roundiſh.

PIST. *Germs* more than five: *ſtyles* ſimple; *ſtigmas* obtuſe.

PER. compreſſed *capſules.*

SEEDS ſolitary, ſmall.

OBS. Damaſonium *Tournef. has ſix, large, acuminate capſules.* Aliſma, *properly ſo called, has many, obtuſe, ſmall ones.* A. parnaſſifolia *has the ſeeds awned.*

ESSENTIAL CHARACTER.

Cal. three-leaved. *Petals* three. *Seeds* ſeveral.

SPECIES.

1. Aliſma Plantago. *Great Water Plantain.*
Lin. ſpec. 486. *ſyſt.* 350. *Reich.* 2. 132. *fl. lapp.* 138. *ſuec.* 323. *hort. cliff.* 241. *Gærtn. fruct.* 2. 22. *Hudſ. angl.* 158. *With.* 381. *Lightf. ſcot.* 193. *Curt. lond.* 1. 32. *Flor. dan.* 561. *Mill. illuſtr. Park.* 1245. 1. *Ger.* 337. 1. *emac.* 417. 1. *Scop. carn. n.* 449. *Pollich pal. n.* 367. *Hall. helv. n.* 1184. *Plenck. ic. t.* 292. *Raii hiſt.* 618. 1. *Dod. pempt.* 606. *Camer. epit.* 264.
Leaves ovate, acute; capſules obtuſely triangular.]

2. Aliſma flava.
Lin. ſpec. 486. *Reich.* 2. 132. *Thunb. jap.* 153. *Plum. ſpec.* 7. *ic.* 115.
Damaſonium flavum. *Mill. dict.*
Leaves ovate, acute, peduncles umbellate, capſules globoſe.

3. Aliſma Damaſonium. *Star-headed Water Plantain.*
Lin. ſpec. 486. *Reich.* 2. 132. *hort. cliff.* 141. *Hudſ. ang.* 159. *With.* 381. *Curtis lond.* 5. 70. *Ger. emac.* 417. 2. *Park.* 1245. 3. *Raii hiſt.* 701. 11.
Damaſonium Aliſma. *Mill. dict.*
Leaves cordate-oblong, flowers ſix-pointalled, capſules awl-ſhaped.

[4. Aliſma cordifolia.
Lin. ſpec. 487. *Reich.* 2. 133. *Thunb. jap.* 153. *Swartz obſ.* 139. *Brown. jam.* 204.
Sagittaria. *Mor. hiſt.* 3. *ſ.* 15. *t.* 4. *f.* 6.
Ranunculus. *Plum. ſpec.* 7. *ic.* 234. *f.* 2.
Leaves heart-ſhaped, obtuſe, flowers twelve-ſtamened, capſules hook-pointed.

5. Aliſma natans. *Creeping Water Plantain.*
Lin. ſpec. 487. *ſyſt.* 350. *Reich.* 2. 133. *ſuec. n.* 324. *Hudſ. angl.* 158. *With.* 381. *Gærtn. fruct.* 2. 22.
Damaſonium. *Vaill. act. par.* 1719. *t.* 4. *f.* 8.
Leaves ovate, obtuſe; peduncles ſolitary.

6. Aliſma ranunculoides. *Small Water Plantain.*
Lin. ſpec. 487. *Reich.* 2. 133. *fl. ſuec.* 325. *hort. cliff.* 141. *Hudſ. angl.* 158. *With.* 382. *Lightf. ſcot.* 193. *Fl. dan. t.* 122. *Raii hiſt.* 618. 2.
Ranunculus. *Pet. brit. t.* 43. *f.* 8. *Ger. emac.* 417. 3. *Park.* 1245. 2.
Leaves linear-lanceolate, capſules globoſe and ſquarroſe.

7. Aliſma ſubulata.
Lin. ſpec. 487. *Reich.* 2. 134. *Gron. virg.* 153. 57.
Leaves awl-ſhaped.

8. Aliſma parnaſſifolia.
Lin. mant. 371. *ſyſt.* 350. *Reich.* 2. 134. *Act. bonon.* 6. *p.* 13. *t.* 1.
Ranunculus. *Tilli piſan. t.* 46. *f.* 1.
Leaves heart-ſhaped, acute; petioles jointed.

9. Aliſma repens.
Cavanilles hiſp. 41. *t.* 55. *Lamarck dict.* 2. 515.
Stems creeping, leaves lanceolate petioled acute.

DESCRIPTIONS, &c.

1. *Great Water Plantain* is eaſily known by its ſmooth entire leaves on very long petioles; and by its purpliſh flowers, growing in a kind of umbel, at the end of a long ſcape. Root roundiſh and white. Height from two to three feet. Stems and branches with three blunt corners. Petioles longer than the leaves, broader at the baſe. Leaves with ſeven or eight ribs, two of them near each edge; they are keeled, ſmooth, and quite entire. Panicle terminating. Peduncles in whirls. Bractes ſhort, pointed, at the origin of the peduncles. Leaflets

of the calyx ſcored, bent back. Petals ragged at the end, ſhrivelling, pale reddiſh purple, yellow at the baſe. Filaments fixed to the receptacles, which are glandular. Fruit blunt, three-cornered. Capſules about eighteen. The flowers are fully expanded about four in the afternoon. It grows in watery places, on the banks of pools, lakes, and rivers, and flowers in july and auguſt.

There is a variety of this with narrower leaves*.]

2. Grows in Jamaica, Barbadoes, and ſeveral other places in the warm parts of America, in ſtagnant waters and ſwampy places; it would be difficult to preſerve this plant in England, ſince it will not live in the open air, and requires a bog to make it thrive: but as it has no great beauty, or uſe, it is not worth the trouble of cultivating in this country.

3. [Root-leaves on long flat footſtalks, oblong-heart-ſhaped, reticulated with veins; ſtems naked, flowers white, in umbels, from which ariſe others, as it were proliferous, in the ſame manner as in *A. ranunculoides*. Capſules large, awl-ſhaped, divaricated, giving them a ſtellated appearance†. They are of a hard texture, and ſo cloſely united at the baſe, as to appear like a ſingle fruit‡.]

It is a native of France, England and Siberia; and is found in ſtanding waters, which are not very deep; but is by no means ſo common as the firſt ſort. If it is wanted as a medicine, it muſt be gathered in its natural place of growth, ſince it is never cultivated in gardens.

[4. Is the connecting link between this genus and that of *Sagittaria*. It is found both in South and North America.

5. Flowers large, ſeveral from the ſame ſheath, on very long peduncles. Capſules generally eight§. The leaves which ſwim on the ſurface are ovate, but thoſe which are under water are linear: this is the caſe with many aquatic plants, the motion of the water lengthening the leaves. It is found in ditches in France, Sweden, Germany and Siberia; alſo in a lake or two in Wales: and flowers in july and auguſt.

6. In a ſituation where the water is nearly dried up, this plant is from two to ſix inches high, the ſtems and proliferous umbels hardly longer than the leaves, and ſome of the flowering branches procumbent; but on the edge of old turf-pits, where there is plenty of water, it grows with an upright naked ſtem, from one to two feet high, bearing umbels of numerous rays, and theſe again others. The root-leaves, in this ſtate, are on very long foot-ſtalks, linear-lanceolate, not greatly exceeding the footſtalk in breadth, and are extremely like the paddles of the canoes of ſome of the South-ſea iſlands‖. The corolla is bluiſh white, and opens about noon ¶. It is a native of Sweden, Holland, France, Germany, Italy and England, in marſhes and moors: as on Giggleſwick Tarn, Yorkſhire; between Burton and Derby; Bungay, Suffolk; Ellingham fen, Norfolk.

7. Is a Virginian plant: named by Clayton, *Sagitta puſilla, corolla alba tenerrima, foliis ſubulatis.* Dwarf Sagitta, with a very tender white corolla, and ſubulate leaves.

8. Has the ſtature of the firſt, the leaves are ſmooth, on long petioles, and ſcarcely acute. The petioles are ſcarcely jointed. The flowering ſcape is the ſame as in *A. Plantago*. The ſeeds are awned**. Native of Italy: in the marſhes under the Apennines.

9. Stems creeping, jointed, leafy at the joints, upright towards the top. Leaves three-nerved, ſhorter than the petiole, which is thickened towards the baſe: root-leaves numerous; ſtem-leaves ſhorter, two or four at each knot, where there are little brown ſcales embracing the ſtem, whence proceed two or three peduncles, ſometimes one only, half an inch long, one-flowered. Leaflets of the calyx pale yellow. Petals crenate, pale purple; the claws narrowed, ſtreaked, white. Filaments green, diſtributed in pairs at the claw of each petal: anthers incumbent, oblong, yellow. Germs coadunate in a ball. Native of Spain, on the ſandy banks of the river Manzanares: flowering in auguſt.

It ſeems to be the ſame (though much ſmaller) with the Aliſma which Abbé Poiret found on the northern coaſt of Africa, and which is deſcribed by Lamarck*.

PROPAGATION AND CULTURE.

If any one be deſirous of cultivating the European ſpecies, he muſt have a piece of water on purpoſe, or keep them in pots or tubs perpetually immerſed in water, unleſs he has frames of wood with partitions filled with earth, which he can water largely at his pleaſure.

Alisma. See *Arnica, Primula, Senecio.*

Alkænda. See *Myrtus.*

Alkanet. See *Anchuſa.*]

Alkekengi. See *Atropa* and *Phyſalis.*

[ALLAMANDA. (*From Mr. Frederick Allamand, a Dutch Surgeon, who went to Guiana about* 1769, *and to Ruſſia about* 1776. *He ſent deſcriptions, figures, and ſpecimens of plants to Linneus.*)

Lin. mant. p. 146. *ſyſt.* 1295. *p.* 252. *Reich.* 321. *Schreb.* 418. *Gærtn. t.* 61. *Juſſ.* 148.

Galarips. *Allamand.*

Orelia. *Aublet.* 106.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Contortæ.—Apocineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted: parts ovate, acute.

Cor. one-petalled, funnel-ſhaped; *tube* cylindric: *border* ſemiquinquefid, ſwelling; *diviſions* ſpreading, obtuſe.

Stam. *Filaments* ſcarcely any: *anthers* five, ſagittate, converging, in the throat of the tube.

Pist. *Germ* oval, ſurrounded with a ring: *ſtyle* filiform, the length of the tube: *ſtigma* headed, contracted in the middle.

Per. an orbicular, lens-ſhaped, echinate, one-celled, two-valved *capſule.*

Seeds very many, imbricate, orbiculate, flat, edged with a membranous wing.

ESSENTIAL CHARACTER.

Cor. contorted. *Capſ.* lens-ſhaped, erect, echinate, one-celled, two-valved, many-ſeeded.

SPECIES.

1. Allamanda cathartica.

Lin. mant. 214. *ſuppl.* 165. *ſyſt.* 252. *Reich.* 1, 592. *Gærtn. fruct.* 1. 293.

Echinus. *Barrer. æquin.* 48.

Orelia grandiflora. *Aublet. guian.* 271. *t.* 106.

DESCRIPTION.

A milky ſhrub. Stem twining, and climbing on trees: branches round, pubeſcent. Leaves in fours, on very ſhort petioles, elliptic-lanceolate, ſhining, quite entire, with a villous rachis. Flowers terminal, in erect racemes: twin, pedunculate. Corolla yellow. The leaves are cathartic, and an infuſion of them is uſed at Surinam in the cholic. It is found wild there, at Cayenne, in Guiana, &c. by the ſea-ſide†. Introduced in 1785, by Baron Hake‡.

All-good. See *Chenopodium.*

All-heal. See *Stachys.*

Alliaria. See *Eryſimum.*

Alligator-Pear. See *Laurus.*]

[ALLIONIA. (*Named in honour of Charles Allioni, Profeſſor of Botany at Turin, &c. &c. Author of Flora Pedemontana, and other works.*)

Lin. gen. 117. *Reich.* 123. *Schreb.* 151. *Loefl. it.* 181. Juſſ. 195.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Aggregatæ. Dipſaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth common* to three flowers, ſimple, oblong, five-parted; parts ovate, acute, permanent. *Proper* obſolete, ſuperior.

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* Withering. † Woodward MS. ‡ Stokes in Withering.
§ Withering. ‖ Woodward MS. ¶ Withering. ** Linn.

* Cavanilles. † Linneus. ‡ Hort. kew.

Cor. *proper* one-petalled, funnel-ſhaped, edge quinquefid, erect.

Stam. *Filaments* ſetaceous, longer than the corolla, bending to one ſide; *anthers* roundiſh.

Pist. *Germ* inferior, oblong: *ſtyle* ſetaceous, longer than the ſtamens: *ſtigma* multifid, linear.

Per. none.

Seeds ſolitary, oblong, five-cornered, naked.

Rec. naked.

ESSENTIAL CHARACTER.

Cal. common, oblong, ſimple, three-flowered; *proper* obſolete, ſuperior. *Corollules* irregular. *Recept.* naked.

SPECIES.

1. Allionia violacea.
Lin. ſpec. 147. *Reich.* 1. 289. *Loefl. it.* 181.
Leaves heart-ſhaped, calyxes quinquefid.

2. Allionia incarnata.
Lin. ſpec. 147. *Reich.* 1. 289. *L'Herit. ſtirp. nov.* 4. 63. *t.* 31.
Leaves obliquely ovate, calyxes triphyllous.

DESCRIPTIONS, &c.

1. Stem herbaceous, upright, weak, branched. Leaves oppoſite, acute, quite entire, ſmooth, the lower ones on long petioles. Flowers in a branched panicle, terminating, with ſhort little bractes. Corolla rather large, blue purple. Native of South-America *.

2. This is an annual, glaucous plant, with the habit of Boerhaavia. *Root* branching, ſomewhat fibroſe. *Cotyledons* petioled, roundiſh, ſpreading, flat. *Stem* uſually three-parted at the baſe, ſomewhat branched, proſtrate, round, villoſe, ſubviſcid: branches alternate, more viſcid, axillary from each ſecond ſmaller leaf. *Leaves* as in Boerhaavia hirſuta oppoſite, one ſmaller than the other; the primordial ones in threes, petioled, oval, unequal at the baſe, bluntiſh or ſcarcely acuminate, repand, very looſely nerved, thickiſh, villoſe, ſcarcely ſcabrous, pale, glaucous beneath, purple at the edge, concave, ſpreading, 18—20 lines long, 10—12 broad: petioles round, villoſe, the length of the leaf. *Peduncles* ſolitary, axillary, one-flowered, filiform, villoſe, at firſt ſhort, lengthening as they flower, nodding at the tip. *Flowers* fleſh-coloured, three lines in length and breadth. Common Perianth three-leaved; leaflets ovate, acute, concave, viſcid, villoſe, erect, from one to three lines in length. Univerſal corolla longer than the calyx, reſembling a regular three-petalled flower, and two or three lines in breadth: each floret five-nerved, villoſe; tube the length of the calyx; border oblique, two-parted, unequal, the inner ſegment ſimple, acute, the length of the calyx, the outer longer, truncate, trifid, ſpreading, each ſegment two-toothed or emarginate. Filaments four, ſometimes placed on the germ, ſometimes inſerted into the baſe of the corolla, capillary, erect, the length of the tube: anthers two-lobed, two-celled. Germ inferior or between the calyx and corollule, ovate, ſomewhat compreſſed, with one angle on the inner ſide, quadrangular and glanduloſe on the outer. Style ſubfiliform, the length of the ſtamens. Stigma capitate, inclined. Calyx, when foſtering the ſeeds, ſomewhat dilated, and looſe. Seeds three, one to each floret, keeled, reſembling the open jaw of a cat, or the leaf of Dionæa Muſcipula when irritated; the length of the calyx.

Native of Peru, on rocks, and in ſandy ſoils. Introduced into the Paris garden, from ſeeds ſent by Dombey. It flouriſhes there, and perfects its ſeeds in the middle of ſummer †.]

ALLIUM. (Derivation uncertain. Some deduce it from αλλεσθαι, *exilire*, on account of its quick growth; others from *halo*, becauſe it exhales a ſtrong ſmell; others again from αγλιθες, *a head of Garlick.*)
Lin. gen. n. 409. *Reich.* 442. *Schreb.* 557. *Tournef.* 206. *Gærtn.* 16. *Juſſ.* 53.
Cepa *Tournef.* 205. Porrum *Tournef.* 204.
Scorodopraſum *Mich.* 24. Moly *Boerh.* 2. 146.

Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Spathaceæ—Aſphodeli* Juſſ.

GENERIC CHARACTER.

Cal. *Spathe* common, roundiſh, withering, many-flowered.

Cor. *Petals* ſix, oblong.

Stam. *Filaments* ſix, ſubulate, often the length of the corolla. *Anthers* oblong, upright.

Pist. *Germ* ſuperior, ſhort, bluntly three-cornered, the corners marked with a line. *Style* ſimple. *Stigma* ſharp.

Per. *Capſule* very ſhort, broad, three-lobed, three-celled, three-valved.

Seeds few, roundiſh.

Obs. *In ſome ſpecies three alternate filaments are broad and forked, with an intermediate anther.*

ESSENTIAL CHARACTER.

Cor. ſix-parted, ſpreading. *Spathe* many-flowered. *Umbel* heaped. *Capſule* ſuperior.

SPECIES.

* *Stem-leaves flat. Umbel capſule-bearing.*

1. Allium Ampelopraſum. *Great round-headed Garlick.*
Lin. ſpec. 423. *ſyſt.* 321. *Reich.* 2. 28. *Hudſ. ang.* 138. *With.* 342. *Hall. helv. n.* 1218. *Mich. gen.* 25. *t.* 24. *f.* 5? *Mill. dict. n.* 4. *Raii hiſt.* 1125. 2. *ſyn.* 370. 4.
Umbel globoſe, ſtamens three-cuſped, petals with a rough keel.

2. Allium Porrum. *Common Leek.*
Lin. ſpec. 423. *Reich.* 2. 29. *hort. upſ.* 77. *cliff.* 136. *mat. med.* 92. *Hall. helv. n.* 1217. *All.* 7. *Blackw. t.* 421. *Plenck. ic. t.* 253.
Porrum ſativum. *Mill. dict. Raii hiſt.* 1126. *n.* 1.
Umbel globoſe, ſtamens three-cuſped, petals with a rough keel, root coated.

3. Allium lineare. *Linear-leaved Garlick.*
Lin. ſpec. 423. *Reich.* 2. 29. *Hall. all.* 9.
Porrum. *Gmel. ſib.* 1. *t.* 13. *and* 14. *f.* 1. *Mill. dict. n.* 2.
Umbel globoſe, ſtamens three-cuſped, twice as long as the corolla.

[4. *Allium rotundum. *Great round-headed Garlick.*
Lin. ſpec. 423. *Reich.* 2. 30. *Gærtn. fruct.* 1. 56. *Pollich pal. n.* 325. *Hall. helv. n.* 1219. *All. n.* 8. *Raii hiſt.* 1120. *n.* 5.
Umbel ſubgloboſe, ſtamens three-cuſped, ſide-flowers nodding.]

5. Allium Victorialis. *Long-rooted Garlick.*
Lin. ſpec. 424. *ſyſt.* 321. *Reich.* 2. 30. *Gærtn. fruct.* 1. 56. *Jacq. auſt.* 3. *t.* 216. *Blackw. t.* 544. *Plenck. ic. t.* 261. *Hall. helv. n.* 1229. *All.* 20. *Raii hiſt.* 1122. *n.* 13.
Umbel rounded, ſtamens lanceolate, larger than the corolla, leaves elliptic.

6. Allium ſub-hirſutum. *Hairy Garlick*, or *Dioſcorides's Moly.*
Lin. ſpec. 424. *ſyſt.* 321. *Reich.* 2. 30. *Raii hiſt.* 1123. *n.* 7. *Oſbeck it.* 49. *Hall. all.* 18.
Stamens awl-ſhaped, lower leaves hirſute.

7. Allium magicum. *Homer's Garlick* or *Moly.*
Lin. ſpec. 424. *Reich.* 2. 31. *hort. cliff.* 137. *Hall. all.* 19. *Raii hiſt.* 1122. *n.* 2. *and* 1123. *n.* 3.
Stamens ſimple, branches bulb-bearing.

8. Allium obliquum. *Oblique-leaved Garlick.*
Lin. ſpec. 424. *Reich.* 2. 31. *Gmel. ſib.* 1. *t.* 9.
Stamens filiform, thrice as long as the flower, leaves oblique.

9. Allium ramoſum. *Branched Garlick.*
Lin. ſpec. 425. *Reich.* 2. 31. *Gmel. ſib.* 1. *t.* 9. *f.* 1.
Umbel globoſe, ſtamens awl-ſhaped longer, leaves linear, ſubconvex.

10. Allium roſeum. *Roſe Garlick.*
Lin. ſpec. 432. *ſyſt.* 321. *Reich.* 2. 32. *Ger. prov.* 150. *Gouan. hort.* 166. *Magn. monſp. t.* 10. *Rudb. elyſ.* 2. *f.* 17. *Raii hiſt.* 1124. *n.* 12.
Umbel flat-topped, petals emarginate, ſtamens very ſhort, ſimple.

[11. Allium tataricum. *Tartarian Garlick.*
Lin. ſyſt. 322. *ſuppl.* 196.
Umbel flat, ſtamens ſimple; leaves ſemicylindrical.]

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* Loefling.

† L'Heritier.

** *Stem-leaves flat. Umbel bulb-bearing.*

12\. Allium ſativum. *Common Garlick.*
Lin. ſpec. 425. *Reich.* 2. 32. *hort. upſ.* 76. *cliff.* 137. *mat. med.* 92. *Hall. all.* 1. *Plenck. ic. t.* 254. *Woodv.* 460. *t.* 168. *Raii hiſt.* 1125. 1. *Loureiro cochinch.* 201.
Bulb compound; ſtamens three-cuſped.

13\. Allium Scorodopraſum. *Rocambole.*
Lin. ſpec. 425. *Reich.* 2. 32. *hort. upſ.* 77. *ſuec.* 278. *Scop. carn. n.* 396. *Pollich pal. n.* 326. *Hall. all.* 2. *Plenck. ic. t.* 256. *Raii hiſt.* 1120. *n.* 4.
Stamens three-cuſped, leaves crenulate, ſheaths two-edged.

14\. Allium arenarium. *Sand Garlick.*
Lin. ſpec. 426. *Reich.* 2. 33. *ſuec.* 279. *Hudſ. angl.* 138. *With.* 343. *Fl. dan. t.* 290. *Hall. helv. n.* 1222. *all. n.* 3. *Thunb. jap.* 132. *Raii hiſt.* 1119. *n.* 1.
Stamens three-cuſped, ſheaths columnar, ſpathe awnleſs.

15\. Allium carinatum. *Mountain Garlick.*
Lin. ſpec. 426. *ſyſt.* 322. *Reich.* 2. 33. *ſuec.* 239. *Hudſ. angl.* 139. *Hall. helv. n.* 1224. *all. t.* 1. *f.* 2. *Scop. carn. n.* 397. *Pollich pal. n.* 337. *Ger. emac.* 187. 5. *Mor. hiſt.* 28. *ſ.* 4. *t.* 14. *f.* 5. *Raii hiſt.* 1119. *n.* 2.
Stamens awl-ſhaped; ſpathe very long.

*** *Stem-leaves columnar. Umbel capſule-bearing.*

16\. Allium ſphærocephalon. *Small round-headed Garlick.*
Lin. ſpec. 426. *ſyſt.* 322. *Reich.* 2. 34. *Allion. pedem. n.* 1872. *Mich. gen. t.* 24. *f.* 2. *Hall. helv. n.* 1220. *Raii hiſt.* 1121. *n.* 9.
Stamens three-cuſped, longer than the corolla, leaves ſemicolumnar.

[17\. Allium parviflorum. *Small-flowered Garlick.*
Lin. ſpec. 427. *Reich.* 2. 34.
Umbel globoſe, ſtamens ſimple, longer than the corolla, ſpathe awl-ſhaped.]

18\. Allium deſcendens. *Purple-headed Garlick.*
Lin. ſpec. 427. *Reich.* 2. 34. *hort. upſ.* 78. *Rudb. elyſ.* 2. *f.* 20. & *f.* 13. *Hall. all. n.* 11. *t.* 2. *f.* 1.
Stamens three-cuſped, outer peduncles ſhorter.

[19\. Allium moſchatum. *Muſk-ſmelling Garlick.*
Lin. ſpec. 427. *Reich.* 2. 35. *Hall. all.* 17.
Moly. *Bauh. prodr.* 28. 2. *fig. Rudb. elyſ.* 2. *f.* 14.
Umbel flat-topped, moſtly ſix-flowered, petals acute, ſtamens ſimple, leaves ſetaceous.]

20\. Allium flavum. *Sulphur-coloured Garlick.*
Lin. mant. 363. *ſpec.* 428. *ſyſt.* 322. *Reich.* 2. 35. *Jacq. auſt.* 2. *t.* 141. *Hall. all.* 24. *Rudb. elyſ.* 2. *f.* 5?
Flowers pendulous, petals ovate, ſtamens longer than the corolla.

[21\. Allium pallens. *Pale-flowered Garlick.*
Lin. ſpec. 427. *ſyſt.* 322. *Reich.* 2. 35. *Hall. all.* 21. *Col. ecphr.* 2. *t.* 7. *f.* 2. *Raii hiſt.* 1118. 6.
Flowers pendulous, truncated; ſtamens ſimple, equalling the corolla.

22\. Allium paniculatum. *Panicled Garlick.*
Lin. ſpec. 428. *ſyſt.* 322. *Reich.* 2. 36. *Scop. carn. n.* 398. *Hall. helv. n.* 1225. *opuſc.* 386. *n.* 25. *fig. Gærtn. fruct.* 1. 56.
Peduncles capillary, ſpread out; ſtamens awl-ſhaped, ſpathe very long.

23\. Allium vineale. *Crow Garlick.*
Lin. ſpec. 428. *Reich.* 2. 36. *Hudſ. angl.* 139. *With.* 343. *Pollich. pal. n.* 329. *Hall. helv. n.* 1221. *all.* 4. *Mor. hiſt. ſ.* 4. *t.* 15. *f.* 4. *Pet. t.* 66. *f.* 1. *Ger.* 179. *Raii hiſt,* 1117. *n.* 4.
Stamens three-cuſped.

24\. Allium oleraceum. *Purple-ſtriped Garlick.*
Lin. ſpec. 429. *ſyſt.* 323. *Reich.* 2. 37. *ſuec.* 280. *Hudſ. angl.* 140. *With.* 344. *Hall. all. t.* 1. *f.* 4. *helv. n.* 1223. *Ger.* 188. 6. *Mor. ſ.* 4. *t.* 14. *f.* 2. *Raii hiſt.* 1117. *n.* 3. *and* 1119. *n.* 3. *ſyn.* 370. 3.
Stamens ſimple; leaves rough, ſemicolumnar; furrowed underneath.

25\. Allium Pallaſii. *Pallas's Garlick.*
Lin. ſyſt. 323. *Murray in comm. gott.* 1775. *p.* 32. *t.* 3.
Umbel difform, ſtamens ſimple, equalling the corolla; ſtyle very ſhort.

**** *Leaves radical, ſtem naked.*

26\. Allium nutans. *Flat-ſtalked Garlick.*
Lin. ſpec. 429. *ſyſt.* 323. *Reich.* 2. 37. *Hall. all.* 6.
Porrum. *Gmel. ſib.* 1. 55. *t.* 12.
Scape two-edged, leaves linear flat, ſtamens three-cuſped.

27\. Allium aſcalonicum. *Shallot or Eſchallote.*
Lin. ſpec. 429. *Reich.* 2. 37. *hort. cliff.* 36. *upſ.* 79. *Loureiro cochinch.* 202. *Plenck. ic. t.* 258. *Mor. hiſt.* 2. *ſ.* 4. *t.* 14. *f.* 3. *Ger. emac.* 170. *f.* 4. *Raii hiſt.* 1117. 1.
Scape columnar, leaves awl-ſhaped, umbel globoſe, ſtamens three-cuſped.]

28\. Allium ſeneſcens. *Narciſſus-leaved Onion or Garlick.*
Lin. ſpec. 430. *Reich.* 2. 38. *hort. upſ.* 79. *Thunb. jap.* 132. *Allion. ped. n.* 1879. *Gmel. ſib.* 1. *t.* 11. *f.* 2. *Scop. carn. n.* 400. *Hall. all.* 19. *n.* 2. *Raii hiſt.* 1120. *n.* 8.
Scape two-edged, leaves linear, convex beneath, ſmooth, umbel roundiſh, ſtamens awl-ſhaped.

[29\. Allium odorum. *Sweet-ſmelling Garlick.*
Lin. mant. 62. *ſyſt.* 323. *Reich.* 2. 38. *Thunb. jap.* 132. *Loureiro cochinch.* 203.
Scape nearly columnar, leaves linear, channelled, angular beneath, umbel flat-topped.

30\. Allium inodorum. *Carolina Garlick.*
Ait. hort. kew. 1. 427.
Scape naked ſubtriquetrous, leaves linear flat keeled beneath, umbel faſtigiate floriferous, ſtamens ſimple.]

31\. Allium anguloſum. *Angular-ſcaped Garlick.*
Lin. ſpec. 430. *ſyſt.* 323. *Reich.* 2. 39. *hort. upſ.* 79. *Loureiro cochinch.* 203. *Gærtn. fruct.* 1. 56. *Allion. pedem. n.* 1880. *Jacq. auſtr.* 5. *t.* 423. *Hall. helv. n.* 1227. *α. all.* 19. *Raii hiſt.* 1120. *n.* 7.
Cepa. *Gmel. ſib.* 1. 58. *t.* 14. *f.* 2.
Scape two-edged, leaves linear-channelled, ſomewhat angular beneath, umbel flat-topped.

[32\. Allium nigrum. *Black Garlick.*
Lin. ſpec. 430. *ſyſt.* 323. *Reich.* 2. 39. *Rudb. elyſ.* 2. *f.* 21. *Allion. pedem. n.* 1881. *t.* 25. *f.* 1. *Retz. obſ.* 1. 15. *n.* 32. & 2. *n.* 45. & 5. *p.* 3.
A. multibulboſum. *Jacq. auſtr.* 1. 9. *t.* 10.
Scape columnar; leaves linear, umbel hemiſpherical, petals erect, ſpathe pointed, bifid.]

33\. Allium canadenſe. *Canada Tree Onion.*
Lin. ſpec. 431. *ſyſt.* 323. *Reich.* 2. 39. *Kalm itin.* 3. *p.* 79.
Scape columnar, leaves linear, head bulb-bearing.

34\. Allium urſinum. *Ramſons.*
Lin. ſpec. 431. *Reich.* 2. 40. *ſuec.* 277. *Hudſ. angl.* 140. *With.* 344. *Fl. dan. t.* 757. *Mor. hiſt. ſ.* 4. *t.* 15. *f.* 15. *Petiv. t.* 66. *f.* 8. *Ger.* 141. 2. *emac.* 179. *Scop. carn. n.* 401. *Hall. helv. n.* 1228. *all.* 21. *Plenck. icon. t.* 260. *Raii hiſt.* 1122. *n.* 12.
Scape three-ſided, leaves lanceolate, petiolate, umbel flat-topped.

[35\. Allium triquetrum. *Three-cornered Moly.*
Lin. ſpec. 431. *and* 1680. *Reich.* 2. 40. *Rudb. elyſ.* 2. *f.* 16. *Loureiro cochinch.* 202.
Moly. *Park. par. t.* 143. *f.* 4. *Raii hiſt.* 1124. *n.* 10.
Scape and leaves three-ſided, ſtamens ſimple.]

36\. Allium Cepa. *Common Onion.*
Lin. ſpec. 431. *Reich.* 2. 41. *hort. upſ.* 77. *cliff.* 137. *mat. med.* 93. *Hall. all.* 10. *Plenck. icon. t.* 255. *Raii hiſt.* 1116. *Loureiro cochinch.* 201. *Thunb. jap.* 132.
Scape ſwelling out below, and longer than the columnar leaves.

37\. Allium Moly. *Yellow Moly.*
Lin. ſpec. 432. *Reich.* 2. 41. *hort. upſ.* 76. *cliff.* 27. *Hall. all.* 23. *Raii hiſt.* 1123. *n.* 4.
Moly. *Swert. flor.* 1. *t.* 60. *f.* 2.

Scape ſubcylindric, leaves lanceolate, ſeſſile; umbel level-topped.

[38. Allium tricoccum. *Three-ſeeded Garlick.*
Ait. hort. kew. 1. 428.
Scape naked, ſemicolumnar, leaves lanceolate-oblong, flat, ſmooth, umbel globular, ſeeds ſolitary.].

39. Allium fiſtuloſum. *Welſh Onion* or *Ciboule.*
Lin. ſpec. 432. *Reich.* 2. 41. *hort. upſ.* 78. *cliff.* 136. *Thunb. jap.* 133. *Plenck. icon. t.* 259. *Hall. all.* 13. *Park. par.* 511. *f.* 4.
Scape equalling the columnar ſwelling leaves.

40. Allium Schœnopraſum. *Cives,* or *Chives.*
Lin. ſpec. 432. *ſyſt.* 324. *Reich.* 2. 41. *hort. upſ.* 78. *cliff.* 136. *ſuec.* 282. *Hall. helv. n.* 1726. *all.* 14. *Gmel. ſib.* 1. 59. *t.* 15. *f.* 1. *Plenck. ic. t.* 257. *Raii hiſt.* 1117. *n.* 2.
Scape equalling the columnar awl-filiform leaves.

[41. Allium ſibiricum. *Siberian Garlick.*
Lin. mant. 562. *ſyſt.* 324. *Reich.* 2. 42.
A. Schoenopraſum β. *Lin. ſpec.* 433. *Murr. gott.* 6. *t.* 4.
Scape columnar, leaves ſemicylindric, ſtamens awl-ſhaped.

42. Allium tenuiſſimum. *Slender-leaved Garlick.*
Lin. ſpec. 433. *Reich.* 2. 42. *Gmel. ſib.* 1. 61. *t.* 15. *f.* 2, 3. (Cepa.)
Scape columnar, empty; leaves awl-filiform; heads looſe, few-flowered.

43. Allium Chamæ-Moly. *Baſtard Garlick.*
Lin. ſpec. 433. *ſyſt.* 324. *Reich.* 2. 42.
Moly. *Rudb. elyſ.* 2. *f.* 15. *Raii hiſt.* 1124. *n.* 14.
Chamæ-Moly. *Col. ecphr. t.* 326.
Scape ſcarcely any, naked; capſules drooping, leaves flat ciliate.

44. Allium gracile. *Jamaica Garlick.*
Ait. hort. kew. 1. 429.
Scape naked, columnar, very long, leaves linear, channelled, ſtamens ſubulate, connate at the baſe.

45. Allium neapolitanum. *Naples Garlick.*
Cyrill. rar. neap. 1. 13. *t.* 4.
Scape naked ancipital, leaves lanceolate channelled, umbel ſcattered.

DESCRIPTIONS.

1. Stem a foot high or more, leafy at bottom. Leaves glaucous, ſucculent. Spathe conical, one-leafed, deciduous. Flowers in a cloſe ball, on peduncles an inch in length [*]. The ſtamens are a little longer than the corolla, which is pale purple. It is found growing naturally in the Eaſt, in Switzerland, in a ſmall iſland of the Briſtol channel, *&c.* With us it flowers in july and auguſt.

2. Stem or ſcape three feet high or more, leafy at bottom. Leaves an inch wide, with the edge ſmooth. Spathe ſhortly conical, deciduous. Flowers in a cloſe, very large ball, on purple peduncles. The corolla alſo is purpliſh [†]. It is very like the former, and perhaps only a variety [‡]. It flowers in april and may. Cultivated in 1597, by Gerard [§]. Probably much earlier.]

3. This grows naturally in Siberia. It has narrower leaves than the common Leek, the ſtalks are ſmaller, and do not riſe ſo high; the heads of flowers are alſo ſmaller, and of a purple colour. It is called by Miller *Porrum Ampelopraſum.* He cultivated it in 1768.

[4. The root is made up of many purple and black bulbs, crowded between white common ſheaths, ſcape three feet high; leaves graſſy, three lines broad: ſpathe ſhort. The outer petals gibbous downwards, more acute, purple with a diſtinct line of a darker colour; the inner paler, erect, without any eminent line: the ſtamens project beyond the corolla. Fruit and ſeeds of the Leek. (n. 2.) [‖]. Native of the ſouthern parts of Europe.

5. Grows on the mountains of Switzerland, Auſtria, Sileſia and Savoy. The wild plant has the root-leaves half an inch broad; tranſplanted into a garden, the leaves grow to four inches in breadth, without becoming much longer. The ſtem is from a foot to eighteen inches in height. The petals are of a dirty white, with a tincture of green [*]. Cultivated in 1739, by Mr. Miller [†].

6. Bulb the ſize of a hazel nut. Stem a foot or eighteen inches high, round, ſmooth, ſolid. Lower leaves graſſy, embracing the ſtalk, reclining a little on the ground; thoſe on the ſtem broad, ſmooth, and keeled. Flowers in an umbel, white, like thoſe of *A. urſinum,* or *Ramſons,* but ſmaller [‡]. Native of Italy, Spain, Africa, and the Levant. Cultivated in 1596, by Gerard. It flowers in may [§].

7. This has a weak, cylindric ſcape, a foot high, the root-leaves broad, channelled, and obtuſe [‖]. Cultivated in 1596, by Gerard [¶],] and preſerved by many perſons in the gardens for the ſake of variety, but it has a very ſtrong ſcent.

[8. Grows two feet in height, with a cylindrical ſtalk. The leaves are channelled, and have round ſheaths. The flowers grow in a globoſe umbel. The ſpathe alſo is globoſe, purple and acuminate. The petals are ovate, erect, concave, yellow with a green keel; the filaments whitiſh, with yellow anthers; the germ ſubgloboſe. Native of Siberia [**]. Cultivated before 1768, by Mr. Miller [††].

9. The petals are purpliſh, with the keel of a darker ſhade: the filaments purple, a little longer than the corolla, with violet-coloured anthers: germ roundiſh, with three green ſpots. From the middle of the ſtem grows a naked branch, as long as the ſtem, from the axil oppoſite to the leaf [‡‡].] This and the former grow naturally in Siberia, whence their ſeeds were ſent to Peterſburgh, and from them the botanic gardens have been ſupplied with them: they are only preſerved for the ſake of variety.

10. [Leaves linear, ſcarcely ſo long as the ſcape, which is cylindric. Spathe obtuſe. Flowers larger than in any of the reſt, and dark purple. Stamens white and very ſhort [§§]. It grows naturally about Montpellier and in Piedmont, in the fields, olive-grounds and vineyards. Cultivated in 1752, by Mr. Miller [‖‖].

11. Stem cylindric, ſmooth, half a foot high, leafy towards the baſe. Leaves channelled, ſmooth, ſcarcely ſhorter than the ſtem. Spathe bivalve, roundiſh, and withering. Corolla flat, white. Filaments ſhorter than the petals, with brown anthers. Native of Siberia [¶¶]. Introduced in 1787, by Mr. Haneman [***].

12. *Garlick* is ſaid to be found wild in the iſland of Sicily. It has many bulbs, commonly called cloves, inveſted with a white ſkin; the leaves are linear, long and narrow like thoſe of graſs. Cultivated in 1551 [†††]. Probably much earlier. For its qualities, ſee *Onion,* n. 36.

13. *Rocambole* is found wild in Sweden, Denmark and Hungary. This has compound bulbs, but the cloves are ſmaller than thoſe of Garlick. The ſtem riſes from two to three feet high, and bears many ſmall bulbs at top, which may be uſed as well as thoſe of the root. Cultivated in 1596, by Gerard [‡‡‡].

14. Leaves three or four, ſheathing the lower part of the ſtem, the lower ones quickly withering, broad, edges hairy, or rather finely toothed, but the teeth not to be diſcerned without a glaſs. Leaf-ſheaths ſmooth, ſcored; ſcores of a deeper green. Sheath of one leaf, broad, ſhort, blunt. Bulbs numerous, deep purple. Flowers a few, on ſhort pedicels, ſmall, purple, marked with a deeper line [§§§]; before theſe come out, the ſtem nods. Linneus (fl. ſuec.) ſays, that it is much narrower and leſs than the foregoing; that the leaves wither away before the time of flowering, whereas they are permanent in Rocambole. The bulbs and flowers are blue; the ſtamens a little longer than the corolla;

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[*] Haller.
[†] Ibid.
[‡] Linneus.
[§] Hort. kew.
[‖] Haller.

[*] Haller.
[†] Hort. kew.
[‡] Bauh. hiſt. and Raii hiſt.
[§] Hort. kew.
[‖] Lin. from Sauvages.
[¶] Hort. kew.
[**] Linneus.
[††] Hort. kew.
[‡‡] Linneus.
[§§] Ibid.
[‖‖] Hort. kew.
[¶¶] Lin. ſuppl.
[***] Hort. kew.
[†††] Hort. kew. from Turner.
[‡‡‡] Hort. kew.
[§§§] Woodw. in Wither.

the ſpathe obtuſe; the leaves quite entire; at the edge, narrower, and graſs-like. The round ſheaths, and the circumſtance of its growing always in a ſandy ſoil, diſtinguiſh this ſpecies from the laſt. Scopoli and Pollich refer Haller's name to the foregoing ſpecies; if rightly, moſt of the ſynonyms are to be referred thither. The 290th plate of the Flora danica bears the name of *Allium Scorodopraſum,* and yet it is quoted by Linneus under his *A. arenarium.* Perhaps they are both one and the ſame plant [*]. It grows wild in Thuringia, Scania, Denmark, Switzerland, Italy, and Weſtmoreland.

15. Bulb ſimple, with very little of the garlick ſmell or taſte. Stem four feet high, with few leaves, which are ſucculent, keeled, and three lines wide, ſheath very long and narrow, conſiſting of two leaves one longer than the other. A great heap of bulbs in the head, with peduncles, from an inch, to two inches long, ſome bearing bulbs, others bell-ſhaped flowers. The outer petals are of a darker colour than the inner ones, which are yellow, with a line of green, but ſometimes purple. The capſule is columnar, marked with ſix lines of a darker colour, and is abortive. It is found wild in Scania, Germany, Italy and Switzerland; alſo in Weſtmoreland; about Ramſgate in the iſle of Thanet; and between Sandwich and Deal.

16. Stems glaucous, not ſtreaked, ſmooth, round. Leaves flat above, convex below, becoming ſemicylindrical and channelled, as long or longer than the ſtem. Spathes not tailed, one larger than the other, and bifid. Head of a ſhort conical form; the peduncles lengthening towards the middle, and forming a cloſe imbricate umbel. Petals red with a darker keel, permanent, and becoming more convergent, ovate, the outer ones ſhorter and narrower; not awned. Filaments purple towards the top. Style purple within, very long; ſtigma yellowiſh. It bears capſules [†]. Native of Italy, Germany, Switzerland? and Siberia. It was cultivated in 1759, by Mr. Miller [‡]. Haller thinks that the eighteenth is not ſpecifically diſtinct from this.

17. Like the former, except in having ſimple filaments. Bulb oblong; ſtem cylindric, ſtreaked, leafy; leaves almoſt the length of the ſtem, awl-ſhaped; flowers very ſmall, outer petals ovate, dark-coloured, inner twice the length, lanceolate, purple, ſpathe two-leaved [§]. Native of the ſouth of Europe. Introduced in 1781, by Monſ. Thouin [‖].

18. Two bulbs at the origin of the ſtalk; leaves fiſtulous, channelled above; ſtalk two feet high; ſheath quadrifid [¶]. Native of Italy and Switzerland. Cultivated in 1766, in the Oxford garden.

19. Bulb ſmall, oblong, rufous, covered with a netted bark. Stem ſlender, ſeldom attaining a foot in height. Leaves ruſhy, from an inch to three or four inches in length. Flowers five, ſix or ſeven, pedicelled, in an umbel; corolla duſky white with brown lines, ſmelling like muſk or civet [**]. It grows wild in Provence, Narbonne, and Spain. Caſp. Bauhin relates, that Saltzmann brought him the plant from the hills about Montpellier in 1598, and that he cultivated it in his garden.

20. Stalk leafy, round, glaucous. Leaves round, not angular, flattiſh above the baſe; ſheath twice as long as the umbel, one valve leafy. Umbel with pendulous yellow pedicels, petals deep yellow, obtuſe, concave, erect: ſtamens ſimple, twice as long as the corolla: ſtyle ſhort [††]. Gouan and Gerard think this to be a variety of the laſt. Native of the ſouth of France, Italy, and Auſtria. Cultivated in 1768, by Mr. Miller [‡‡].

21. Stem ſmooth, two feet high: leaves alternate, ſeven-cornered, erect: ſpathe awl-ſhaped, nervoſe: corolla bell-ſhaped, white; petals obovate, very obtuſe, erect, concave, with a green keel; ſcarcely any ſtyle, till after the time of flowering, when it is ſtill very ſhort. The laſt is very like this, but differs in the petals being ovate, and of a deep yellow, and the ſtamens with the piſtil being twice as long as the corolla, inſtead of being ſhorter as in this [*]. Native of Italy, Spain, Montpellier, and Hungary. Introduced in 1779, by Abbé Poiret [†].

22. The leaves are awl-ſhaped and channelled: the flowers hang on very long, looſe, ſlender peduncles; the petals are purple, obovate, the length of the ſtamens; the ſpathe has a very long awl-ſhaped point [‡]. Native of Italy, Auſtria, Switzerland, Carniola, Siberia, and the Levant. Introduced in 1780, by Sign. Giov. Fabroni [§]. Gerard joins this with the foregoing.

23. Head cloſe, with acuminate recurved bulbs; corollas ſmall, violet; ſtamens with two long briſtles, ſtanding out of the flower [‖]. Root of many bulbs, different in ſize, united into one; ſtem two feet high; ſpathe long, narrow. Head of one or two globes, frequently germinating or crinite; between the bulbs, peduncles coming out late and bearing flowers; petals in two ranks, gibbous at the baſe, greeniſh or white, with a purple line, and red at the end; the capſule does not ripen [¶]. Stem covered below with the ſheaths of the leaves, which are ſmooth, hollow, ſlender, and very long; ſpathe one-leafed, broad at the baſe, ending in an awl-ſhaped point, about an inch long, ſcored with green lines. Bulbs numerous, white [**]. A native of Germany, Switzerland, Italy, *&c.* With us it is frequent in paſtures, and communicates its rank taſte to the milk and butter. In other countries it grows alſo among the corn, and in vineyards.

24. Bulb ſolid. Stem two or three feet high, upright, or only a little bent towards the top, ſmooth, not ſtreaked, ſolid. Between the bulbs in the head, come out many filiform peduncles, each ſuſtaining one nodding flower. Very minute white dots ſcarcely viſible to the naked eye, are ſcattered over the whole plant [††]. Root, according to Haller, a ſmall, ſimple, ſlender bulb, ſharp at the upper end: ſtem a foot and half, or more, in height; leaves fiſtulous; ſpathe two-leaved, with long horns, one longer: umbel few-flowered, and ſometimes no flowers, but only bulbs ſeſſile in a cloſe globoſe head, at other times peduncles an inch long, bearing imperfect flowers or bulbs, or true bell-ſhaped flowers: outer petals more acute, with a green nerve, and a bluſh of purple; inner broader, more obtuſe, whiter, the nerve not ſo prominent; the filaments grow longer as they ripen; capſule priſmatic, with ſix prominences and as many furrows. Smell and taſte of the bulbs not ſtrong [‡‡]. Native of Sweden, Germany, Switzerland, Italy; and with us in Weſtmoreland, and Yorkſhire; near Briſtol; and in Eſſex, near Notley, among corn.

25. Bulb globoſe, ſolitary, tunicated, ſize of a ſmall hazel nut. Stem round, a foot and half high, ſlender, leafy. Leaves ſemicylindrical-ſubulate, ſhorter than the ſtem, alternate; ſheath pale, ſtreaked with prominent purple lines. Spathe two-leaved, half the length of the umbel, valves flat, acuminate. Umbel many-flowered, rounded, capſule-bearing, interſperſed with ſome abortive flowers. Peduncles growing thicker towards the top, very long, purple, petals ovate-lanceolate, equal, the keel deeper coloured. Stamens equal to the corolla, filaments ſubulate, purple, anthers brown. Style very ſhort. Capſule three-cornered [§§].

26. It varies ſo much in different ages and ſoils as ſcarcely to be known. The cuſps of the ſtamens are obliterated in old plants [‖‖]. Native of Siberia: and introduced in 1785, by William Pitcairn, M. D. [¶¶].

27. Size nearly of n. 40. Stem almoſt naked, about ſeven inches high or more; ſpathe membranaceous; flowers leſs than thoſe of n. 40. petals erect, ovate-lanceolate, blue with a dark keel;

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[*] Reichard.
[†] Allion.
[‡] Hort. kew.
[§] Linneus.
[‖] Hort. kew.
[¶] Allion.
[**] Bauh. prodr.
[††] Linneus.
[‡‡] Hort. kew.

[*] Linneus.
[†] Hort. kew.
[‡] Linneus.
[§] Hort. kew.
[‖] Linneus.
[¶] Haller.
[**] Woodw. in With.
[††] Linneus.
[‡‡] Haller.
[§§] Murray in Comment. Gott. 32.
[‖‖] Linneus.
[¶¶] Hort. kew.

ſtamens the length of the petals, alternately broader, with trifid tops; anthers yellow; ſtyle with an obtuſe ſtigma *. Haſſelquiſt found the Eſchallotte native in Paleſtine; and it was cultivated here in 1633 †.

28. Petals erect, ſtanding wide from each other, channelled, inflex. Leaves oblique; ſtamens a little longer than the corolla ‡. Haller and Scopoli join it with n. 31, but Linneus affirms that they are certainly diſtinct. Native of Siberia, the Alps, Sileſia, and the iſland of Sicily. Cultivated in 1596, by Gerard §.

29. Sheath ſhort, with rudiments of membranes between all the peduncles, which are many, erect, longer than the flowers. Corollas white, ſweet-ſmelling; petals ovate-oblong, rather acute, from erectiſh ſpreading, with a reddiſh keel. Stamens ſimple, half the length of the corolla. Germ aſh-coloured, dotted with holes: ſtyle white ||. Leaves connate at the baſe into a bunch, ſcarcely fleſhy, by no means rough. Scape a foot high, round or with one obſcure angle, erect. Native of the ſouth of Europe, China, Japan, *&c.*

30. Native of Carolina. Introduced in 1776, by the Dutcheſs Dowager of Portland. It flowers in march and april ¶.

31. Leaves ſometimes ſcarcely angular beneath; but the ſcape a little angular, and ſtreaked above; inner petals ſpreading at top, all converging on the ſides **. Allioni can ſcarcely find any certain difference between the twenty-eighth and this, which is found in meadows, whereas that grows on rocks; the flowers alſo are larger, the plant is higher, and the leaves are not flexuoſe. Native of Siberia, Italy, Auſtria, Switzerland, and Germany, in moiſt places.

32. Reſembles n. 28, but is twice the ſize; has the leaves of Narciſſus; flowers four times larger than in the *ſeneſcens*; petals white, ovate-oblong; ſtamens lanceolate, ſhorter than the corolla; ſpathe ovate, acuminate, divided almoſt to the baſe into two equal parts ††. Native of Provence, Italy, Auſtria, and the neighbourhood of Algiers. Cultivated in 1759, by Mr. Miller ‡‡.

33. Root perennial; leaves flat, ſmooth, ſtraight, ſeven inches long; ſtem almoſt naked, cylindric, ſmooth, ſcarcely longer than the leaves; ſpathe ovate, pointed, ſharpiſh. Flowers few, pedicelled, whitiſh; petals oval; filaments ſimple, the length of the corolla, with browniſh red anthers §§. Native of North America.

34. Bulbs in bunches united by ſmooth coats; root-leaves uſually two, an inch in breadth; ſtem a foot high, and leafy; ſpathe ſhort, bifid, deciduous: flowers from twelve to twenty in the umbel; corolla white; ſtamens from the baſe of the petals; one ſeed in a cell. Smell and taſte very acrid ||||. Native of Sweden, Denmark, Germany, Switzerland, Italy, in woods and moiſt ſhady places; and with us in England not uncommon.

35. Leaves reſembling thoſe of the bur-reed, very much keeled; ſcape erect, ſhorter than the leaves; ſcape lanceolate, bivalve, umbel length of the ſpathe; petals lanceolate, acuminate, white, with a green keel; ſtamens and piſtil half the length of the petals, anthers yellow; ſtigma acute ¶¶. Native of Italy and Spain. Cultivated in 1768, by Mr. Miller ***.]

36. The common Onion is too well known, by its fiſtular leaves and ſwelling ſtalks, to need a particular deſcription. [The latin name *Cepa* is derived from *Caput* a head, on account of the form of its bulb; for the ſame reaſon, the Greeks called it κρομμυον. Others derive it from γήτιον *Æolice* γηπιον, or from γηφυ and γαιφυ *Æolice* for γηθυ. Our Engliſh and the French names are from the latin *Unio*; becauſe the bulb never throws out any offsets.] The varieties of the common Onion are,

The Straſburgh, or common Oval.
The Spaniſh, ſilver ſkinned, and red-ſkinned.
The Portugal great Oval Onion: and
The Tripoli.

All theſe vary from ſeeds, and there are ſeveral intermediate differences which are not worth enumerating.

[The virtues of this genus are conſiderable. *A. Cepa* or Common Onion has been conſidered as of an alexipharmic quality, and has been preſcribed in malignant and epidemical diſtempers. They are very diuretic and powerful in cleanſing, and breaking away any obſtructions in the urinary paſſages. They are likewiſe very efficacious in all infarctions of the lungs, greatly promoting expectoration, and relieving Aſthmas and difficulty of breathing. Externally they are employed in cataplaſms for ſuppurating hard tumours.

A. ſativum or Garlick is ſtill more powerful than onions. As it is very heating and penetrating, it ſhould not be uſed too freely, being apt to cauſe head-ach and other inconveniencies. A clove or two of Garlick pounded with honey, and taken two or three nights together, is good in rheumatic caſes. A quart of water, poured boiling hot upon a pound of the freſh root, cut into ſlices, and ſuffered to ſtand upon it in a cloſe veſſel, for twelve hours, becomes ſtrongly impregnated with the ſmell and taſte of the garlick. This infuſion, with a proper quantity of ſugar, makes the ſyrup of garlick of the ſhops. Vinegar and honey excellently coincide with and improve this medicine, as a detergent and deobſtruent, in diſorders of the breaſt: a compoſition of this kind is prepared by infuſing an ounce and half of the freſh root in half a pint of vinegar, and diſſolving in the ſtrained liquor, by the heat of a water-bath, ten ounces of clarified honey: to cover in ſome degree the ill ſmell of the garlick, a little carraway and ſweet-fennel ſeed, bruiſed, two drachms of each, are boiled for a ſhort time in the vinegar, before the garlick is put in. The garlick itſelf is never to be boiled; its eſſential oil (in which its virtue conſiſts) exhaling during that proceſs.

37. The three outer petals ſpreading, the inner ones erect *.] This was formerly preſerved in gardens for the ſake of its yellow flowers, but having a very ſtrong garlick ſcent, moſt people have rooted it out. [Native of Hungary, on Monte Baldo, about Montpellier, and on the Pyrenees. Cultivated in 1604, by Edward Lord Zouch †.

38. Native of North America. Introduced in 1770, by Mr. William Young ‡.

39. Ciboule or Welſh Onion is perennial, and does not form bulbs like the common Onion; it was cultivated in 1629 §.

40. Bulbs long, flat, oval, connected by rectilinear planes; ſcapes fiſtulous, eight inches or a foot high; leaves fiſtulous; ſpathe ſhort, two-leaved, white, ovate with purple lines; a few large flowers in the umbel, theſe are erect, cylindrical, with petals acutely lanceolate, ſhining, faint purple with a darker line, in two ranks, joined at the baſe; ſtamens from the origin of the petals, with broad bottoms connected with the petals and each other; capſule conical, obtuſe. Smell very ſtrong ||. There is a variety of this found in Siberia, *&c.* figured by Gmelin, (ſibir. 1. t. 15. f. 1.) and Buxbaum, (cent. 4. t. 45.) deſcribed by Murray in the new Gottingen Comment. 6. p. 33, and figured in t. 4. In the common Cives the leaves are ſtraight; in this they are reflected at the ends; in that the form of the umbel can ſcarcely be called pyramidal, as it is in this. The ſcape however of both is clothed with the ſheath of the leaves, ſo that it cannot be ſaid that it is truly naked ¶. Native of Italy, Switzerland, Sweden and Siberia. Cultivated in 1597 **.

41. Leaves a little channelled, by no means angular; ſcape longer than the leaves: umbel level-

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* Linneus.
† Hort. kew. from Ger. emac.
‡ Linneus.
§ Hort. kew.
|| Linneus.
¶ Hort. kew.
** Linneus.
†† Ibid.
‡‡ Hort. kew.
§§ Linneus.
|||| Haller and Scopoli.
¶¶ Linneus.
*** Hort. kew.

* Linneus.
† Hort. kew. from Lobel.
‡ Hort. kew.
§ Hort. kew. from Parkinſon.
|| Haller.
¶ Reich. from Murray.
** Hort. kew. from Gerard.

topped ; ſheath ſmall, ovate, ſcarioſe ; petals ſharp, white with a greeniſh keel ; ſtamens ſhorter than the corolla ; germ aſh-coloured, ſtigma ſimple §. This and the next are natives of Siberia. Introduced in 1777 by Chevalier Murray **.

42. Leaves hollow, ſwelling, ſomewhat glaucous, radical, embracing. Scape from a palm to a long ſpan in height, very ſlender. Spathe one-leafed, much pointed. Flowers 6—8, on ſlender peduncles, about half an inch in length, pale red and ſhort, almoſt cloſed ; petals thick, with a darker line along the outſide. Filaments light purple. It is much eaten by the field mice, and they lay up the roots for their winter food ††.

43. Bulb the ſize of a hazel nut. Leaves four or five, graſſy, not exceeding a foot in length. Flowers from ſeven to ten, white with the outſide purpliſh or greeniſh : when theſe are paſſed, the ſtem with the ſeeds bends towards the ground. Native of Italy ; flowering in january ‡‡.

44. Leaves like thoſe of the Narciſſus, a foot in length. Scape three feet high, ſlender. Petals erect, white, the claws uniting below with the ſtamens and forming a green tube. Perhaps of a diſtinct genus. A native of Jamaica. Introduced in 1787, by Hinton Eaſt, Eſq. and flowering in bruary *.

45. Bulb roundiſh, ſmall, ſlightly ſtreaked. Leaves one or two, ſcarcely ſheathing the baſe of the ſcape, ſmooth and even, plaited, commonly higher than the ſcape, bright green. Scape from a foot to two feet high, with a plane ſurface between the angles, frequently ſtreaked : the end of it conſtantly nods before the flowers expand. Umbel thin, equal, conſiſting of from twelve to twenty flowers, frequently nodding. Spathe ſingle, ſubovate, dry, permanent. Corollas white, ſpreading. Stamens ſhorter than the corolla. It is cultivated in the gardens near Naples, and begins to grow ſpontaneouſly about the city. It flowers in march †.]

PROPAGATION, CULTURE, &c.

Garlick and *Rocambole*, &c. n. 12, 13, &c.

Garlick is eaſily propagated by planting the cloves or ſmall bulbs of the root in the ſpring, with a dibber or in drills, in beds four feet wide, in rows ſix inches from each other, and four or five inches diſtant in the rows ; keeping them clean from weeds. About the beginning of june, the leaves ſhould be tied in knots, to prevent their ſpindling or running to ſeed, which will greatly enlarge the bulb. Towards the end of july the leaves will begin to wither and decay, when the roots ſhould be taken up, cleaned and dried in the ſun, tied in bunches and hung up in a dry room, to prevent their rotting, and thus preſerved for winter uſe.

Rocambole may be propagated either by the roots, or the bulbs produced on the ſtalks : they ſhould be planted in autumn, eſpecially on dry ground, otherwiſe their bulbs will not be large. They are to be planted and prepared for uſe in the ſame manner as garlick.

All the flowering ſorts are very hardy, and will thrive in almoſt any ſoil and ſituation ; they are eaſily propagated either by their roots, or ſeeds ; if from the roots, the beſt time is in autumn, that they may take good root in the ground before the ſpring, which is neceſſary, in order to have them flower ſtrong the following ſummer. If by ſeeds, they may be ſown on a border of common earth, either in autumn, ſoon after the ſeeds are ripe, or in the ſpring following ; and will require no farther care, but to keep them clear from weeds : in the following autumn, they may be tranſplanted into the borders where they are to remain. They flower in may, june, and july.

[Species the fifth, ſixth, ſeventh, tenth, ſixteenth, eighteenth, twentieth, twenty-eighth, thirty-firſt, and thirty-ſeventh are the beſt known in the gardens, but lately have been little cultivated ; moſt of them are from twelve to eighteen inches in height, and continue a month in flower : the fifth and ſeventh are from two feet to a yard high, and produce large ſpecious umbels.] The Yellow Moly (n. 37.) has ſome beauty in the flowers, and deſerves a place in borders where few better things will thrive : it increaſes plentifully both by roots and ſeeds.

Leek, n. 2.

Of the Leek there has been generally ſuppoſed two ſorts, but I have made trial of them both, by ſowing their ſeeds ſeveral times, and find they are the ſame ; the difference which has riſen between them, has been occaſioned by ſome perſons having ſaved the ſeeds from old roots, and not from the ſeedling Leeks, whereby they have degenerated them, and rendered them ſmaller and narrower leaved ; but by care this may be recovered again, as I have experienced.

Leeks are cultivated by ſowing their ſeeds in the ſpring, in the ſame manner as is directed below for Onions, with which theſe are commonly ſown, the two ſorts of ſeeds being mixed according to the proportion which is deſired of either ſort ; though the moſt common method is, to mix an equal quantity of both, for the Onions will greatly out-grow the Leeks in the ſpring ; but theſe being drawn off early in auguſt, the Leeks will have time to grow large afterwards, ſo that there may be a moderate crop of both ſorts.

The management of Leeks being exactly the ſame with Onions, I ſhall not repeat it ; but ſhall only add, that many perſons ſow their Leeks very thick in beds in the ſpring ; and in june, after ſome of their early crops are taken off, they dig up the ground, and plant their Leeks out thereon, in rows a foot apart, and ſix inches aſunder in the rows, obſerving to water them until they have taken root ; after which they will require no farther culture, but to clear the ground from weeds. The Leeks thus planted will grow to a large ſize, provided the ground be good.

If you would ſave the ſeeds of this plant, you ſhould make choice of ſome of the largeſt and beſt Leeks you have, which muſt remain in the place where they grew until february, when they ſhould be tranſplanted in a row againſt a warm hedge, paling or wall, at about eight inches aſunder ; and when their ſtems advance, which will be in may or june, they ſhould be ſupported by a ſtring, to prevent their being broken down, to which they are very liable, eſpecially when in head ; and the cloſer they are drawn to the fence in autumn, the better the ſeeds will ripen ; for it ſometimes happens in cold ſummers or autumns, that thoſe which grow in the open garden, do not perfect their ſeeds in this country, eſpecially if there ſhould be ſharp froſts early in autumn, which will entirely ſpoil the ſeed.

When it is ripe (which may be known by the heads changing brown) you ſhould cut off their heads with about a foot or more of the ſtalk to each, and tie them in bundles, three or four heads in each, and hang them up in a dry place, where they may remain until chriſtmas or after, when you may threſh out the ſeeds for uſe. The huſk is very tough, which renders it very difficult to get out the ſeeds ; therefore ſome perſons who have but a ſmall quantity, rub it hard againſt a rough tile, which will break the huſks, and get the ſeeds out better than moſt other methods I have known uſed.

Onion, n. 36.

Is propagated by ſeeds, which ſhould be ſown at the latter end of february or the beginning of march, on good, rich, light ground, which ſhould be well dug and levelled, and cleared from the roots of all bad weeds ; then the ſeeds ſhould be ſown in a dry time, when the ſurface of the ground is not moiſt ; and where they are intended for a winter crop, they muſt not be ſown too thick. [In cold wet land it is better to defer ſowing 'till the middle of march ; and in very moiſt rich ſoils it may be done any time before the middle of april. But the early ſown crops bulb or apple beſt, and grow to the largeſt ſize.] The common allowance of ſeed is ſix pounds to an acre of land; or an ounce to a rod or pole. But the generality of gardeners ſow more, becauſe many of them allow for a crop to draw out, which they call cullings; theſe are thinned out when young, and tied in bunches for the market; but thoſe who have regard to their principal crop, never practiſe this; but ſow no more ſeed than is ſufficient, for when the plants come up too cloſe, they draw each other weak; and when this happens, their roots never grow ſo large as thoſe which are thin ſowed: beſides, there is a great trouble in hoeing them; and when they are thinned for the market, the ground is trodden over, and the Onions which are to ſtand have their leaves bruiſed, whereby they are greatly injured; ſo that where young Onions are wanted, it is a much better way to ſow ſome ſeparate beds for this purpoſe, than to injure the future crop.

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§ Linn. ** Hort. Kew. †† Gmelin. ‡‡ Columna. * Hort. Kew. † Cyrillo.

[It is a common practice to mix other crops with the Onion; but this is an obſtruction to the main crop, without any great advantage; it is better therefore not to ſow any thing with it, unleſs perhaps a little Cos Lettuce.]

In about ſix or ſeven weeks after ſowing, the Onions will be up forward enough to hoe; at which time (chooſing dry weather) you ſhould, with a ſmall hoe about two inches and a half broad, cut up lightly all the weeds; and alſo cut out the Onions where they grow too cloſe in bunches, leaving them at this firſt hoeing at leaſt two inches apart. This, if well performed, and in a dry ſeaſon, will preſerve the ground clear of weeds at leaſt a month or five weeks; when you muſt hoe them over a ſecond time, cutting up all the weeds as before, and alſo cut out the Onions to a larger diſtance, leaving them this time three or four inches aſunder. This alſo, if well performed, will preſerve the ground clean a month or ſix weeks longer, when you muſt hoe them over the third and laſt time.

Now you muſt carefully cut up all weeds, and ſingle out the Onions to near ſix inches ſquare; by which means they will grow much larger, than if left too cloſe. This time of hoeing, if the weather proves dry and it is well performed, will keep the ground clean until the Onions are fit to pull up; but if the weather ſhould prove moiſt, and any of the weeds ſhould take root again, you ſhould, about a fortnight or three weeks after, go over the ground and draw out all the large weeds with your hands; for the Onions having now begun to bulb, they ſhould not be diſturbed with a hoe.

Toward the middle of auguſt your Onions will have arrived at their full growth, which may be known by their blades falling to the ground and ſhrinking; you ſhould therefore, before their necks or blades are withered off, draw them out of the ground, cropping off the extreme part of the blade, and lay them abroad upon a dry ſpot of ground, obſerving to turn them over every other day at leaſt, to prevent their ſtriking freſh root; which they will ſuddenly do, eſpecially in moiſt weather.

In about a fortnight's time your Onions will be dry enough to houſe, which muſt be performed in perfectly dry weather; in doing of this, you muſt carefully rub off all the earth from the roots, and be ſure to mix no faulty ones amongſt them, which will in a ſhort time decay, and ſpoil all thoſe that lie near them; nor ſhould you lay them too thick in the houſe, which would occaſion their ſweating, and thereby rot them; nor ſhould they be put in a lower room, or ground floor, but in a loft or garret; and the cloſer they are kept from the air, the better they will keep. You ſhould, at leaſt, once a month, look over them to ſee if any of them are decayed; theſe muſt be immediately taken away, otherwiſe they will infect all that lie near them.

But notwithſtanding all the care you can poſſibly take in the drying and houſing your Onions, many of them will grow in the loft, eſpecially in mild winters, which are generally moiſt; therefore thoſe who would preſerve them late in the ſeaſon, ſhould ſelect a parcel of the firmeſt and moſt likely to keep, from the others, and with a hot iron ſlightly ſinge their beards, or roots, which will effectually prevent their ſprouting; but in doing this there muſt be a great caution uſed not to ſcorch the pulp of the Onions, for that will cauſe them to periſh ſoon after.

The beſt Onions for keeping are the Straſburgh kind, which is an oval-ſhaped bulb; but this ſeldom grows ſo large as the Spaniſh, which is flatter; the white ſort is eſteemed the ſweeteſt; but theſe varieties are not laſting; for if you ſave ſeeds of white Onions only, you will have a mixture of the red ones amongſt them: nor will the Straſburgh Onion keep long to its kind, but will by degrees grow flatter, as do the large Portugal and Tripoli Onions, when planted in our climate, which in a year or two will be ſo far degenerated, as not to be known they were from that race.

[It is of great importance to have freſh ſeed, for if it is above a year old, not one plant in fifty will grow. This is an objection againſt foreign ſeed, which cannot be depended upon: it is neceſſary however to import it ſometimes, for it degenerates in our climate. The goodneſs of the ſeed may eaſily be tried, by forcing it in the hot-houſe or in warm water.]

In order to ſave ſeeds at home, you muſt in the ſpring make choice of ſome of the firmeſt, largeſt, and beſt-ſhaped Onions (in quantity proportionable to the ſeed you intend to ſave;) and having prepared a piece of good ground (which ſhould be well dug, and laid out in beds about three feet wide,) in the beginning or middle of march you muſt plant your Onions in the following manner. Having ſtrained a line about four inches within the ſide of the bed, you muſt, with a ſpade, throw out an opening about ſix inches deep, the length of the bed, into which you ſhould put the Onions, at about nine inches diſtance from each other; with a rake draw the earth into the opening again to cover the bulbs; then proceed to remove the line again about a foot farther back, where you muſt make an opening as before, and ſo again till the whole is finiſhed; ſo that you will have four rows in each bed, between which you muſt allow a ſpace of two feet for an alley, to go among them to clear them from weeds, *&c.* In a month's time their leaves will appear above ground, and many of the roots will produce three or four ſtalks each; you muſt therefore keep them diligently cleared from weeds, and about the beginning of june, when the heads of the flowers begin to appear, you muſt provide a parcel of ſtakes about four feet long, which ſhould be driven into the ground, in the rows of Onions, at about ſix or eight feet apart; to which you ſhould faſten ſome packthread, rope yarn, or ſmall cord, which ſhould be run on each ſide the ſtems of the Onions, a little below their heads, to ſupport them from breaking down with the wind and rain; for when the ſeeds are formed, the heads will be heavy, and are very often broken down by their own weight, where they are not well ſecured; and if the ſtalks are broken before the ſeeds have arrived to maturity, they will not be near ſo good, nor keep ſo long as thoſe which are perfectly ripened.

About the end of auguſt the Onion ſeed will be ripe, which may be known by its changing brown, and the cells in which the ſeeds are contained opening; ſo that if it be not cut in a ſhort time, the ſeeds will fall to the ground: when you cut off the heads, they ſhould be ſpread abroad upon coarſe cloths in the ſun, obſerving to keep them under ſhelter in the night, as alſo in wet weather; and when the heads are quite dry, you muſt beat out the ſeeds, which are very eaſily diſcharged from their cells: then having cleared them from all the huſks, *&c.* after having expoſed them one day to the ſun to dry, you muſt put them up in bags to preſerve them for uſe.

The directions here given are for the general crop of winter Onions ; but there are two other crops of this common ſort of Onion, cultivated in the gardens about London to ſupply the market one of which is commonly called Michaelmas Onion. Theſe are ſown in beds pretty cloſe, the middle of auguſt, and muſt be well weeded when they come up. In the ſpring of the year, after the winter Onions are over, they are tied up in bunches ; but from the thinning of theſe, they carry to market young green Onions in march, for ſalads, *&c.*

And in the ſpring they ſow more beds in the ſame manner, to draw up young Onions for ſalads, after the Michaelmas Onions are grown too large for that purpoſe ; and where a ſupply of theſe is required, there may be three different ſowings, at about three weeks diſtance from each other, which will be ſufficient for the ſeaſon.

[To have Onions for pickling, ſome ſeed ſhould be ſown late in light poor land : the middle of april is the proper time. Sow it pretty thick, and do not thin it, unleſs when it riſes in cluſters. The bulbs will be fit to take up in auguſt.]

Scallion.

The Scallion, or Eſcallion, is a ſort of Onion which never forms any bulbs at the roots, and is chiefly uſed in the ſpring for green Onions, before the other ſorts, ſown in july, are big enough ; but this ſort of Onion, how much ſoever in uſe formerly, is now ſo ſcarce as to be known to few people, and is rarely to be met with, except in curious botanic gardens : the gardeners near London ſubſtitute for this, thoſe Onions which decay and ſprout in the houſe : theſe they plant in a bed early in the ſpring, which in a ſhort time will grow large enough for uſe ; when they draw them up, and after pulling off all the outer coat of the root, they tie them up in bunches, and ſell them in the market for Scallions.

The true Scallion is eaſily propagated by parting the roots, either in ſpring or autumn ; but the latter ſeaſon is preferable, becauſe of their being rendered more fit for uſe in the ſpring : theſe roots ſhould be planted three or four in a hole, at about ſix inches diſtance every way, in beds or borders three feet wide, which in a ſhort time will multiply exceedingly, and will grow upon almoſt any ſoil and in any ſituation ; and their being ſo hardy as to reſiſt the ſevereſt of our winters, and being green, and fit for uſe ſo early in the ſpring, renders them worthy of a place in all good kitchen-gardens.

Cives, n. 40.

The Cives are a very ſmall ſort of Onion, which never produce any bulbs, and ſeldom grow above ſix inches high in the blade, which is alſo very ſmall and ſlender, and in round bunches ; this was formerly in great requeſt for ſalads in the ſpring, as being milder than thoſe Onions which had ſtood through the winter ; theſe are propagated by parting their roots, and are alſo very hardy, and will be fit for uſe early in the ſpring.

Ciboule, n. 39.

The Ciboule, or Welch Onions, are alſo propagated for ſpring uſe only, theſe never make any bulb, and are therefore only fit to be uſed green for ſalads, *&c.* They are ſown about the end of july, in beds of about three feet and a half wide, leaving alleys of two feet broad, to go between the beds to clean them, and in a fortnight's time they will appear above ground, when they muſt be carefully cleared from weeds ; towards the middle of october their blades will die away, ſo that the whole ſpot will ſeem to be naked, which has led many people to dig up the ground again, ſuppoſing the crop totally loſt ; whereas, if they ſtand undiſturbed, they will come up again very ſtrong in january, and from that time grow very vigorouſly, reſiſting all weathers ; and by march will be fit to draw for young Onions, and are, in the markets, more valued than any other ſort at that ſeaſon ; for they are extremely green and fine, though they are much ſtronger than the common Onion in taſte, approaching nearer to Garlick, which has occaſioned their being leſs eſteemed for the table : but as no winter, however hard, will hurt them, it is proper to have a few of them to ſupply the table, in caſe the common ſort ſhould be deſtroyed by froſts.

The roots of theſe Onions, if planted out at ſix or eight inches diſtance, in march, will produce ripe ſeeds in autumn, but it will be in ſmall quantities the firſt year ; therefore the ſame roots ſhould remain unremoved, which the ſecond and third year will produce many ſtems, and afford a good ſupply of ſeeds ; theſe roots will abide many years good, but ſhould be tranſplanted and parted every ſecond or third year, which will cauſe them to produce ſtrong ſeeds.

n. 27.

[The *Eſchalotte*, Chalott, or Shallot, is propagated by the ſmaller roots or off-ſets, planted in november or february, on beds four feet wide, ſix inches from each other, and two or three deep. They want no culture but to keep them clean from weeds. The end of july or beginning of auguſt, the roots will have attained their full growth ; but the time of taking them up is beſt determined by the withering of the leaves : this ſhould be done in a dry day. Spread them in the ſun, and when dry, clean and tie them in bunches for uſe.]

ALLIUM. See *Hyacinthus*, *Hypoxis*, *Tradeſcantia.*

[ALLOPHYLUS. (From Αλλοφυλος. *alienigenus*, *foreign.*)
Lin. gen. n. 476. *Reich.* 511. *Schreb.* 643. *Juſſ.* 259.
Claſſ. 8. 1. Octandria Monogynia.
Nat. order of *Gutti*f*eræ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved ; *leaflets* orbiculate ; two exterior, oppoſite, ſmaller by half.

COR. of four *petals*, leſs than the calyx, orbiculate, equal : *claws* broad, length of the two ſmaller leaves of the calyx.

STAM. *Filaments* filiform, the length of the corolla : *anthers* roundiſh.

PIST. *Germ* ſuperior, roundiſh, twin ; *ſtyle* filiform, longer than the ſtamens ; *ſtigma* bifid, with the diviſions rolled back.—quadrifid. *Syſt.*

OBS. *The flowers of* Rhus Cominia *and* Cobbe *agree with the character of this genus : and* Aporetica *of Forſter ſhould be referred to it.* Swartz.

ESSENTIAL CHARACTER.

Cal. four-leaved ; leaflets orbiculate, two oppoſite ſmaller. *Pet.* four, leſs than the calyx. *Germ* twin. *Stigma* quadrifid.

SPECIES.

1. Allophylus zeylanicus.
Lin. ſpec. 496. *Reich.* 2. 155. *fl. zeyl.* 140.
Leaves oval acuminate quite entire ; *racemes axillary very ſhort.*
2. Allophylus rigidus.
Swartz. prodr. 62.
Leaves ſimple, toothletted and ſpiny ; *flowers in racemes.*
3. Allophylus racemoſus.
Swartz prodr. 62.
Leaves ternate, flowers in racemes.
4. Allophylus Cominia.
Swartz. prodr. 62.
Rhus Cominia. *Lin. ſpec.* 381. *Reich.* 1. 730. *amæn.* 5. 395. *Sloan. jam.* 2. 100. *n.* 28. *t.* 208. *f.* 1. *Raii hiſt.* 1593. *Rheed. mal.* 5. 49. *t.* 25.
Cominia. *Brown. jam.* 205.]
Toxicodendron arboreum *Mill. dict. n.* 8.
[*Leaves ternate, flowers in panicles.*
5. Allophylus ternatus.
Loureiro cochinch. 232.
Leaves ternate ſerrate, racemes long terminating.

DESCRIPTIONS, *&c.*

1. A tree, having the appearance of *Perſea.* Branches round. Leaves acuminate, about ſeven inches long, ſmooth, veined, alternate, petioled.

Flowers in ſmall racemes. Native of the iſland of Ceylon *

2, 3. Natives of Hiſpaniola †.

4. Stem the thickneſs of the human thigh, riſing thirty feet in height, with a ſmooth aſh-coloured bark. Petioles two inches long, ruſſet-coloured and hairy. Leaflets four inches and a half long, two inches broad in the middle, dark green above, and woolly underneath. Flowers very numerous, whitiſh yellow, ſmall, ſet very cloſe to one another, round a ſtalk an inch and half long, like an ament or catkin: there are three or four of theſe ſpikes, and ſeveral of them come from the ends of the twigs. To theſe ſucceed ſmall, orange-coloured, ſmooth berries, the ſize of a ſmall pin's-head, having a ſingle ſtone in them, with a thin, brittle ſhell, and a large kernel in proportion to the fruit. It grows plentifully in Jamaica ‡: and was introduced here in 1778, by Thomas Clark, M. D. §.

The leaves in Sloane's figure are ſcarcely ſerrate, but they are very much ſo in that of the Hortus Malabaricus.

5. This is only a ſhrub, five feet in height, with ſpreading branches. Leaves unequally ſerrate, large with a long common petiole. Flowers ſmall, white, with hairy petals, and a nectary of four glands. Style bifid. It is a native of Cochinchina, by the banks of rivers. The inhabitants uſe the leaves as a cataplaſm in contuſions ‖.]

[ALL-SEED. See *Linum* and *Chenopodium*.

ALL-SPICE. See *Myrtus*.

ALMOND, African. See *Brabeium*.

——— Dwarf }
——— Tree } See *Amygdalus*.

ALNI EFFIGIE. See *Cratægus* and *Meſpilus*.

ALNIFOLIA. See *Clethra*.

ALNI FRUCTU. See *Conocarpus*, and *Theobroma*.

ALNUS. See *Betula*, and *Conocarpus*.

——— nigra. See *Rhamnus*.]

ALOE. (Αλοη *Dioſcor.* Aloë *Plin.* Derivation uncertain; perhaps from the Hebrew *Ahaloth*, or from αλς, *the ſea*, or *ab adolendo*.)

Lin. gen. n. 430. *Reich.* 4654. *Schreb.* 581. *Tournef.* 190. *Juſſ.* 52. *Gærtn.* 17.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Lilia* or *Liliaceæ*. *Coronariæ* Lin. *Aſphodeli* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. one-petalled, erect, ſexfid, oblong: *tube* gibbous; *border* ſpreading, ſmall; nectareous at bottom.

STAM. *Filaments* awl-ſhaped, as long as the corolla or longer, inſerted into the receptacle: *anthers* oblong, incumbent.

PIST. *Germ* ovate; *ſtyle* ſimple, the length of the ſtamens; *ſtigma* obtuſe, trifid.

PER. an oblong *Capſule*, three-furrowed, three-celled, and three-valved.

SEEDS ſeveral, angular.

ESSENTIAL CHARACTER.

Cor. erect, with an expanded mouth, and a nectareous baſe. *Filaments* inſerted into the receptacle.

SPECIES.

[1. Aloe dichotoma. *Smooth-ſtem'd Tree Aloe.*
Lin. ſuppl. 206. *ſyſt.* 338. *Thunb. Aloe, n.* 1. *Ait. hort. kew.* 1. 466.
Branches dichotomous, leaves ſword-ſhaped, ſerrate.

2. Aloe perfoliata. *Perfoliate Aloe.*
Lin. ſpec. 457. *ſyſt.* 337. *Reich.* 2. 84. *mat. med.* 95. *Ait. hort. kew.* 1. 466.
Stem-leaves toothed embracing ſheathing, flowers in corymbs drooping peduncled ſubcylindrical.]

VARIETIES.

α. Aloe arboreſcens. *Narrow-leaved Sword Aloe.*
Mill. dict. n. 3. *Lin. ſpec.* 1. η. *Comm. hort.* 2. 27. *t.* 14.
Leaves embracing reflex toothed, flowers cylindrical, ſtem ſhrubby.

β. Aloe africana. *Broad-leaved Sword Aloe.*
Mill. dict. n. 4. *Lin. ſpec.* 1. β. *Comm. præl.* 69. *t.* 18.
Leaves broader embracing, thorny on the edge and back, flowers in ſpikes, ſtem ſhrubby.

γ. Aloe barbadenſis. *Barbadoes Aloe.*
Mill dict. n. 2.
Leaves toothed upright ſucculent ſubulate, flowers yellow hanging down in a thyrſe.

δ. Aloe ſuccotrina. *Succotrine Aloe.*
A. vera. *Mill. dict. n.* 15.
Leaves very long and narrow, thorny at the edge, flowers in ſpikes.

[ε. Aloe purpuraſcens. *White-ſpined glaucous Aloe.*
Leaves purpliſh beneath, with ſmall roundiſh ſpots at bottom.]

ζ. Aloe glauca. *Red-ſpined glaucous Aloe.*
Mill. dict. n. 16. *Comm. præl.* 71. *t.* 21.
Stem ſhort, leaves embracing ſtanding two ways, ſpines on the edges erect, flowers growing in a head.

[η. Aloe lineata. *Red-ſpined ſtriped Aloe.*]

ϑ. Aloe ferox. *Great Hedge-hog Aloe.*
Mill. dict. n. 22.
Leaves embracing, very dark green, beſet with ſpines on every ſide.

ι. Aloe ſaponaria. *Great Soap Aloe.*
Dill. elth. 18. *t.* 15. *f.* 16. *Mill. dict. n.* 5.

κ. Aloe obſcura. *Common Soap Aloe.*
Mill. dict. n. 6.
Leaves broader ſpotted thorny at the edge, flowers in ſpikes.

[λ. Aloe ſerrulata. *Hollow-leaved perfoliate Aloe.*
Leaves ſpotted finely ſerrate at the edge and the tip of the keel.

μ. Aloe ſuberecta. *Upright perfoliate Aloe.*
Leaves flat almoſt upright, thorny at the edge, and on the lower ſurface.]

ν. Aloe depreſſa. *Short-leaved perfoliate Aloe.*
Mill. dict. n. 8.
Leaves embracing; thorny on both ſides; flowers in ſpikes.

ξ. Aloe humilis. *Dwarf Hedge-hog Aloe.*
Lin. hort. cliff. 131. 4. *Mill. dict. n.* 10.
Leaves upright ſubulate radicate, with weak ſpines all round.

ο. Aloe mitræformis. *Great Mitre Aloe.*
Mill. dict. n. 1. *Dill. elth.* 21. *t.* 17. *f.* 19.

π. Aloe brevifolia. *Small Mitre Aloe.*

3. Aloe arachnoides. *Cobweb Aloe.*
Thunb. Aloe, n. 7. *Ait. hort. kew.* 1. 467.
A. pumila δ, ε. *Lin. ſpec.* 460. *Reich.* 2. 88.
Stemleſs, leaves three-cornered cuſped ciliate; flowers in a ſort of ſpike, upright cylindrical.

α. A. arachn. communis. *Common Cobweb Aloe.*
Mill. dict. n. 17. *Comm. præl.* 78. *t.* 27.
Leaves ſhort plane fleſhy triangular at the end, the borders ſet with ſoft ſpines.

β. A. arachn. pumila. *Small Cobweb Aloe.*
A. herbacea. *Mill. dict. n.* 18. *Boerh. lugdb.* 2. 131. *fig.*
Leaves ovate-lanceolate fleſhy triangular at the end, with numerous ſoft ſpines.

4. Aloe margaritifera. *Pearl Aloe.*
Thunb. Aloe, n. 8. *Ait. hort. kew.* 1. 468. *Gærtn. fruct.* 1. 67.
A. pumila α, β, γ. *Lin. ſpec.* 460. *Reich.* 2. 88.
Stemleſs, leaves three-cornered cuſped papilloſe; flowers in racemes drooping cylindrical.

α. A. marg. major. *Great Pearl Aloe.*
Mill. dict. n. 14. *Bradl. ſucc.* 3. 1. *t.* 21. *Comm. hort.* 2. *t.* 10.

β. A. marg. minor. *Great Pearl Aloe.*
Dill. elth. 19. *t.* 16. *f.* 17. *Comm. hort.* 2. *t.* 11.

γ. A. marg. minima. *Leaſt Pearl Aloe.*
Dill. elth. 20. *t.* 16. *f.* 18.

5. Aloe verrucoſa. *Warted* or *Pearl-tongue Aloe.*
Mill. dict. n. 20. *Thunb. Aloe, n.* 9. *Ait. hort. kew.* 1. 468.
A. diſticha β. *Lin. ſpec.* 459. *Comm. hort.* 2. 17. *t.* 9.
Stemleſs, leaves ſword-ſhaped ſharp papilloſe diſtich, flowers in racemes reflex club-ſhaped.

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* Linneus. † Swartz. ‡ Sloane. § Hort. kew. ‖ Loureiro.

6. Aloe carinata. *Keel-leaved Aloe.*
Mill. dict. n. 21. fig. t. 19. Ait. hort. kew. 1. 469. Dill. elth. 22. t. 18. f. 20.
A. diſticha γ. *Lin. ſpec. 459.*
Stemleſs, leaves acinaciform papilloſe, flowers in racemes drooping curved.

7. Aloe maculata. *Spotted Aloe.*
Thunb. Aloe, n. 10. Ait. hort. kew. 1. 469.
α. A. mac. pulchra. *Narrow-leaved Spotted Aloe.*
Mill. fig. 195. t. 292.
Leaves ſharp.
β. A mac. obliqua. *Broad-leaved Spotted Aloe.*
Leaves blunt with a point.
Almoſt ſtemleſs, leaves acinaciform ſmooth painted, flowers in racemes drooping curved.

8. Aloe Lingua. *Tongue Aloe.*
Thunb. Aloe, n. 11. Ait. hort. kew. 1. 469.
A. linguæformis. *Lin. ſuppl. 206.*
α. A. Lingua anguſtifolia. *Common Tongue Aloe.*
A. linguiforme.
Mill. dict. n. 13.
A. diſticha α. *Lin. ſpec. 459. Reich. 2. 86. Comm. hort. 2. 15. t. 8.*
Leaves narrower longer.
β. A. Lingua craſſifolia. *Thick-leaved Tongue Aloe.*
Leaves broader ſhorter.
Almoſt ſtemleſs, leaves tongue-ſhaped toothletted ſmooth diſtich, flowers in racemes upright cylindrical.

9. Aloe plicatilis. *Fan Aloe.*
Mill. dict. n. 7. Ait. hort. kew. 1. 470.
A. diſticha ε. plicatilis. *Lin. ſpec. 459. Comm. hort. 2. t. 3.*
Kumara diſticha. *Medic. Theodora. 70. t. 4.*
Almoſt ſtemleſs, leaves tongue-ſhaped even diſtich, flowers in racemes pendulous cylindrical.

10. Aloe variegata. *Partridge-breaſt Aloe.*
Lin. ſpec. 459. Reich. 2. 86. ſyſt. 337. mant. 367. Thunb. Aloe, n. 12. Ait. hort. kew. 1. 470. Mill. dict. n. 9. Comm. præl. 79. t. 28. rar. t. 27. Tilli piſan. t. 7.
Almoſt ſtemleſs, leaves in three ranks painted channelled, angles cartilaginous, flowers in racemes, cylindrical.

11. Aloe viſcoſa. *Upright triangular Aloe.*
Lin. ſpec. 460. ſyſt. 337. Reich. 2. 87. Thunb. Aloe, n. 13. Ait. hort. kew. 1. 470. Mill. dict. n. 11. Comm. præl. 82. t. 31. Dill. elth. 15. t. 13. f. 13.
Subcauleſcent, leaves imbricate in three ranks ovate, flowers in racemes drooping cylindrical.

12. Aloe ſpiralis. *Spiral Aloe.*
Lin. ſpec. 459. ſyſt. 337. Reich. 2. 87. Thunb. Aloe, n. 14. Ait. hort. kew. 1. 470. Mill. dict. n. 12. Comm. præl. 83. t. 32. Dill. elth. 16. t. 13. f. 14.
α. A. ſpir. imbricata. *Imbricated Spiral Aloe.*
β. A. ſpir. pentagona. *Five-ſided Spiral Aloe.*
Subcauleſcent, leaves imbricate in eight ranks ovate, flowers in racemes curved back.

13. Aloe retuſa. *Cuſhion Aloe.*
Lin. ſpec. 459. ſyſt. 337. Reich. 2. 87. Thunb. Aloe, n. 15. Ait. hort. kew. 1. 471. Gærtn. fruct. 1. 67. Mill. dict. n. 19. Comm. hort. 2. t. 6. Tilli piſan. t. 5.
Stemleſs, leaves in five ranks deltoid.

[14. Aloe ſpicata. *Spiked Aloe.*
Lin. ſuppl. 205. ſyſt. 338. Thunb. Aloe, n. 2.
Flowers in ſpikes horizontal bell-ſhaped, ſtem-leaves flat embracing toothed.

DESCRIPTIONS, &c.

Root perennial, ſtoloniferous. Stem none, or elſe formed from the baſes of the leaves, round, generally ſingle, ſeldom branched. Leaves ſucculent, embracing the ſtem; in ſome ſmooth and even, in others ſpotted or painted, in others warted; variouſly diſpoſed. Scape or peduncle bracted, erect, frequently ſingle, ſeldom branched. Native place of growth principally the Cape of Good Hope: all from hot climates *.

1. Trunk round, upright, very ſtiff, aſh-coloured, ſmooth, and of an extremely even ſurface, dichotomouſly branched at top, two fathoms in height, the thickneſs of a man's thigh. Branches dichotomous, upright; a foot and more in length, leafy at top. Leaves perfoliate, ſword-ſhaped, toothletted, convex beneath, flat above, from ſpreading becoming upright, ſmooth, fleſhy, a foot long, the upper ones gradually ſmaller. Native of the Cape of Good Hope †. Introduced in 1780, by Mr. William Forſyth ‖.]

2 α. Grows to the height of ten or twelve feet, with a ſtrong naked ſtem, the leaves growing at the top, and cloſely embracing the ſtem; they are about two inches broad at the baſe, growing narrower to a point, and are reflex, and indented on their edges, each being armed with a ſtrong crooked ſpine. The leaves are of a ſea-green colour, and very ſucculent. The flowers grow in pyramidal ſpikes, and are of a bright red colour. Theſe are in beauty in november and december.

β. Reſembles the foregoing, but the leaves are broader, and have ſeveral ſpines on their backs towards their extremities; the flowers alſo grow in a looſer ſpike.

γ. The leaves about four inches broad at their baſe, where they are near two inches thick; they have a few indentures on their edges: are of a ſea-green colour, and when young are ſpotted with white. The flower-ſtem riſes near three feet high, and the flowers ſtand in a ſlender looſe ſpike, with very ſhort peduncles, and hang downwards: they are of a bright yellow colour, and the ſtamens ſtand out beyond the tube. [The form of the flowers, and the manner of flowering, proclaim this to be but a variety of the ſecond ſpecies, though the corolla ſeems leſs divided *.] This, though generally known in the ſhops by the name of Barbadoes Aloe, is very common in the other iſlands of America, where the plants are propagated on the pooreſt land, to obtain the Hepatic Aloes, which are brought to England, and uſed chiefly for horſes.

[*Preparation of Aloes in the iſland of Barbadoes.*

In the month of march when the plants are a year old, the labourers carry a parcel of tubs and jars into the field, and each takes a ſlip, or breadth of it, and begins by laying hold of a bunch of the blades, as much as he can conveniently graſp with one hand, while with the other he cuts it juſt above the ſurface of the earth, as quickly as poſſible (that the juice may not be waſted) and then places the blades in the tub, bunch by bunch or handful by handful. When the firſt tub is thus packed quite full, a ſecond is begun (each labourer having two) and, by the time the ſecond is filled, all the juice is generally drained out of the blades in the firſt tub. The blades are then lightly taken out, and thrown over the land by way of manure, and the juice is poured out into a jar. The tub is then filled again with blades, and ſo, alternately, till the labourer has produced his jar full, or about four gallons and a half of juice, which is often done in ſix or ſeven hours, and he has then the remainder of the day to himſelf, it being his employer's intereſt to get each day's operation as quickly done as poſſible. Although Aloes are often cut in nine, ten, or twelve months after being planted, they are not in perfection till the ſecond or third year: and they will be productive for a length of time, as ten or twelve years, or even for a much longer time, if good dung or manure of any kind, is ſtrewed over the field once in three or four years, or oftner if convenient. The aloe-juice will keep for ſeveral weeks without injury. It is therefore not boiled, till a ſufficient quantity is provided, to make it an object for the boiling-houſe. In the large way, three boilers, either of iron or copper, are placed to one fire, though ſome have but two, and the ſmall planters only one. The boilers are filled with the juice, and as it ripens, or becomes more inſpiſſated, by a conſtant but regular fire, it is ladled forward from boiler to boiler, and freſh juice is added to that fartheſt from the fire, till the juice in that neareſt the fire (by much the ſmalleſt of the three, and commonly called by the name of tatch as in the manufactory of ſugar,) becomes of a proper conſiſtency to be ſkipped, or ladled out into gourds, or other ſmall veſſels, uſed for its final reception. The proper time to ſkip, or ladle it out of the tatch is when it is arrived at what is termed a reſin height, or when it cuts freely or in thin flakes, from the edges of a ſmall wooden ſlice, that is dipped from time to time into the tatch for that purpoſe. A little lime water is uſed by ſome aloe-boilers, during the proceſs, when the ebullition is too great. As to the ſun-dried Aloes (which are moſt approved for medicinal purpoſes,) very little is made in Barbadoes. The proceſs is however very ſimple, though extremely tedious. The raw juice is either put into bladders, left quite open at top, and ſuſpended in the ſun, or in broad ſhallow trays of wood, pewter, or tin, expoſed alſo to the ſun, every dry day, until all the fluid parts are exhaled, and a perfect reſin formed, which is then packed up for uſe, or for exportation *.]

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* Thunberg, Aloe.

† Thunberg, Aloe.

‖ Hort. Kew.

* Linn.

δ. This is the true Succotrine Aloe, from whence the beſt ſort of Aloe for uſe in medicine is produced. It has long, narrow, ſucculent leaves, which come out without any order, and form large heads. The ſtalks grow three or four feet high, and have two, three, and ſometimes four of theſe heads, branching out from it: the lower leaves ſpread out on every ſide, but the upper leaves turn inward toward the center; the flowers grow in long ſpikes, upon ſtalks about two feet high, each ſtanding on a pretty long footſtalk; they are of a bright red colour tipped with green: theſe generally appear in the winter ſeaſon.

[The iſland of Zocotra or Socotora, in the ſtraits of Babelmandel, having been formerly moſt famous for the preparation of the extract, that of the beſt quality has the name of Succotrine Aloe. It is of a yellowiſh brown colour, approaching to purple, and when reduced to powder is a ſort of gold colour. The fourteenth ſpecies is reputed to produce the pureſt.

The Hepatic Aloe from Barbadoes, is of different degrees of purity; it is a little darker than the Succotrine, and more bitter and nauſeous.

Horſe Aloe is coarſer, and the ſmell is more unpleaſant.

Theſe three ſorts of this Gum-Reſin, do not vary any otherwiſe than in the difference of their purity. A great quantity is made at the Cape of Good Hope from the ſecond ſpecies, which our Eaſt-India ſhips bring home in their return.]

ϑ. Riſes to the height of eight or ten feet, with a ſtrong ſtem; the leaves grow on the top, which cloſely embrace the ſtalk; theſe come out irregularly, and ſpread every way; they are near four inches broad at their baſe, and diminiſh gradually to the top, where they end in a ſpine. They are of a dark green colour, and cloſely beſet with ſhort thick ſpines on every ſide. This ſort has not as yet flowered in England, nor does it put out ſuckers, ſo that it is difficult to increaſe.

ι. Seldom riſes much above two feet high, the leaves are very broad at their baſe, where they cloſely embrace the ſtalk, and gradually decreaſe to a point: the edges are ſet with ſharp ſpines, and the under leaves ſpread open horizontally every way; theſe are of a dark green colour, ſpotted with white, ſomewhat reſembling the colour of ſoft ſoap. The flowers grow in umbels on the tops of the ſtalks, are of a beautiful red colour, and appear in auguſt and ſeptember.

κ. Has broader leaves, of a lighter green; the edges and ſpines are copper-coloured, and the flowers grow in looſe ſpikes.

ν. Is an humble plant, ſeldom riſing more than a foot high: the leaves grow near the ground; they are broad at the baſe, where they embrace the ſtalk, and gradually diminiſh to a point; they are of a ſea-green colour, with ſome white ſpots; their edges, and alſo their upper parts both below and above, are beſet with pretty ſharp ſpines: the flowers grow in looſe ſpikes, the tubulous part being red, and the brim of a light green colour.

ξ. Hedge-hog Aloe is a very low plant, never riſing into ſtem; the leaves are broad at their baſe, but taper to a point, where they are triangular; they are beſet on their edges and both ſurfaces with ſoft ſpines, very cloſely, from whence this plant has the name of Hedge-hog Aloe. The flowers grow in a looſe head, on the top of the ſtalk, which is very thick, but ſeldom a foot high: they are of a fine red colour below, but of a pale green above. [The flowers inſtruct us, that it belongs to this ſpecies, though it appears to be very different by its habit *.]

ο. Grows with an upright ſtalk, to the height of five or ſix feet; the leaves cloſely embrace the ſtalks, they are thick, ſucculent, of a dark green colour, and have ſpines on their edges, as alſo a few on their upper ſurface; they ſtand erect; and converging towards the top, form the reſemblance of a mitre. The flower-ſtem riſes about three feet high, the flowers come out at the top of it, in a ſort of globular ſpike, which afterwards becomes cylindrical; theſe have long peduncles, which ſtand horizontally, and the flowers hang downwards; they are cut to the bottom into ſix unequal ſegments, three being alternately broader than the others. Three of the ſtamens are as long as the tube of the corolla, the other three are ſhorter. The tube is of a fine red colour, and the brim of a pale green.

3. α. Cobweb Aloe never riſes from the ground, but the leaves ſpread flat on the ſurface; theſe are plain, ſucculent, and triangular towards the end: the borders and keel are cloſely ſet with ſoft white ſpines. The flower-ſtem riſes about a foot high, is very ſlender, and has three, or four ſmall diſtant herbaceous flowers.

β. Is alſo a ſmall plant growing near the ground: The leaves are almoſt cylindrical towards their baſe, but angular near their ends, and are ſet with ſhort ſoft ſpines at the angles: the leaves of this are ſhorter and of a darker green colour than thoſe of the former, and the plants produce many ſuckers on every ſide. I have raiſed a variety of it from ſeed, which has ſhorter, whiter, and ſmoother leaves. [The flowers, which are the moſt certain marks of the ſpecies in this genus, join the Pearl to the Cobweb Aloe †.]

4. The Pearl Aloe is of humble growth; the leaves come out on every ſide without order near the ground; they are thick, triangular at their ends, and cloſely ſtudded with white protuberances, whence the name. There is a ſmaller ſort which has been long preſerved in the Engliſh gardens. Theſe flower in ſeveral ſeaſons of the year.

5. Has long, narrow, tongue-ſhaped leaves, which are hollowed on their upper ſide, but keel-ſhaped below: theſe are cloſely ſtudded on every ſide, with ſmall white protuberances, from whence the plant has the title of Pearl-tongue Aloe. The flowers of this kind grow on pretty tall ſtalks, and form looſe ſpikes, each hanging downward: they are of a beautiful red colour, tipped with green. This ſort produces off-ſets in plenty, and flowers at different ſeaſons of the year.

6. Has broader and thicker leaves, ſpreading out every way, not ſo concave on their upper ſurface, nor are the protuberances ſo large as thoſe of the foregoing; the flowers are of a paler colour, and the ſpikes are ſhorter. I have raiſed plants from the ſeeds of this, which have varied from the original, but none of them approached near the laſt.

7. [Leaves

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* Lond. Med. journ. Vol. 8. art. 8. and Gent. mag. for 1778. p. 149.

* Linneus.

† Ibid.

7. [Leaves tongue-ſhaped, three-cornered, gradually drawing to a point, ſmooth, upright, a ſpan in length. Corolla ſubcylindrical, thicker at the baſe, curved back in the middle, angular at the tip, the angles green, ſomewhat fleſh-coloured: the three outer ſegments divided to the curvature, thicker; the inner ones diſtinct from each other, but longitudinally connected with the outer ones on the inſide. It varies with large, oblong, white, confluent ſpots; and with ſmall ones.—Native of the Cape of Good Hope; flowering from auguſt *.]

8. *Tongue Aloe* grows with its leaves near the ground, they are about ſix inches in length. The flowers are in ſlender looſe ſpikes, each hanging downwards, of a red colour at bottom, and green at the top. There is a variety of this, with leaves much more ſpotted.

9. *Fan Aloe* grows to the height of ſix or ſeven feet, with a ſtrong ſtem, toward the upper part of which are produced two, three, or four heads, compoſed of long, compreſſed, pliable leaves, of a ſea-green colour, entire, and ending obtuſely; theſe are placed in a double row, lying over each other with their edges the ſame way. The flowers are produced in ſhort looſe ſpikes, are of a red colour, and appear at different times of the year.

10. *Partridge-breaſt Aloe* is a low plant, ſeldom riſing above eight inches high. The leaves are triangular, and turn back at their extremity: they are fleſhy and entire, their edges being very ſlightly ſerrated: they are curiouſly veined and ſpotted, ſomewhat like the feathers on a partridge's breaſt. The flowers grow in very looſe ſpikes, upon ſtalks about one foot high; they are of a fine red colour tipped with green. [Corolla fleſh-coloured with a ſexfid mouth, the three inner diviſions alternate, ſpreading; ſtamens bending down, ſtigma ſimple †.] I have raiſed a variety of this, from ſeeds which I received from the Cape of Good Hope, with broader leaves, which ſpread much more than thoſe of the former, and are not ſo beautifully ſpotted: the flower-ſtalks alſo grow much taller.

11. Grows near a foot high, and is furniſhed with triangular leaves, from the ground upward; theſe are of a dark green colour, and are placed in form of a triangle; the flowers grow thinly on very ſlender peduncles, they are of a herbaceous colour, and their upper part turns backward.

12. Grows ſomewhat like the eleventh, being beſet with leaves from the bottom; but theſe are rounder, and end in ſharp points; the flowers grow upon taller ſtems, which branch out, and produce long cloſe ſpikes. A variety of this, has been raiſed from ſeeds, which is much larger, the leaves thicker, and the ſtem taller.

13. *Cuſhion Aloe* has very ſhort, thick, ſucculent leaves, which are compreſſed on their upper ſide like a cuſhion, from whence it had the name. This grows very cloſe to the ground, and puts out ſuckers on every ſide: the flowers grow on ſlender ſtalks, and are of a herbaceous colour.

[14. Obſerved by Thunberg at the Cape. It much reſembles the ſecond ſpecies, but is very different in the ſpike, and figure of the flowers ‡.——Thunberg thus deſcribes it. Stem round, leafy at the top, three or four feet high, the thickneſs of the human arm. Leaves ſubverticillate, broad at the baſe, gradually drawn to a point, channelled, acute, with remote teeth, ſpreading, two feet long. Flowers in very cloſe ſpikes, ſpreading horizontally, a foot in breadth. A ſingle bracte under each flower, ovate, acute, broad, membranaceous, white with three green ſtreaks, a little ſhorter than the corolla: which is bell-ſhaped, almoſt ſix-petalled; the three inner ſegments not connected, broader, ovate, blunt, white with three green lines; the three outer connected with the others at the baſe, narrower and leſs concave, but like them. The flower is full of a purple honey juice. The beſt and pureſt Hepatic Aloe is obtained from this ſpecies.

Medical qualities and other uſes.

The inſpiſſated juice of the various ſpecies of Aloe is a hot irritating purgative. Three ſorts of it are uſed in the ſhops, viz. The *A. ſocotrina* as it is called in the materia medica, which is the *Aloe vera* of Miller. It is gentler and purer than the others, and is generally the only kind uſed in medicine. It is diſtinguiſhed from the other kinds by having little or no ſmell: it is the baſis of moſt of the empyrical pills, as Anderſon's, *&c. &c.* Succotrine Aloes may be given in conſiderable doſes, as a ſcruple or half a dram at a time; and is a very good purge. It is particularly uſeful in phlegmatic habits, as it is a good aperient and deobſtruent. The tincture called *Tinctura ſacra* or *Hiera picra* is a ſolution of it in wine. It may be given as a purgative from one to two ounces or more, or may be taken as an alterant in ſmaller doſes, and continued till it has induced a lax habit, or ſoluble ſtate of the bowels. It is an excellent medicine in languid, phlegmatic habits; warming the ſolids, cleanſing the primæ viæ, and attenuating viſcid juices in the remoter parts. The Hepatic Aloes is ſaid by ſome to be preferable as the baſis of a common purge, to the Succotrine, as not ſtimulating ſo much. The London college however uſe only the Succotrine. The pills called *Pil. Ruſi*, and the *Pil. Rudii* are both Aloetics, and are extremely ſerviceable medicines. Spaniſh liquorice is ſaid to be the moſt efficacious ingredient of all others, in covering the ill taſte of Aloes. Equal parts of Aloes and Spaniſh liquorice diſſolved in water is ſaid to be one of the moſt pleaſant, and uſeful aloetic purges of all others. The medicine called *Elixir Aloes* is a liquid Pil. Rufi: and may be taken in doſes of from twenty drops, to a tea-ſpoonful. *Elixir proprietatis* is the ſame medicine, with the ingredients in a ſomewhat different proportion. Doſe from twenty drops to a tea-ſpoonful, twice a day.

As the droſſy reſinous part of Aloe is not ſoluble in water, it has been found, when combined with other mixtures, an excellent preſervative to ſhip's bottoms againſt the worm to which ſhips trading to the eaſt, or weſt Indies, are particularly ſubject. One ounce of Aloes is ſufficient for two ſuperficial feet of plank; about twelve pounds for a veſſel of fifty tons burthen, and three hundred pounds for a firſt-rate man of war. It may be incorporated wirh ſix pounds of pitch, one pound of Spaniſh brown or whiting, and a quart of oil; or with the ſame proportion of turpentine, Spaniſh brown, and tallow. Such a coat will preſerve a ſhip's bottom eight months, and the expenſe for a firſt-rate ſhip will be about eighteen pounds. The ſame compoſition may be uſed in the hot countries for preſerving rafters, *&c.* from the wood-ant *.

The Hottentots hollow out the trunk of the firſt ſpecies to make quivers for their arrows. And ſeveral of them are uſed for hedges.]

PROPAGATION AND CULTURE.

The ſoil in which theſe plants thrive beſt, is one half freſh light earth from a common (and if the the turf be taken with it and rotted, it is much better); the reſt ſhould be white ſea ſand or road ſand and ſifted lime rubbiſh, of each of theſe two, a fourth part; mix them together ſix or eight months at leaſt before the compoſt be uſed, obſerving to turn it over often in the time.

The middle of july is a very proper ſeaſon to ſhift theſe plants; at which time you may take them out of the pots, and with your fingers open the roots, and ſhake out as much of the earth as poſſible, taking off all dead or mouldy roots, but do not wound or break the young freſh ones: then fill the pot about three parts full of the above-mentioned earth, putting a few ſtones in the bottom of the pot, to drain off the moiſture; and after placing the roots of the plant in ſuch a manner as to prevent their interfering too much with each other; put in as much of the ſame earth, as to fill the pot almoſt to the rim, and obſerve to ſhake the plant, ſo as to let the earth in between the roots; and then with your hand ſettle it cloſe to the roots of the plant, to keep it ſteady in the pot; then water them gently, and ſet them abroad in a ſhady place, where they may remain for three weeks, giving them gentle waterings, if the weather ſhould prove hot and dry.

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* Thunberg Aloe. † Linn. mant. ‡ Linn. Supp.

* Long's Jamaica, 3. 708.

Toward the end of ſeptember, in a dry day, remove them into the houſe again, obſerving to give them as much free open air as poſſible, while the weather is warm; but, if the nights are cool, you muſt ſhut up the glaſſes, and give them air only in the day; and, as the cold increaſes, you muſt not open the glaſſes, but obſerve to give them gentle waterings often, till the middle of october, when you muſt abate watering according to the heat of the houſe in which they are kept. For thoſe plants which are placed in a ſtove, will require to be watered at leaſt once a week, moſt part of the winter; whereas thoſe which are kept in a green-houſe without artificial heat, ſhould not be watered oftener in winter than once a month.

When theſe hardier ſorts of Aloes are placed abroad in ſummer, they ſhould have but little water given them; and if much rain ſhould fall during the time they are abroad, they ſhould be ſcreened from it: for when they imbibe much wet in ſummer, they frequently rot the following winter, eſpecially if they are not kept in a moderate warm air. Therefore, thoſe who chooſe to treat theſe plants hardily, ſhould be cautious of their receiving too much moiſture.

The tender ſorts, as the *viſcoſa*, *ferox*, and *cobweb* Aloes, ſhould conſtantly remain in the ſtove, or be removed in ſummer to an airy glaſs-caſe, where they may have free air in warm weather, but be protected from rain and cold. With this management the plants will thrive and increaſe, and ſuch of them as uſually flower, may be expected to produce them in beauty at their ſeaſons.

The hardier ſorts thrive much better when they are expoſed in ſummer, and ſecured from the cold and rain in winter, than if they are treated more tenderly. For when they are placed in a ſtove, they are kept growing all the winter, whereby they are drawn up weak; and although they will flower oftener when they have a moderate ſhare of heat, yet in two or three years, the plants will not appear ſo ſightly as thoſe which are more hardily treated.

Moſt of theſe Aloes are increaſed by offsets, which ſhould be taken from the mother plant, at the time when they are ſhifted, and muſt be planted in very ſmall pots, filled with the ſame earth as was directed for the old plants; but if, in taking the ſuckers off, you obſerve that part which joined to the mother root to be moiſt, you muſt let them lie out of the ground in a ſhady dry place ſix or eight days to dry before they are planted, otherwiſe they are very ſubject to rot. After planting, let them remain in a ſhady place (as was before directed in ſhifting the old plants) for a fortnight, when you ſhould remove the tender kinds to a very moderate hot-bed, plunging the pots therein, which will greatly facilitate their taking new root; but obſerve to ſhade the glaſſes in the middle of the day, and to give them a great ſhare of air.

Toward the middle of auguſt, begin to harden theſe young plants, by taking off the glaſſes in good weather, and by raiſing them at other times with props, that the air may freely enter the bed, which is abſolutely neceſſary for their growth, and to prepare them to be removed into the houſe, which muſt be done toward the end of ſeptember, and they muſt then be managed as was before directed for the old plants.

The African Aloes, for the moſt part, afford plenty of ſuckers, by which they are increaſed; but thoſe few that do not, may be, moſt of them, propagated, by taking off ſome of the under leaves, laying them to dry for ten days or a fortnight, as was directed for the offsets; then plant them in the ſame ſoil as was directed for them, putting that part of the leaf which adhered to the old plant, about an inch, or an inch and a half (according to the ſize of the leaf) into the earth, giving them a little water to ſettle the earth about them; then plunge the pots into a moderate hot-bed, obſerving to ſcreen them from the violence of the ſun, and give them gentle refreſhings with water once a week: the beſt ſeaſon for this is in june, that they may puſh out heads before winter.

[*Cultivation of the Aloe in the iſland of Barbadoes.*

The lands within two or three miles of the ſea, which are ſubject to drought, and are ſo ſtony and ſhallow as not to admit of the planting ſugar canes, with any proſpect of ſucceſs, are generally found to anſwer beſt for the Aloe-plant. The ſtones, at leaſt the larger ones, are firſt picked up, and either packed in heaps, upon the moſt ſhallow, barren ſpots, or laid round the field, as a dry fence. The land is then lightly ploughed, and very carefully cleared of all noxious weeds, lined at one foot diſtance from row to row, and the young plants ſet, like cabbages, at about five or ſix inches from each other. This regular mode of lining, and ſetting the plants, is practiſed only by the moſt exact planters, in order to facilitate the weeding of them, by hand, very frequently: becauſe if they are not kept perfectly clean, and free from weeds, the produce will be very ſmall. They will bear being planted in any ſeaſon of the year, even the drieſt, as they will live on the ſurface of the earth, for many weeks, without a drop of rain *.]

Aloe Africana. See *Craſſula.*

Aloe Americana. See *Agave.*

[Aloe purpurea. See *Dracæna.*

Aloe Uvaria. See *Aletris.*

Aloe Yuccæ foliis. See *Yucca.*

Aloides. See *Stratiotes.*

Alopecuro-Veronica. See *Mentha.*

Alopecuros. See *Betonica.*]

ALOPECŪRUS. (Αλωπεκος ουρα, Fox-tail.)
[*Lin. gen.* 78. *Reich.* 84. *Schreb.* 102. *Gærtn. t.* 1.

Claſſ. 3. 2. Triandria Digynia.
Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

Cal. *Glume* one-flowered, two-valved: *valves* ovate-lanceolate, concave, compreſſed, equal, connate at the baſe.

Cor. one-valved: *valve* ovate-lanceolate, concave, the edges united at the baſe, a little ſhorter than the calyx. *Awn* twice as long, with a bent joint, inſerted into the back of the valve near the baſe.
Nectary none.

Stam. *Filaments* three, capillary, flattiſh at the baſe, longer than the calyx. *Anthers* forked at each end.

Pist. *Germ* roundiſh. *Styles* two, capillary, united at the baſe, longer than the calyx. *Stigmas* villous.

Per. none. *Corolla* inveſting the ſeed.

Seed ovate, covered.

ESSENTIAL CHARACTER.

Cal. two-valved. *Cor.* one-valved.]

SPECIES.

1. Alopecurus indicus. *Indian Fox-tail Graſs.*
Lin. ſyſt. 108. *mant.* 322. *Reich.* 164.
Panicum alopecuroideum. *Lin. ſpec.* 82. *Pluk. alm. t.* 92. *f.* 5.
Panicum indicum. *Mill. dict. n.* 3.
Spike cylindrical; involucres ſetaceous, faſciculate, two-flowered; peduncles villous.

[2. Alopecurus bulboſus. *Bulbous Fox-tail Graſs.*
Lin. ſpec. 1665. *Reich.* 164. *Hudſ. angl.* 27. *With.* 59. *Raii ſyn. p.* 397. *t.* 20. *f.* 2.
Culm erect, ſpike cylindrical, root bulbous.

3. Alopecurus pratenſis. *Meadow Fox-tail Graſs.*
Lin. ſpec. 88. *ſyſt.* 108. *Reich.* 165. *Hudſ. angl.* 27. *With.* 59. *Curtis lond.* 5. 5. *Fl. ruſt. t.* 6. *Schreb. t.* 19. *f.* 1. *Stilling. miſc. t.* 2.

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* Millington in Med. journ.

Mor. hiſt. ſ. 8. *t.* 4. *f.* 8. *row* 2. *Leers herborn. t.* 2. *f.* 4. *Hall. helv. n.* 1539. *Pollich pal. n.* 64. *Krock. ſiles. n.* 104. *Raii hiſt.* 1264. 1. *ſyn.* 396. 1. *Scheuch.* 70. *Bauh. pin.* 4. *prodr.* 27. *n.* 10.

Culm ſpiked, erect; glumes villous, corollas awnleſs.

4. Alopecurus agreſtis. *Field Fox-tail Graſs.*
Lin. ſpec. 89. *ſyſt.* 108. *Reich.* 165. *Hudſ. angl.* 27. *With.* 59. *Curtis lond.* 2. 7. *Fl. ruſt. t.* 22. *Schreb. t.* 19. *f.* 2. *Fl. dan. t.* 697. *Mor. hiſt. ſ.* 8. *t.* 4. *f.* 12. *Ger. herb.* 9. 4. *emac.* 11. 2. *Park. theat.* 1169. 8. *Bauh. hiſt.* 2. 473. 1. *Monti* 51. *Scheuch.* 69. *t.* 2. *f.* 6. A. B. *Hall. helv. n.* 1540. *Pollich pal. n.* 65. *Leers herborn. n.* 44. *t.* 2. *f.* 5. *Krock. ſiles. n.* 105.

Culm ſpiked erect, glume ſmooth, calyx ſurrounded at bottom by a ring.

5. Alopecurus geniculatus. *Flote Fox-tail Graſs.*
Lin. ſpec. 89. *ſyſt.* 108. *Reich.* 165. *Hudſ. angl.* 27. *With.* 60. *Curtis lond.* 5. 6. *Flor. dan. t.* 861. *Moriſ. t.* 4. *f.* 15. *Leers t.* 2. *f.* 7. *Ger.* 14. 2.

Culm ſpiked, infracted, corollas awnleſs: (awns concealed within the calyx.)

6. Alopecurus hordeiformis. *Barley-like Fox-tail Graſs.*
Lin. ſpec. 90. *ſyſt.* 108. *Reich.* 166. *Loureiro cochinch.* 48. *Pluk. phyt.* 119. *f.* 1.

Raceme ſimple, flowers intrenched with awns.

7. Alopecurus monſpelienſis. *Bearded Fox-tail Graſs.*
Lin. ſpec. 89. *ſyſt.* 109. *Reich.* 166. *Wither. arr.* 60.
A. ariſtatus. *Hudſ. angl.* 28. *Gouan hort.* 37. *Moriſ. hiſt. ſ.* 8. *t.* 4. *f.* 3. *Park. theat.* 1166. 3.
Phleum crinitum. *Schreb. t.* 20. *f.* 3.

Panicle ſubſpiked, calyxes rugged, corollas awned.

8. Alopecurus paniceus. *Hairy Fox-tail Graſs.*
Lin. ſpec. 90. *ſyſt.* 109. *Reich.* 167. *Hudſ. angl.* 28. *Wither. arr.* 61. *Schreb. t.* 20. *f.* 13.

Panicle ſubſpiked, glumes villous, corollas awned.

DESCRIPTIONS, *&c.*

1. Size of the Italian Panic, the whole plant villous: leaves a finger's breadth, hairy on both ſides, as are the ſheaths. Spike the ſize of the finger, with villous rugged involucres, formed of bunches of briſtles, and involving two flowers, which ſtand on pedicles as long as themſelves. The acceſſory valve of the flower of the ſame length with the others [*]. Native of the Eaſt Indies.

2. Culm ſlender, about a foot high; bent at the lower joint. Spike ſlender, one inch long. Leaves one, or one inch and half in length. Root bulbous, emitting many fibres and ſtems [†]. Florets longer, narrower, and much leſs hairy, than thoſe of *A. geniculatus* [||]. Culm ſometimes ſlightly kneed at the lower joint. Awns ſtiffer, and the valves of the calyx ſhorter, and more pointed than in *A. geniculatus* [§]. Mr. Hudſon affirms, that this, planted in watery places, becomes the ſame with Flote Fox-tail, n. 5. According to him, therefore, it is only a variety, ariſing from a difference of ſoil. Mr. Woodward has found the *A. bulboſus* in a wet ſalt marſh near Yarmouth in great plenty, and the *A. geniculatus* unchanged in the ſame marſh. He obſerves alſo that this ſpecies is conſtantly awned: and therefore thinks that Mr. Hudſon is miſtaken in making it only a variety of *A. geniculatus.*

Gærtner has a ſpecies under the name of *Alopecurus ſericeus*, approaching to this, but not a mere variety, in his opinion. The ſpike is cylindrical, an inch in length, very cloſely villoſe, aſh-coloured, and of a ſilky brightneſs. Glumes of the calyx connate at the baſe, narrow, acuminate, equal, covered on all ſides with long flexuoſe hairs. Corolla membranaceous, diaphanous, awned from the baſe: awn briſtle-ſhaped, half the length of the flower. Culm naked a long way below the ſpike, thick, very ſmooth. Leaves ſcabrous about the edge [‡]. He refers to John Bauhin's figure in p. 475, vol. 2, of his hiſtory, which is quoted by Ray under the Meadow Fox-tail Graſs, n. 3.

3. Root perennial. Stalks from a foot or eighteen inches, to two and even three feet in height, according to the richneſs of the ſoil; round, ſtreaked, ſmooth, with three or four knots or joints, at each of which is one ſmooth, broad leaf, tapering to a point. Spike an inch and half, or two inches in length or longer, ſoft and hoary. Flowers imbricate, ſolitary. The ſingle valve of the corolla puts forth a jointed awn near the baſe, twice its length. The anthers are frequently purple, when in full vigour. The ſeed is very ſmall, and covered by the glumes or chaffs, from which it does not readily fall. The Meadow Fox-tail Graſs is a native of moſt parts of Europe, from Italy through France, Germany, Holland, Great Britain, to Denmark, Norway, Sweden and Ruſſia: alſo in Siberia. It is moſt abundant in moiſt meadows, where the ſoil is good: neither very wet nor dry grounds agree with it. Ray affirms, that it is extremely common all over England: in many counties it is by no means the predominant graſs; and in ſome places it is even ſcarce. About London, in the beſt paſtures, it is certainly very common. It is one of the earlieſt of the graſſes, producing the ſpike in april or may, with the Vernal graſs, and the Ladies' ſmock. It frequently flowers twice in one ſeaſon, and therefore ſhould ſeem to be proper for ſuch lands as will admit of a ſecond crop being taken. It undoubtedly poſſeſſes the three great requiſites of quantity, quality, and earlineſs, in a ſuperior degree to any other: and therefore is highly deſerving of cultivation on lands that are proper for it. The ſeed of this valuable graſs may be collected without much difficulty, for it does not quit the chaff, and the ſpikes are very prolific.

4. Is readily diſtinguiſhed from the Meadow Fox-tail Graſs, to which it bears moſt reſemblance, by the great length and ſlenderneſs of its ſpikes, tapering to a point, and uſually of a purple colour. It is marked as perennial by Linneus, Hudſon, and in the Kew catalogue; by Leers, Curtis, and others, as annual. The flowering ſtalk is a foot or eighteen inches high, upright, except that it is crooked at bottom; it has three or four joints, which are ſmooth, and purple. The leaves are about three inches long, and from a ſixth to a quarter of an inch broad, roughiſh on the upper ſurface only, with a blunt membrane (ligula) at the baſe. The ſheath inveſting the young ſpike has the keel or principal nerve rough. The flowers are looſely imbricate, on very ſhort peduncles. The valves of the calyx have no awn; the ſingle valve of the corolla has an awn proceeding from the baſe, nearly twice the length of the ſpicule. Filaments twice the length of the calyx, with anthers forked at each end. Seed very ſmall, wrapped up in the corolla and calyx. The calyx is ſurrounded at bottom by a ring [*]. This graſs is a weed in cultivated ground; it is alſo frequent by way-ſides, on banks and the borders of fields, but rarely in paſtures. It varies in the ſize both of the plant and ſpike, as well as in the colour of the latter, which is ſometimes of a pale green or whitiſh, without any purple; when in full flower it bends a little. It has acquired the name of Mouſe-tail graſs in Engliſh, and *Myoſuroides* in Latin, from the great length and ſlenderneſs of the ſpike, reſembling the tail of a mouſe. Its inferiority in every reſpect to Fox-tail graſs is ſo manifeſt, that it would anſwer no purpoſe to make experiments, with any hopes of bringing it into cultivation. It flowers early, continues flowering till autumn, and comes into bloom remarkably quick after being ſown [†].

5. Root perennial. Stalks a foot and eighteen inches in length or more, procumbent at bottom and often creeping. Leaves two or three lines broad, the upper ſide if drawn backwards between the fingers rough, the under ſide ſmooth; the uppermoſt

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[*] Linneus.
[†] Ray.
[||] Stokes.
[§] Woodward, MS.
[‡] Gærtner, fruct. 1. p. 2.

[*] Curtis and Leers.
[†] Curtis.

leaves only an inch or two long; ſtrap ovate, pointed; ſheaths ſmooth, ſtreaked, ventricoſe. Spike an inch and half or more in length, ſubcylindrical, varying in form and colour, ſometimes blunt, ſometimes tapering to a point, greeniſh, purpliſh, and even appearing blackiſh when viewed at a diſtance. Valves of the calyx obliquely truncate, pubeſcent, three-nerved, with a ciliate keel. Valve of the corolla oblong, ovate, truncate, five-nerved, pellucid, without hairs, the awn proceeding from near the baſe, and twice the length of the corolla. Anthers at firſt purple, afterwards ferruginous ‡. It is eaſily known in its common ſtate, by pools and in the wet parts of meadows, by the frequent joints of the culm or ſtem, changing their direction at an angle, and thus appearing as if it were broken. It frequently puts out roots under water from the joints, and thus ſpreads itſelf; the leaves floating on the ſurface. From the deep purple colour of the ſpikes, it is called in ſome places *Black-graſs*. It ſometimes occurs in dry paſtures, and then, according to Mr. Curtis, it grows more upright, the ſpike becomes much ſlenderer, and the baſe of the ſtalk ſwells out into a kind of bulb.

It flowers in june. Cattle eat it readily, but it is not a profitable graſs ‖.

6. Is an Indian Graſs. It has the appearance of *Hordeum murinum* or Barley Graſs. The height is about a foot. The leaves are flat and channelled, often longer than the culm. The ſpike is long and branching, conſiſting of many flowers, on very ſhort pedicles, perfectly ſimple: the calyxes are fenced with briſtles, reſembling awns, thrice the length of the flowers: the two glumes of the corolla are oblong and acuminate; one is leſs than the other: the piſtil is longer than the flower *.

7. Reſembles *A. paniceus*, but is three times as large. Calyx with a tubercle at the bottom. Corolla ſhorter than the awn. Culm and leaves ſtiff. Glumes rough, but ſmooth at the edge; both valves awned †. Grows wild in marſhes and wet paſtures. Annual, flowering in june and july.

8. This ſpecies very much reſembles the *A. monſpelienſis*, but the whole plant is ſoft, and only five or ſix inches high. Glumes downy: woolly at the edges. Awns of the corolla ſhorter than thoſe of the calyx ††. Corolla valves two, as ſhort again as the calyx; hollow, ſmooth; the outer three times as broad as the other, roundiſh-ovate, blunt, with four teeth; an awn longer than the valve, iſſuing from below the point. Inner valve ovate-lanceolate, pointed; with two teeth. Calyx ending at the baſe in a hard tubercle §. It grows on dry ſoils. Annual, flowering in july.

Mr. Hudſon joins the two laſt under the name of *Alopecurus ariſtatus*, or bearded Fox-tail graſs. He obſerves, that the glumes of the calyx are linear, diverging at the tip, and awned or bearded: that the awns are very long, and proceed from the extremity; that the corolla is very ſmall, and has a ſhort awn on the back: that the culm is ſuberect; the flowers in a cloſe panicle in form of a ſpike; and that they are annual. He thinks that the difference of ſize may ariſe only from ſituation.

PROPAGATION AND CULTURE.

See GRASS.

ALPINIA. (*So called after Proſper Alpinus, a famous phyſician and botaniſt, who travelled into Egypt between* 1580 *and* 1584, *practiſed medicine at Cairo, and publiſhed a book de Plantis Ægypti, beſides ſeveral medical treatiſes. He died in* 1615; *and his ſon Alpinus Alpinius publiſhed a book de Stirpibus exoticis, from his father's MSS. with additions, in* 1627.)

Lin. gen. n. 4. *Reich.* 4. *Schreb.* 5. *Gærtn.* 12. *Swartz obſ.* 5. *Juſſ.* 3.

Claſſ. 1. 1. Monandria Monogynia.

Nat. order of *Scitamineæ*. *Cannæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubuloſe, three-toothed: *leaflets* equal, erect, acute.

COR. monopetalous, tubuloſe: *tube* cylindraceous, ſhort: *border* three-parted; parts nearly equal, oblong.

Nectary connate with the tube of the corolla, two-parted: the lower part, forming the lower lip, is larger and longer than the parts of the corolla, broadiſh, ſpreading, often divided.

STAM. *Filament* proper none; but along the upper diviſion of the nectary, forming the upper lip, which is flattiſh, and the length of the corolla, grows a large *anther*, either deeply bifid, or entire.

PIST. *Germ* inferior, oblong. *Style* filiform, often inſerted into the fiſſure of the anther. *Stigma* incraſſate, obtuſe.

PER. *Capſule* oval, three-celled, three-valved, crowned with the permanent calyx.

SEEDS ſome, ovate, angular, covered with a ſort of berried aril.

OBS. *This genus differs from* Amomum *and* Coſtus, *only in the habit, and the infloreſcence, which is racemed.*—Rottboell *joins it with* Amomum, *under the name of* A. Alpinia.

ESSENTIAL CHARACTER.

Cal. three-toothed, equal, tubuloſe. *Cor.* three-parted, equal. *Nectary* two-lipped; the lower lip ſpreading.

SPECIES.

1. Alpinia racemoſa.
Lin. ſpec. 2. *ſyſt.* 51. *Reich.* 4. *Swartz obſ.* 5. *Plum. ic. t.* 20?
A. jamaicenſis. *Gærtn. fruct.* 1. 36.
Amomum Alpinia. *Rottb. havn.* 2. *t.* 2.
Raceme terminating ſpiked, flowers alternate, lip of the nectary trifid, leaves oblong acuminate.

[2. Alpinia occidentalis.
Swartz, prodr. 11.
Raceme radical compound erect, nectary emarginate, capſules three-celled, leaves lanceolate-ovate very ſmooth.

DESCRIPTION, &c.

1. *Root* fleſhy, branched, having the ſmell and taſte of ginger. *Stem* from two to five feet in height, herbaceous, round, ſmooth, leafy. *Leaves* ſheathing at the baſe, alternate, lanceolate-ovate, ſmooth and even, quite entire, with tranſverſe nerves. *Raceme* erect, coloured, ſhining. *Bractes* alternate, lanceolate, acuminate, almoſt the length of the flowers, blood-red. *Flowers* on very ſhort peduncles, one or two between the bractes. *Calyx* ſomewhat bell-ſhaped, red; the teeth obſolete, truncate. *Corolla* white; tube longer than the calyx; parts of the border erect. *Nectary* longer than the corolla, ventricoſe at the baſe; the lower lip broader, convex at the tip, three-parted, the middle part emarginate. *Filament* or upper lip of the nectary ſhort, involved in the lower lip, embracing it with a toothlet at the ſides. *Germ* three-cornered; the upper part of the *ſtyle* concealed within the channelled anther; *ſtigma* ſubcapitate, emarginate. *Capſule* inferior, roundiſh, with three blunt corners. *Seeds* ſhining *.

Native of the Weſt Indies.

2. Native of Jamaica, St. Domingo, &c.]

PROPAGATION AND CULTURE.

1. Being a native of hot climates, it muſt be preſerved in a ſtove, and the pot plunged into a tub of water. The leaves decay every winter, and are puſhed out from the roots every ſpring, like the *Maranta*. It may be increaſed by parting the roots, when the leaves decay.

ALPINIA SPICATA. See *Coſtus*.

ALSINA. See *Theligonum*.

ALSINANTHEMUM. See *Arenaria*.

ALSINASTRUM. See *Coſtus* and *Elatine*.

ALSINE. (From Ἄλσος, *lucus, a grove.*)
Engl. *Chickweed*. Fr. *Morgeline*.

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‡ Curtis.
‖ Ibid.
* Linneus.
† Linneus.
†† Ibid.
§ Stokes in With.

* Swartz, obſ.

[*Lin. gen. n.* 380. *Reich.* 411. *Schreb.* 518. *Juſſ.* 300. *Gærtn.* 129.
Claſſ. 5. 3. Pentandria Trigynia.
Nat. order of *Caryophyllei.*

GENERIC CHARACTER.

CAL. *Perianth* five-leaved; leaflets concave, oblong, acuminate.
COR. of five equal *Petals*, longer than the calyx.
STAM. *Filaments* capillary: *anthers* roundiſh.
PIST. *Germ* ſubovate: *ſtyles* filiform: *ſtigmas* obtuſe.
PER. an ovate, one-celled, three-valved *capſule*, covered with the calyx.
SEEDS very many, roundiſh.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Petals* five, equal. *Capſule* one-celled, three-valved.

SPECIES.

1. Alſine media. *Common Chickweed.*
Lin. ſpec. 389. *ſyſt.* 298. *Reich.* 746. *Hudſ. angl.* 131. *With.* 323. *Curtis, lond.* 1. 20. *Flor. dan.* 525. 438. *Moriſ. ſ.* 5. *t.* 23. *f.* 4. *Ger.* 611. 2. *Plenck, ic. t.* 242.
Holoſteum Alſine. *Swartz, obſ.* 118.
Petals bipartite, leaves ovate-cordate.

2. Alſine ſegetalis.
Lin. mant. 359. *ſyſt.* 298. *Reich.* 747. *Vaill. par. t.* 3. *f.* 3. *Allion. ped. n.* 1696.
Petals entire, leaves awl-ſhaped.

3. Alſine mucronata.
Lin. mant. 358. *ſyſt.* 298. *Reich.* 747. *Hall. helv. n.* 870. *t.* 17. *Gærtn. fruct.* 2. 223.
Petals entire, ſhort; leaves ſetaceous; calyxes awned.

DESCRIPTIONS, &c.

1. *Common Chickweed* is ſo generally known, that it ſeems ſcarcely neceſſary to deſcribe it; we may obſerve, however, that the number of ſtamens in the flower is very uncertain; from three to ten ‡. In plate 525 of the Flora danica it is figured with five ſtamens, and in plate 438 with ten. I have frequently obſerved it early in the ſpring with fewer than five; and Swartz informs us that in the Weſt Indies it has conſtantly three.] In gardens or on dunghills it quickly ſheds abundance of ſeeds, and becomes a troubleſome weed; but being annual, it may be deſtroyed with little trouble, if it is never ſuffered to ſeed. [The diverſity of ſoils in which it grows cauſes it to put on different appearances, which may miſlead the unwary botaniſt. It is diſtinct however from the *Ceraſtiums*, which it moſt reſembles, in having the petals ſhorter than the leaves of the calyx; and from all the plants related to it, in having the ſtalk alternately hairy on one ſide only. When the flowers firſt open, the peduncles are upright; as the flowers go off they hang down; and when the ſeeds ripen they again become erect. It is commonly given as food to chickens and ſmall birds; boiled it exactly reſembles ſpinach. Swine are very fond of it; and it is eaten by many inſects. As a medicine, it contains no active principle, but is frequently applied to ſwellings either alone or in poultices *. Flowers upright, and open from nine to noon; but if it rains they do not open. After rain they become pendent, but in a few days riſe again †. Chickweed is a remarkable inſtance of the ſleep of plants; at night the leaves approach in pairs, ſo as to incloſe between their upper ſurfaces the tender buds; and the two upper leaves but one, at the end of the ſtalk, are furniſhed with longer petioles than the others, ſo that they can cloſe upon the terminating pair, and protect the end of the branch ‡. It is found wild in moſt parts of the world.

2. The ſame with *Arenaria tenuifolia* according to La Chenal in *Hall. helv.* Annual. Grows about Paris, and in Piedmont.

3. Stems erect, a foot high, many together, branching, a little hairy. Leaves much more ſlender than the other ſpecies, long, and very ſharp pointed, yet with broad connate baſes. Flowers, in young plants, from the axils, in full grown ones, in a ſort of umbel. Calyxes marked with lines, and ending in a prickle: petals ovate, white †. Native of France and Switzerland. Introduced in 1777, by A. Gouan, M. D. ‖.

ALSINE. See *Androſace. Arenaria. Bufonia. Callitriche. Campanula. Centunculus. Ceraſtium. Corrigiola. Cucubalus. Draba. Frankenia. Glaux. Glinus. Gypſophila. Holoſteum. Iſnardia. Linum. Lemoſella. Lychnis. Moehringia. Mollugo. Montia. Nama. Oldenlandia. Peplis. Pharnaceum. Sagina. Samolus. Sibthorpia. Silene. Spergula. Stellaria. Trientalis. Veronica.*
ALSINE AFFINIS. See *Androſace.*
ALSINES FACIE. See *Theligonum.*
ALSINEFORMIS. See *Montia.*
ALSINELLA. See *Sagina.*
ALSINOIDES. See *Bufonia* and *Montia.*]

[ALSTONĬA. (*So named from Charles Alſton, M. D. Profeſſor of Materia medica and Botany at Edinburgh.*)
Mutis. Lin. ſuppl. p. 39. *Schreb. n.* 912. *Juſſ.* 157.
Claſſ. 13. 1. Polyandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* inferior, imbricate: *ſcales* ovate, very obtuſe, concave; the inner ones gradually larger, forming as it were a quadri-partite or quinque-partite calyx.
COR. one-petalled, ſhorter than the calyx; tube ſhort; border ſpreading, divided into eight or ten parts: *diviſions* equal, in a double row, alternately interior and exterior: obovate, obtuſe, quite entire.
STAM. *Filaments* very many, inſerted into the tube, very ſhort, imbricate, very ſmooth; the outer ones longer, linear, attenuated at the tip: *anthers* orbiculate, furrowed.
PIST. *Germ* ſuperior, ovate, ſmall: *ſtyle* ſimple, length of the corolla, filiform, erect: *ſtigma* capitate-obovate.
OBS. *The fruit is unknown. This genus is imperfectly determined: it is nearly allied to* Symplocos, *and perhaps only a ſpecies of it.* Swartz.

ESSENTIAL CHARACTER.

Cor. one-petalled, eight or ten-cleft: clefts alternated.

SPECIES.

1. Alſtonia theæformis.
Lin. ſuppl. p. 264. *ſyſt.* 487.
Symplocos Alſtonia. *L'Herit. in tranſ. Lin. ſoc.* 1. 176.

DESCRIPTION.

This ſhrub was found by Mutis in South America. It is very ſmooth, and has the air of the Bohea tea, in the leaves, the imbricate calyxes, the ſituations of the flowers, &c. The dried leaves chewed give a greeniſh colour to the ſaliva, and have the taſte of the Chineſe tea. The leaves grow alternately on ſhort petioles; they are elliptical in their form, rather obtuſe at the end, entire at the baſe, but from the middle to the tip obtuſely ſerrate, ſtiff and veined. The flowers are axillary, three or four together, and ſeſſile; the calyx is very ſmooth, the ſcales rounded and green, with a membranaceous edge; the corollas are white and ſpreading *.

Monſ. L'Heritier has joined this with *Hopea*, and *Ciponima*, under the ſame genus *Symplocos.*]

[ALSTROEMERĬA. (*So named from Baron Claes or Claudius Alſtroemer of Sweden, who in his travels through Europe ſent many plants to Linneus.*)
Lin. gen. n. 432. *Reich.* 466. *Schreb.* 583. *Juſſ.* 56. *Gærtn. t.* 13.
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Lilia* or *Liliaceæ. Sarmentaceæ* Lin. *Narciſſi* Juſſ.

GENERIC CHARACTER.

CAL. none.
COR. ſix-petalled, ſub-bilabiate: *the three outer petals* wedge-ſhaped, retuſe, mucronate; the *inner* which are alternate with the others, lanceolate; the two *lower* ones tubulous at the baſe.

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‡ Lightfoot.
* Curtis.
† Withering.
‡ Linn.
† Haller.
‖ Hort. kew.
* Lin. ſuppl.

Stam. *Filaments* awl-ſhaped, bending down, unequal: *anthers* oblong.

Pist. *Germ* inferior, hexangular, truncate: *ſtyle* bending down, filiform, the length of the ſtamens: *ſtigmas* three, oblong, bifid.

Per. a roundiſh, ſix-ribbed, mucronate *capſule*, three-celled and three-valved, valves concave, contrary to the diſſepiment.

Seeds very many, globoſe, covered with raiſed points, ſubumbilicate at the tip.

ESSENTIAL CHARACTER.

Cor. of ſix petals, ſubbilabiate: the two lower petals tubuloſe at the baſe. *Stam.* bending down.

SPECIES.

1. Alſtroemeria Pelegrina. *Spotted-flowered Alſtroemeria.*
Lin. ſpec. 461. *ſyſt.* 338. *Reich.* 2. 90. *amœn. acad.* 6. 247. *ic. Jacqu. hort. t.* 50. *Feuill. peruv.* 2. 711. *t.* 5. *Curt. magaz. t.* 139. *Gærtn. fruct.* 1. 41.
Stem erect, corollas bell-ſhaped, ſtraight, leaves linear-lanceolate, ſeſſile.

2. Alſtroemeria pulchella.
Lin. ſuppl. p. 206. *ſyſt.* 338.
Stem erect, corollas reflex-ſpreading, acute: leaves ſeſſile; pedicles ſhorter than the involucre.

3. Alſtroemeria Ligtu. *Striped-flowered Alſtroemeria.*
Lin. ſpec. 462. *ſuppl.* 207. *ſyſt.* 338. *amœn.* 6. 247. *Curt. mag. t.* 125. *Feuill. per.* 2. 710. *t.* 4.
Stem erect, leaves ſpatulate-oblong, peduncles of the umbel longer than the involucre, corolla two-lipped.

4. Alſtroemeria Salſilla.
Lin. ſpec. 462. *ſuppl.* 206. *ſyſt.* 338. *Feuill. per. t.* 6.
Stem twining, leaves petiolate, lanceolate, acuminate, umbel branching, peduncles longer than the involucre, bracted and looſe.

5. Alſtroemeria multiflora.
Lin. ſuppl. 207. *ſyſt.* 338.
Stem twining, leaves petiolate, lanceolate, acuminate, umbel ſimple, peduncles ſhorter than the bractes; petals alternate, truncate.

6. Alſtroemeria ovata.
Cavan. hiſp. 54. *t.* 76.
Stem twining, leaves lanceolate, lanuginoſe on the upper ſurface, lucid on the lower; corollas tubular.

DESCRIPTIONS, &c.

Theſe are all found in South America. The leaves are reſupinate, and the petals alternately larger and ſmaller *. The trivials of the firſt, third and fourth ſpecies are taken from their Peruvian names.

1. The flowers are whitiſh, moſt beautifully ſtained and veined with purple and red. It flowers from june to october, and was introduced in 1753, by Meſſrs. Kennedy and Lee ‡.

2. In appearance and ſtructure very like the former; but the leaves narrower, and the ſtem terminated by an irregular involucre, of larger, petiolate leaves †. Peduncles naked, very ſimple, one-flowered; flowers four or ſix, rather nodding, irregular, of the ſame ſize as in the former ſpecies. Petals ſpreading from the baſe, recurved, acute, alternately leſs, whitiſh, red at the tip, ſtreaked or dotted with red at the baſe: filaments yellow, equal: piſtil red, riſing: ſtigma trifid §.

3. The barren ſtems clothed with awl-ſhaped leaves, preſſed to it; terminated with ſpatulate-oblong leaves, placed in a kind of roſe. The floriferous ſtem clothed alſo with awl-ſhaped leaves, claſping cloſe to it, and terminated with a ſhorter involucre. Peduncles few, very ſimple, naked, longer than the involucre. The three upper petals of the corolla larger, white, dotted at the baſe, ſpotted at the tip with red; the three lower ones ſhorter, eſpecially the loweſt, almoſt awl-ſhaped, red. Filaments longer than the lower petals, rugged: anthers twin, yellow; piſtil red. Remarkable for the largeneſs of the flowers, and for their fragrancy ||, in which they are ſcarcely inferior to Mignionette. It flowers in february and march. Introduced about 1776, by John Brown, Eſq.

4. Leaves nervoſe; petioles naked. Involucre many-leaved, awl-ſhaped, reflex. Peduncles few, elongated, ſuſtaining one or two flowers; a bracte at the branching of the peduncles: petals from erect ſpreading, rather blunt; the outer ones red; the inner greeniſh §.

5. The habit and ſtructure of the laſt; but the petioles are wrinkled at the edge, nor is the umbel peduncled: the many-flowered involucre conſiſts of broader leaflets; the peduncles are quite ſimple and naked; the flowers are of the ſize of the *Salſilla*: the three outer petals ſhorter, narrower, entire: the inner truncate, or emarginate with a point. This ſpecies is very diſtinct from the reſt **.

6. Stem twining contrary to the ſun, ſlender, hardiſh, three feet high. Leaves alternate, ſeſſile, extremely ſharp at the tip, contracted at the baſe into the petiole, and there writhed ſo as to be reſupinate, the border revolute towards the lanuginoſe ſurface; there is a ſingle longitudinal nerve ſcarcely protuberant; ſeveral lines nearly parallel to this, run from the baſe to the apex. Flowers terminating in umbels: involucre of unequal revolute leaflets, equal in number to the rays, which are frequently five, bifid at the bracte, and thence two-flowered; pedicels an inch and half long. Petals approximating into a tube, ovate-oblong, the three outer ſcarlet, green at the tip; the three inner green, flattiſh towards the top, and variegated with black dots, the border at bottom rolled into a channel on each ſide: all fixed to the top of the germ, and making an open throat. Stamens fixed alſo to the germ near the baſe of the petals; anthers ovate, brown. Germ green without, marked with ſix longitudinal grooves, and terminated with the ſame number of little notches: ſtyle thickiſh, ſubulate: ſtigmas ſharp. Capſule globular, an inch in diameter, ſix-grooved, ſix-notched at the edge, cut tranſverſely at top. It differs from *A. Salſilla* in its woolly leaves, and tubuloſe flowers. Native of Peru *.

PROPAGATION AND CULTURE.

Theſe are ſtove plants, and where they can be obtained, may be propagated by parting the roots in autumn. The firſt is found to be much more hardy than the third, and may be treated as a green-houſe plant; it will however flower and ripen its ſeeds better under the glaſs of a hot-bed frame, where air is freely admitted. This is more uſually raiſed from ſeeds, ſown in the ſpring, in a pot of light earth, on a gentle hot-bed, either of dung or tan †.]

ALTHÆA. (Αλθαια *Dioſc. from* αλθος *a remedy, or* αλθαινειν, *to heal*; or as Dioſcorides himſelf ſays, δια το πολυαλθες αυτης, *from its many excellent qualities.*)

Engl. *Marſh-mallow.* Fr. *Guimauve.*
Lin. gen. n. 839. *Reich.* 904. *Schreb.* 1132. *Cavan. diſſ.* 2. 91. *Juſſ.* 272. *Gærtn. t.* 136.
Claſſ. 16. 5. Monadelphia Polyandria.
Nat. order of *Columniferæ*. *Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* double: *outer* ſmaller, one-leafed, unequally novemfid: (6—12 *G.*) diviſions very narrow: *inner* ſemiquinquefid: diviſions broader, ſharper.

Cor. five-petalled, united at the baſe, obcordate, præmorſe, flat.

Stam. *Filaments* many, inſerted into the corolla; *anthers* ſubreniform.

Pist. *Germ* orbiculate; *ſtyle* cylindrical, ſhort: *ſtigmas* many (twenty), ſetaceous, the length of the ſtyle.

Per. conſiſts of *arils* not jointed, forming a flat ring about a columnar receptacle; they are deciduous, and open on the inſide.

Seed one, flat-kidney-ſhaped in each aril.

ESSENTIAL CHARACTER.

Cal. double: outer nine-cleft. *Arils* many, one-ſeeded.

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* Linneus. ‡ Hort. kew. † Linneus. § Lin. ſuppl. || Ibid.

|| Hort. kew. § Linn. ſuppl. ** Ibid. * Cavanilles. † Curtis magaz.

SPECIES.

1. Althæa officinalis. *Common Marſh-Mallow.*
Lin. ſpec. 966. *Reich.* 3. 340. *hort. cliff.* 348. *upſ.* 204. *mat. med.* 166. *Gærtn. fruct.* 2. 258. *Hudſ. angl.* 306. *With.* 735. *Lightf. ſcot.* 373. *Woodv. med. bot.* 146. *t.* 53. *Scop. carn. n.* 855. *Pollich pal. n.* 656. *Hall. helv. n.* 1074. *Fl. dan. t.* 530. *Blackw. t.* 90. *Mor. hiſt.* 5. *t.* 19. *f.* 12. *Ger.* 787. *emac.* 933. 1. *Park. theat.* 303. *Bauh. pin.* 315. *Bauh. hiſt.* 2. 954. *Raii hiſt.* 602.
Leaves ſimple, downy.

2. Althæa cannabina. *Hemp-leaved Marſh-Mallow.*
Lin. ſpec. 966. *Reich.* 3. 341. *Jacq. auſt.* 2. *t.* 101. *Scop. carn. n.* 856.
Lower leaves palmate, upper digitate.

3. Althæa hirſuta. *Hairy Marſh-Mallow.*
Lin. ſpec. 966. *Reich.* 3. 341. *Scop. carn. n.* 857. *Pollich pal. n.* 657. *Jacq. auſtr.* 2. *t.* 170. *Hall. helv. n.* 1073.
Alcea *Barr. ic.* 1169.
Leaves trifid, hairy-hiſpid, ſmooth above; peduncles ſolitary, one-flowered.

[4. Althæa Ludwigii. *Ludwig's Marſh-Mallow.*
Lin. mant. 98. *ſyſt.* 624. *Reich.* 3. 342.
Alcea *Raii hiſt.* 605?
Leaves lobed, naked on both ſides, peduncles collected, one-flowered.

5. Althæa narbonenſis. *Narbonne Marſh-Mallow.*
Jacq. ic. 138. *collect.* 2. 275. *Cavan. diſſ.* 2. 94. *t.* 29. *f.* 2. *Ait. hort. kew.* 2. 445.
Leaves tomentoſe on both ſides; the lower five-lobed; the upper three-lobed: peduncles ſolitary, one-flowered.

6. Althæa corymboſa.
Swartz prodr. 101.
Leaves ſimple, cordate or angular, ſmooth, peduncles and calyxes hairy, flowers in corymbs.

7. Althæa racemoſa.
Swartz prodr. 102. *Brown. jam.* 284. 3. *Sloan. jam.* 221. *t.* 139. *f.* 2.
Pavonia ſpicata *Cavan. diſſ.* 3. 136. *t.* 46. *f.* 1.
Leaves ſimple, cordate, ovate, ſerrate, ſcabrous on the upper ſurface, raceme terminating, erect.]

DESCRIPTIONS, *&c.*

1. *Common* or *officinal Marſh-Mallow* grows naturally in ſalt marſhes, and on the banks of rivers and ditches in Cambridgeſhire, Norfolk and Suffolk; on the ſea ſhores of Cornwall; in Holland, France, Italy, Siberia, *&c.* It has a perennial root, and an annual ſtalk, growing erect, to the height of four or five feet, and putting out a few lateral branches. The leaves are ſoft, angular, and alternate. The flowers are axillary, ſhaped like thoſe of the Mallow, but ſmaller and of a pale colour. Theſe appear in june or july, and the ſeeds ripen in ſeptember. [The outer calyx is frequently cleft into ſeven parts. Capſules about twenty, rounded-kidney-ſhaped, triangular-flatted, cloſed on every ſide, tomentoſe on the back, coriaceous, not gaping. Common receptacle central, in the middle, ſwelling globularly, and grooved, but ending at top in a long conical point: proper none. Seeds ſmooth and brown *.]

There is a variety of this (Miller n. 2.) with the leaves rounder, and not ending in a point. [In Ray's ſynopſis this is named *Althæa vulgari ſimilis folio retuſo brevi*, and is obſerved to grow in the iſle of Ely. It alſo varies with laciniated leaves. *Bauh. pin.* 316. *Lin.* β.

The whole plant, particularly the root, abounds with a mild mucilage, which is emollient in a much greater degree than common Mallow. The root boiled is much uſed as an emollient cataplaſm, and an infuſion of it is very generally preſcribed in all caſes wherein mild mucilaginous ſubſtances are uſeful †, as a pectoral, and in complaints of a gravelly nature. The infuſion is much ſuperior to the ſyrup which is kept in the ſhops.]

2. *Hemp-leaved Marſh-Mallow* has a woody ſtem, which riſes to the height of four or five feet, and puts out many ſide branches. The leaves are alternate. The flowers are axillary, not ſo large as thoſe of the common Marſh-Mallow, but of a deeper red colour, and the calyx much larger. This ſort ſeldom flowers the firſt year, unleſs the ſummer prove warm; but when the plants live through the winter, they will flower early the following ſummer, and produce good ſeeds. It grows naturally in Hungary, Iſtria, Auſtria, Carniola, Italy, the ſouth of France, *&c.* by wood ſides. [Cultivated by Gerard, in 1597 *.]

3. A low plant, the branches trailing on the ground. The leaves and ſtalks are beſet with ſtrong hairs; the flowers are axillary, ſmaller than thoſe of the common ſort, and have purpliſh bottoms. The leaves are deeply cut into three parts, and have long petioles. The ſtalks are woody, but ſeldom laſt more than two years. [The outer calyx is eight-leaved; the inner is of the length of the corolla, and acuminate: the corolla is crenulate †.]

It grows wild in Spain and Portugal, [Italy, Auſtria, Carniola, Germany, Switzerland and France. Cultivated in 1683, by Mr. James Sutherland ‡.

4. This plant much reſembles *Malva Alcea.* Peduncles axillary from two to five, one-flowered, the length of the petioles. The outer calyx eight-leaved, the leaflets lanceolate: the inner ſhorter, quinquefid, very rough with white villous hairs, leſs than that of *A. hirſuta,* which differs from this in having leſs-divided, ſharper leaves; ſtem, peduncles and petioles hairy; calyxes ſtrigoſe not woolly, four times larger, the inner not hiſpid nor woolly-white §.

5. Root perennial. Stems annual, upright, from four to ſix feet in height, branched, the thickneſs of a finger, round, hoary with whitiſh ſtellate hairs. The branches and midribs of the leaves have hairs of the ſame ſort. Stipules ſubulate, acute, ciliate. Leaves alternate, petioled, ſerrate; the lower ones bluntiſh, the upper ones ſharp, with the lobes lanceolate, and the ſide-ones augmented with a ſmall lobe. Bractes ſubulate, ſmall. The outer perianth has ſix or ſeven deeply-cut, lanceolate, acute, ſegments; in both they are ſomewhat rough with hairs. Corolla purple-roſe-coloured, twice as long as the calyx; the ſegments emarginate. Anthers dark purple. Stigmas white. Arils ſmooth ‖.

Firſt diſcovered by Abbé Pourret near Narbonne; it is found alſo in Spain, and flowers in auguſt and ſeptember ¶. Introduced in 1780, by Monſieur Thouin **.

6. Native of Jamaica ††.

7. Stems thick, ſtiff, five feet high, with many branches. Leaves alternate, on long petioles, very acuminate, rough with hairs, a little longer than the petioles. Stipules lanceolate, acuminate. Outer calyx deeply eight-cleft, ſo that it ſeems to conſiſt of eight diſtinct, lanceolate, acuminate leaflets; inner ſomewhat tubuloſe, with five roundiſh, acuminate little notches; a little longer than the outer. Corolla yellow, double the length of the calyx; petals oblong, almoſt entire, from erect ſpreading, marked with deeper-coloured ſtreaks. The fruit is compoſed of five bivalve capſules. Native of Jamaica ‡‡.]

PROPAGATION AND CULTURE.

1. The common Marſh-Mallow may be propagated faſt enough, either by ſeeds, or parting the roots. The ſeeds ſhould be ſown in the ſpring; but the beſt time for parting the roots is in autumn, when the ſtalks decay. It will thrive in any ſoil or ſituation, but in moiſt places will grow larger than in dry land. The plants ſhould not be nearer together than two feet; for the roots ſpread wide.

2. Hemp-leaved Marſh-Mallow is propagated by ſeeds, which ſhould be ſown in the ſpring in the place where the plants are to remain; or if not, they muſt be tranſplanted young, otherwiſe they will not ſucceed. They muſt have a ſheltered ſituation and dry ſoil, to live through the winter in

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* Gærtner. † Withering.

* Hort. kew. † Linneus. ‡ Hort. kew. § Linneus. ‖ Jacquin collect. ¶ Cavanilles. ** Hort. kew. †† Swartz prodr. ‡‡ Cavanilles.

England. When they grow in a ſtony ſoil, or in lime rubbiſh, they will be ſtinted in their growth, but will endure the cold better. This ſort ſeldom continues longer than two years in England, but as the ſeeds ripen here, the plants may be had in plenty.

3. If the ſeeds be ſown in april, the plants will flower in july, and the ſeeds ripen in ſeptember. They ſhould be ſown where they are to remain, for as the roots ſhoot deep into the ground, unleſs the plants be removed very young, they ſeldom ſurvive tranſplanting.

Althæa. See *Hermannia. Hibiſcus. Lavatera. Malva. Melochia. Napæa. Sida. Waltheria.*

Althæa Frutex. See *Hibiſcus.*

Alypum. See *Globularia.*

Alyssoides. See *Alyſſum.*

Alysson. See *Alyſſum. Clypeola. Draba. Marrubium. Myagrum. Veronica.*

ALYSSUM. (Αλυσσον *Dioſcor.* from Αλυσσῶ, *to be mad.*)

Lin. gen. 805. *Reich.* 869. *Schreb.* 1081. *Tournef.* 104. *Juſſ.* 240. *Gærtn. t.* 141.

Alyſſoides. *Tournef.* 104.

Veſicaria. *Tournef.*

Claſſ. 15. 1. Tetradynamia Siliculoſa.

Nat. order of *Siliquoſæ. Cruciferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved, oblong: leaflets ovate-oblong, obtuſe, convergent, deciduous.

Cor. four-petalled, cruciform. *Petals* flat, ſhorter than the calyx; very ſpreading: claws the length of the calyx.

Stam. *Filaments* ſix, the length of the calyx: two oppoſite a little ſhorter, marked with a toothlet. *Anthers* from erect, ſpreading.

Pist. *Germ* ſubovate: *ſtyle* ſimple, the length of the ſtamens, longer than the germ. *Stigma* obtuſe.

Per. a ſubgloboſe, emarginate *ſilicle*, with a ſtyle the length of the ſilicle, two-celled: partitions elliptic, valves elliptic hemiſpherical.

Seeds fixed to filiform receptacles, iſſuing forth at the end of the ſilicle: few, orbicular.

Obs. *The Petals in ſome ſpecies are emarginate, in others entire. The ſilicle in ſome is bellying, in others compreſſed. The eſſential character conſiſts in the ſhorter filaments having a toothlet inſerted at the baſe within.*

ESSENTIAL CHARACTER.

The *ſhorter filaments* marked with a toothlet. *Silicle* emarginate.

SPECIES.

* *Underſhrubs.*

1. Alyſſum ſpinoſum. *Thorny Madwort.*
Lin. ſpec. 907. *ſyſt.* 590. *Reich.* 3. 233. *Barr. ic.* 808.
The old racemes thorny, naked.

2. Alyſſum halimifolium. *Sweet Madwort.*
Lin. ſpec. 907. *Reich.* 3. 233. *Hort. kew.* 2. 381. *Curt. mag.* 101.
Thlaſpi. *Herm. lugdb. t.* 595.
β. Thlaſpi. *Bocc. muſ.* 2. *t.* 39.
Stems procumbent, perennial, leaves lance-linear, acute, quite entire.

3. Alyſſum ſaxatile. *Yellow Madwort.*
Lin. ſpec. 908. *ſyſt.* 590. *Reich.* 3. 233. *Ard. ſpec.* 1. *p.* 18. *t.* 7. *Mill. fig. t.* 20. *f.* 1. *Curt. magaz. t.* 159.
Thlaſpi. *Bocc. muſ. t.* 93.
Stems ſhrubby, panicled, leaves lanceolate, very ſoft, repand: petals entire.

4. Alyſſum alpeſtre. *Italian Madwort.*
Lin. mant. 92. *ſyſt.* 590. *Reich.* 3. 233. *Ger. prov. t.* 13. *f.* 2. *Allion. ped.* 888. *t.* 18. *f.* 2.
Stems underſhrubby, diffuſed, leaves roundiſh, hoary, calyxes coloured.

** *Herbaceous.*

5. Alyſſum hyperboreum. *Northern Madwort.*
Lin. ſpec. 910. *Reich.* 3. 324.
Lunaria. *Act. Petrop.* 1747. *t.* 15. *f.* 1.
Leaves hoary, toothed, ſtamens four-forked.

6. Alyſſum incanum. *Hoary Madwort.*
Lin. ſpec. 908. *ſyſt.* 590. *Reich.* 3. 234. *Pollich palat. n.* 616.
Stem erect, leaves lanceolate, hoary, quite entire, flowers in corymbs, petals bifid.

[7. Alyſſum minimum. *Leaſt Madwort.*
Lin. ſpec. 908. *ſyſt.* 590. *Reich.* 3. 234.
Stems diffuſed, leaves linear, downy, ſilicles compreſſed.]

8. Alyſſum calycinum. *Calycine Madwort.*
Lin. ſpec. 908. *ſyſt.* 590. *Reich.* 3. 234. *Gærtn. fruct.* 2. 282. *Jacq. vind.* 114. *auſtr.* 4. *t.* 338. *Pollich palat. n.* 617. *Hall. helv. n.* 494. *Scop. carn. n.* 802.
Alyſſon *Camer. epit.* 558. *f.* 1.—minimum *Cluſ. hiſt.* 2. 133.
Stamens all toothed, calyxes permanent.

9. Alyſſum montanum. *Mountain Madwort.*
Lin. ſpec. 907. *ſyſt.* 590. *Reich.* 3. 235. *Jacq. auſtr. t.* 37. *Bauh. hiſt.* 2. *t.* 929. *Scop. carn. n.* 803. *Hall. helv. n.* 492.
Stems diffuſed, leaves ſublanceolate, dotted and echinate.

10. Alyſſum campeſtre. *Field Madwort.*
Lin. ſpec. 909. *Reich.* 3. 236. *Pollich pal. n.* 618. *Hall. helv. n.* 495.
Stamens guarded with a pair of briſtles, calyxes deciduous.

11. Alyſſum clypeatum. *Buckler-podded Madwort.*
Lin. ſpec. 909. *Reich.* 3. 236.
Stem erect, ſilicles ſeſſile, oval, compreſſed-flat, petals pointed, linear.

*** *Silicles inflated, or calyxes oblong, cloſed.*

12. Alyſſum ſinuatum. *Sinuate-leaved Madwort.*
Lin. ſpec. 909. *Reich.* 3. 236. *Gærtn. fruct.* 2. 283. *Mor. hiſt.* 2. 247. *n.* 6. *ſ.* 3. *t.* 9. *f.* 6. *Cluſ. hiſt.* 2. 134. (Eruca.)
Stem herbaceous, leaves lance-deltoid, ſilicles inflated.

13. Alyſſum creticum. *Cretan Madwort.*
Lin. ſpec. 910. *mant.* 92. *Reich.* 3. 237. *Alp. exot. t.* 118.
Stem ſhrubby, leaves lanceolate, a little toothed, downy, ſilicles inflated, globular.

[14. Alyſſum gemonenſe. *Gemona Madwort.*
Lin. mant. 92. *ſyſt.* 591. *Reich.* 3. 237. *Ard. ſpec.* 2. *p.* 30. *t.* 14.
Stem herbaceous, branches divaricated, root-leaves obovate, rather downy, ſilicles inflated.

15. Alyſſum utriculatum. *Bottle Madwort.*
Lin. mant. 92. *ſyſt.* 591. *Reich.* 3. 237. *Allion. ped. n.* 891. *Curt. magaz. t.* 130.
Stem herbaceous, erect, leaves ſmooth, lanceolate, quite entire, ſilicles inflated.]

16. Alyſſum Veſicaria. *Bladder Madwort.*
Lin. ſpec. 910. *Reich.* 3. 237.
Veſicaria. *Tournef. itin.* 2. 97. *t.* 14.
Leaves linear toothed, ſilicles inflated, angular, acute.

17. Alyſſum deltoideum. *Deltoid-leaved Madwort.*
Lin. ſpec. 908. *Reich.* 3. 237. *Curt. mag. t.* 126.
Leucoium ſaxatile thymi folio hirſutum cæruleo-purpureum. *Bauh. pin.* 201.
Stems underſhrubby, proſtrate, leaves lance-deltoid, ſilicles ſhaggy.

DESCRIPTIONS, &c.

1. Has woody branches, which riſe about two feet high, and are armed with ſmall ſpines. The leaves are hoary, lanceolate, and thinly placed on the ſtalks without any order. The flowers grow in ſmall cluſters at the extremities of the branches. [Petals white and entire. Filaments toothleſs *.] It grows naturally in Italy, Spain, and the ſouth of France.

2. Spreads itſelf upon the ground, and never riſes to any height. At the extremities of its branches it produces very pretty tufts of ſmall white flowers, of which the plant is ſeldom deſtitute for ſix or ſeven months ſucceſſively. [The ſtamens are ſimple; the ſilicles roundiſh and entire. It is a native of the ſouthern countries of Europe: and was cultivated 1722 in Chelſea garden †.]

3. A low plant, with a fleſhy ſtalk, which ſeldom riſes more than one foot high, but divides into

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* Linneus.

† Hort. kew.

many ſmaller branches, which grow near the ground, ſo that a ſingle plant will ſpread to a conſiderable diſtance. The flowers are produced in looſe panicles at the extremity of every branch, and are of a bright yellow colour. They appear at the end of april, or beginning of may, and if the ſeaſon be moderate, will continue three weeks in beauty. [This is a ſmall, ſhowy, hardy plant, and not diſpoſed to over-run others; it is very ſuitable to embelliſh rock-work ‡. Candia, Auſtria. It frequently flowers a ſecond time in autumn. Cultivated 1731, by Mr. Miller §.

4. Leaves ſpatulate, very obtuſe. Calyxes yellowiſh, deciduous: petals entire, yellow. The ſtamens have a little membrane at the baſe; the ſtyle is deciduous; the ſilicles ovate and hoary. Perennial. On the mountains of Provence towards Italy ‖.—Alſo on Mont Cenis, *&c.* It differs from the Alyſſums in having an ovate-acute ſilicle, not inflated. In fewneſs of ſeeds it approaches to the genus *Clypeola,* but the ſilicle is not emarginate, nor ſurrounded by a furrowed edge. Though in the form of the fruit it approach to *Draba,* yet it differs in the whole habit, and in the filaments having a toothlet ¶.

5. Found by Kraſcheninnikof in North America. The two ſhorter filaments are marked with a ſharp claw, the four longer ones at the baſe with an emarginate ſcale **.]

6. Grows to the height of two feet, having woody ſtalks, which divide into ſeveral branches toward the top. At the extremity of every ſhoot the flowers are produced in round bunches; they are ſmall and white. The ſilicle is entire, oval, and full of brown ſeeds. It grows naturally in the ſouth of France, Spain and Italy, Germany, Auſtria, Sweden, *&c.* chiefly on rocky or gravelly ſoils. Perennial. [Cultivated 1640, by Parkinſon ††.

7. An annual plant, and grows wild in Spain. The petals are yellow and ſubemarginate ‡‡.

8. This is alſo annual, and found wild in Auſtria, Carniola, France, Germany, and Switzerland. The four longer filaments are toothed in the middle within, but the two ſhorter ones put out from their baſe a lance-ſhaped ſcale, the length of the germ. The petals are very ſmall, ſcarce apparently emarginate, yellow, but growing white with age. Silicle ſlightly emarginate, with two ſeeds in each cell, but one commonly abortive. Calyx permanent §§. Cultivated 1768, by Mr. Miller ‖‖.]

9. Branches trailing. Leaves oblong, hoary, rough to the touch, and alternate. The flowers are produced in ſmall cluſters at the extremities of the branches; they are of a dark yellow colour. [Four of the filaments are bifid at the top, the two others have a toothlet at the baſe ¶¶.] It grows naturally upon rocks in Burgundy and ſome other parts of France, about Baſil, [in Germany, Auſtria, Carniola, *&c.* and is perennial. Cultivated 1759, by Mr. Miller ***.

10. Is very like the eighth in ſtem, leaves, and petals, but is more decumbent and has lance-ovate leaves. The filaments have no teeth, but the two ſolitary ones have a briſtle on each ſide not growing to the filament, but inſerted into the receptacle. Silicles ovate, ſcarcely compreſſed, more downy. France, Germany, and Switzerland. Annual. Thought by ſome not to differ ſpecifically from the eighth. Cultivated 1768, by Mr. Miller †††.]

11. A biennial plant [annual *Lin.*] with an herbaceous ſtalk; leave oblong, hoary, alternate; flowers axillary, ſolitary, ſilicles compreſſed like thoſe of *Lunaria.* It grows naturally in Spain and Portugal. [Tournefort gathered it on mount Libanus. There is a toothlet in the middle of the filaments ‡‡‡. Cultivated 1596, by Gerard §§§.]

12. A low ſpreading plant, which divides into ſmall branches; theſe are garniſhed with hoary leaves continuing through the year: the flowers are produced in ſmall cluſters at the extremities of the branches; they are of a bright yellow colour. [The petals are bifid, and the ſide filaments obſcurely toothed *. The ſilicle is the ſize of a pea, ſubglobular, inflated, whitiſh. Seeds round, compreſſed, ſo as to be almoſt like a leaf or a bracte, dirty rufous or ruſty iron colour, ſurrounded with a whitiſh membranaceous rim, and mucilaginous †. It is annual, or biennial, and grows wild in Spain, by way ſides:] alſo in the iſlands of the Archipelago, but is hardy enough to live in the open air in England, in a dry ſoil, and a warm ſituation.—[Cultivated 1680 ‡.]

13. Grows more erect, having a ſhrubby ſtalk, which ſends out a few lateral branches toward the top, with oblong hoary leaves. The flowers grow in ſmall cluſters at the extremities of the branches. It ſeldom continues longer than two years in England; and in a warm, dry ſituation, will live in the open air. [Spain and Candia. Cultivated 1739, by Mr. Miller §.

14. Differs from the laſt in having divaricated branches, and ſmaller flowers of a deep yellow colour. Root perennial. Stem ſpread on the ground, ſuffruticoſe, four or five inches long, ſurrounded at the extremity with many leaves: among theſe, other ſtalks ariſe, which are upright, herbaceous, ſubflexuoſe, a foot high and more, very ſlightly hirſute, ſomewhat hoary, branched at top. Leaves roughiſh, aſh-coloured, root-leaves ovate-oblong, ſlightly ſinuate, about five inches long, and ſcarcely an inch broad; ſtem-leaves ſhorter, narrower, lanceolate, ſomewhat toothletted. Perianth ſpreading, yellow, hirſute. Petals obovate, emarginate, twice the length of the calyx.

This ſpecies was firſt diſcovered by Pietro Arduini, in ſeptember 1759, on the mountain *della Fontana,* near Gemona, in the diſtrict of Forli, in Italy; in the clefts of rocks. It flowers in may and june ‖.

15. This has the flower of *Lunaria*; the radical leaves are hairy ¶. Seeds many, flat, gray, winged; on which account this plant would be referred to the genus *Lunaria,* were it not for its inflated ſilicles **. Found by Tournefort in the Levant: it alſo grows in the vineyards of Savoy. It is a hardy and beautiful perennial, flowering from april to june, at which time it begins to form its curiouſly inflated pods. Like the 17th it is well adapted to the decorating of walls or rock-work ††. Cultivated 1739, by Mr. Miller ‡‡.]

16. and 17. Have trailing ſtalks, and produce their flowers toward the extremities in looſe ſpikes.

[17. Stems woody, filiform, diffuſed, hairy; the older ones have the baſes of the petioles toothletted, and are flexuoſe. Leaves lanceolate, with a ſtrong angle or two on each ſide as it were deltoid, green, with a few hairs. Raceme ſimple, few-flowered. Flowers reſembling thoſe of the Stock-Gilliflower, and of a purple colour. Calyx oblong, cloſed, gibbous at the baſe §§. Cultivated 1739, by Mr. Miller ‖‖. Both theſe were found by Tournefort in the Levant.]

PROPAGATION AND CULTURE.

All the ſpecies may be propagated by ſeed, and moſt of them by ſlips and cuttings. The ſeeds ſhould be ſown in a border of light earth in april. Cuttings or ſlips ſhould be planted in april or may; ſhaded in the heat of the day, and gently refreſhed with water.

In rich ground they ſeldom live through the winter in England; but in a dry, poor, rubbiſhy ſoil, or on old walls, they will abide the cold, and laſt much longer.

2. Seldom continues above two or three years with us, and muſt therefore be often ſown to preſerve it; but if the ſeeds be ſuffered to fall, and remain upon the ground, the plants will riſe without any trouble.

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‡ Curtis. § Hort. kew. ‖ Lin. mant. ¶ Allion. ** Linneus. †† Hort. kew. ‡‡ Linneus. §§ Ibid. ‖‖ Hort. kew. ¶¶ Linneus. *** Hort. kew. ††† Ibid. & Linn. ‡‡‡ Linn. §§§ Hort. kew.

* Linneus. † Gærtner. ‡ Hort. kew. § Ibid. ‖ Arduini. ¶ Linneus. ** Allioni. †† Curtis. ‡‡ Hort. kew. §§ Linneus. ‖‖ Hort. kew.

3. The ſeeds ripen in july, but it is only from young plants that ſeeds can be expected; for the old plants, or thoſe which are raiſed from ſlips or cuttings, rarely produce ſeeds in England.

6. Flowers from june to ſeptember, and the ſeeds ripen ſoon after; if theſe be permitted to ſcatter, the plants will come up, and require little care.

8. and 10. Should be ſown where they are to remain: if they be thinned and kept clean from weeds they will flower in july, and perfect their ſeeds in autumn.

13. The ſeeds ſhould be ſown in auguſt, ſoon after they are ripe; and if a few of the plants be potted in october, and ſheltered under a frame in winter, they will flower the following june, by which means good ſeeds may be obtained the ſame year; for thoſe plants which ariſe early in the year, grow luxuriantly in ſummer, but do not often ripen ſeeds, or live through the winter.

17. Rarely produces ſeed in this country, but may be propagated from its trailing branches, which if planted in april, will take root and become good plants by the following autumn, when two or three plants may be placed in a common frame for ſhelter in winter, to preſerve the ſpecies; for in hard winters, thoſe which are expoſed are ſometimes deſtroyed. [It is properly a rock plant, being hardy, forming with very little care a neat tuft of flowers, and not apt to encroach on its neighbours. It is valuable, from its beginning to flower in march, and continuing through the ſummer. It has uſually been conſidered by the nurſery-men about London as the *hyperboreum* *.

Alyssum. See *Cardamine. Clypeola. Draba. Myagrum. Peltaria. Stachys. Subularia. Siſymbrium.*

Amalago. See *Piper.*

Amannia. See *Ammannia* and *Peplis.*

Amaracus. See *Origanum.*

Amara indica. See *Momordica.*

Amaranth, Globe. See *Gomphrena.*

Amaranthi Spica. See *Phryma.*

Amarantho affinis. See *Gomphrena* and *Illecebrum.*]

Amaranthoides. See *Celoſia, Gomphrena,* and *Illecebrum.*

AMARANTHUS. (Αμαραντος, *Dioſcor. incorruptible, from* α, μαραινω *and* ανθος; or, *from* α *and* μαραινω *only: becauſe the flower being cropped does not ſoon wither. If the ſecond derivation be right, it ſhould be written* Amarantus.)

Lin. gen. n. 1060. *Reich.* 1157. *Schreb.* 1431. *Tournefort* 118. *h, i, k, l.* *Juſſ.* 88. *Gærtn. t.* 128.

Claſſ. 21. 5. Monoecia Pentandria.

Miſcellaneæ Lin. *Amaranthi* Juſſ.

GENERIC CHARACTER.

* *Male flowers on the ſame plants with the females.*

Cal. *Perianth* five or three-leaved, upright, coloured, permanent; *leaflets* lanceolate, acute.

Cor. none. (unleſs you take the calyx for ſuch.)

Stam. *Filaments* five or three capillary, from upright patulous, the length of the calyx. *Anthers* oblong, verſatile.

* Female flowers in the ſame raceme with the males.

Cal. *Perianth* as in the male.

Cor. none.

Pist. *Germ* ovate; *ſtyles* three, ſhort, ſubulate. *Stigmas* ſimple permanent.

Per. *Capſule* ovate, ſomewhat compreſſed, as is the calyx on which it is placed, coloured and of the ſame ſize, three-beaked, one-celled, cut open tranſverſely.

Seed ſingle, globular, compreſſed, large.

ESSENTIAL CHARACTER.

Male. *Cal.* three, or five-leaved. *Cor.* none. *Stam.* three or five.

Female. *Cal.* three, or five-leaved. *Cor.* none. *Styles* three. *Capſule* one-celled, opening horizontally. *Seed* one.

SPECIES.

* *With three ſtamens.*

1. Amaranthus græcizans. *Pellitory-leaved Amaranth.*
Lin. ſpec. 1405. *ſyſt.* 853. *Reich.* 4. 142. *Willdenow monogr.* 8. *t.* 4. *f.* 7. *Gron. virg.* 116, 148. *Lamarck, encycl.* 1. 115.
Glomerules axillary; leaves lanceolate repand obtuse.

[2. Amaranthus albus. *White Amaranth.*
Lin. ſpec. 1404. *ſyſt.* 853. *Reich* 4. 142. *Willd. monog.* 9. *t.* 1. *f.* 2. *Lamarck, encycl.* 1. 115. *Tilli, piſan.* 44. (Blitum.)
Glomerules axillary; leaves roundiſh-ovate emarginate, ſtem four-cornered ſimple.

3. Amaranthus deflexus.
Lin. ſyſt. 854. *Reich.* 4. 146. *mant.* 295. *Willd. mon.* 10. *t.* 10. *f.* 20.
Spike very ſhort with few flowers, leaves rhomb-lanceolate, capſules not gaping.

4. Amaranthus polygonoides. *Spotted-leaved Amaranth.*
Lin. ſpec. 1405. *Reich.* 4. 146. *amæn.* 4. 409. *Willd. mon.* 11. *t.* 6. *f.* 12. *Swartz, obſ.* 360. *Sloan. jam.* 1. 144. *t.* 92. *f.* 2. *Weinmann, t.* 252. *Pluk. alm. t.* 272. *f.* 2. (Blitum) *Brown. jam.* 184. *Burm. zeyl.* 60. *t.* 264. (Chenopodium.)
Glomerules three-leaved; female flowers funnel-ſhaped; leaves rhomb-ovate emarginate.

5. Amaranthus polygamus. *Hermaphrodite Amaranth.*
Lin. ſpec. 1403. *Reich.* 4. 143. *amæn.* 4. 294. *Willd. mon.* 12. *Rumph. amb.* 5. 231. *t.* 82. *f.* 1. *Loureiro cochinc.* 560. *Lamarck, encycl.* 1. 116.
Glomerules two-ſtamened, ſubſpiked, ovate; flowers hermaphrodite and female; leaves lanceolate.

6. Amaranthus mangoſtanus.
Lin. ſpec. 1404. *Reich.* 4. 144. *amæn.* 4. 294. *Willd. mon.* 13. *t.* 12. *Lamarck, encycl.* 1. 116.
Glomerules ſubſpiked, axillary, ſolitary; leaves rhomb-roundiſh.

7. Amaranthus inamænus.
Willd. monogr. 14. *t.* 7. *f.* 14.
Glomerules ſubſpiked, three-leaved, axillary, geminate, leaves rhomb-lanceolate.]

8. Amaranthus melancholicus. *Two-coloured Amaranth.*
Lin. ſpec. 1403. *ſyſt.* 853. *Reich.* 4. 143. *Willd. mon.* 15. *t.* 9. *f.* 18.
Glomerules axillary peduncled roundiſh, leaves ovate-lanceolate coloured.

[9. Amaranthus gangeticus. *Oval-ſpiked Amaranth.*
Lin. ſpec. 1403. *Reich.* 4. 144. *Willd. mon.* 16. *t.* 6. *f.* 11.
Glomerules in very ſhort ſpikes, ovate; leaves ovate-lanceolate, emarginate.]

10. Amaranthus oleraceus. *Eatable Amaranth.*
Lin. ſpec. 1403. *Reich.* 4. 145. *Willd. mon.* 17. *t.* 5. *f.* 9. *Loureiro cochinch.* 561.
Glomerules axillary branching, leaves wrinkled oblong very obtuſe emarginate.

11. Amaranthus viridis. *Green Amaranth.*
Lin. ſpec. 1405. *Reich.* 4. 145. *Willd. mon.* 18. *t.* 8. *f.* 16. *Sloane jam.* 1. 143. *t.* 92. *f.* 1?
Glomerules axillary geminate, male flowers trifid, leaves ovate emarginate, ſtem erect.

12. Amaranthus tricolor. *Three-coloured Amaranth.*
Lin. ſpec. 1403. *Reich.* 4. 143. *Willd. mon.* 19. *Lour. cochinch.* 560. *Sabb. hort. rom.* 4. 55. *Buchoz, t.* 54. *Lob. ic. t.* 252. *f.* 2. *Swert. floril.* 2. *t.* 21. *f.* 5. *Beſl. eyſt. aut. ord.* 2. *f.* 6. *Mor. hiſt. ſ.* 5. *t.* 31. *f.* 1. *Barrel. ic.* 647. *Weinmann, t.* 93. *Dod. pempt.* 677. *f.* 4. *Ger. herb.* 254. *n.* 3. *Park. theat.* 754. *Bauh. hiſt.* 2. 970. *f.* 1. *Bauh. pin.* 121. 5. *Raii hiſt.* 203. 5.
Glomerules ſeſſile roundiſh ſtem-claſping, leaves lanceolate-ovate coloured.

13. Amaranthus lividus. *Livid Amaranth.*
Lin. ſpec. 1404. *ſyſt.* 854. *Reich.* 4. 144. *Willd. mon.* 20. *t.* 1. *f.* 1. *Gron. virg.* 116.
Glomerules ſubſpiked rounded, leaves elliptic retuſe, ſtem upright.

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* Curtis.

14. Amaranthus triſtis. *Round-headed Amaranth.*

Lin. ſpec. 1404. *Reich.* 4. 144. *Willd. mon.* 21. *t.* 5. *f.* 10. *Lour. coch.* 560. *Rumph. amb.* 5. 231. *t.* 82. *f.* 2. *Piſ. braſ.* 241.

Glomerules in looſe ſpikes, leaves ſubcordate-ovate emarginate, ſhorter than the petioles.

15. Amaranthus Blitum. *Leaſt Amaranth* or *Blite.*

Lin. ſpec. 1405. *Reich.* 4. 145. *fl. ſuec. n.* 865. *Hudſ. angl.* 418. *Wither. arr.* 1075. *Relh. cant. n.* 706. *Hall. helv. n.* 1606. *Scop. carn. n.* 1178. *Villars, dauph.* 2. 567. *Camer. epit.* 236. *Bauh. hiſt.* 2. 967. 3. *Petiv. brit. t.* 7. *f.* 9. *Mor. hiſt. ſ.* 5. *t.* 30. *f.* 5. *Lob. ic.* 1. 250. 1. *Ger. emac.* 321. 3. *Park. theat.* 753. *f.* 1. *Bauh. pin.* 118. 2. *Raii hiſt.* 200. 4. (Blitum).

β. Blitum album majus. *Bauh. pin.* 118. 1. *Mor. f.* 2. *Dod. pempt.* 617. *f.* 1. *Bauh. hiſt.* 2. *Raii hiſt.* 200. 3.

γ. Bl. majus rubrum. *Bauh. pin.* 118. 4. *Lob. ic.* 1. 249. 2. *Ger. emac.* 320. 2. *Bauh. hiſt.* 2. 966. *Raii hiſt.* 200. 1.

δ. Bl. rubrum minus. *Bauh. pin.* 118. 5. *Camer. epit.* 235. *Dod. pemp.* 617. *f.* 1. *Ger. emac.* 321. 4. *Park. theat.* 753. 2. *Bauh. hiſt.* 967. *f.* 1. *Raii hiſt.* 200. 2. *ſyn.* 157.

Sanguinaria. *Brunfels.* 2. 85.

Glomerules ſubſpiked, flowers three-leaved, leaves ovate retuſe, ſtem diffuſed.

[16. Amaranthus ſcandens. *Climbing Amaranth.*

Lin. ſuppl. 419. *Lamarck, encycl.* 1. 117. *Willd. mon.* 24.

Spikes interrupted compound, ſpikelets bent in, leaves ovate, ſtem weak.

** *With five ſtamens.*

17. Amaranthus hecticus.

Willd. monogr. 25. *t.* 13. *f.* 13. *and* 11. *f.* 22. *Barrel. ic.* 46. *t.* 643. *Forſk. ægypt.* 34?

Flowers in ſimple ſpikes, axillary, glomerate; leaves ovate, acute.]

18. Amaranthus hybridus. *Cluſtered Amaranth.*

Lin. ſpec. 1406. *Reich.* 4. 146. *Willd. mon.* 26. *t.* 9. *f.* 17. *Gron. virg.* 148. *Retz, obſ.* 1. 31. *n.* 105. *Barrel. ic.* 648. 650. *Raii hiſt.* 200. 201. *Bauh. pin.* 120. 1.

Racemes decompound, heaped, erect; leaves ovate-lanceolate.

[19. Amaranthus ſtrictus.

Willd. mon. 27. *t.* 3. *f.* 5.

Racemes compound, erect, ſtrict; leaves ovate, concave.

20. Amaranthus lætus.

Willd. mon. 28. *t.* 8. *f.* 15.

Racemes compound, erect; leaves ovate, obtuſe, mucronate.]

21. Amaranthus cruentus. *Various-leaved Amaranth.*

Lin. ſpec. 1406. *Reich.* 4. 148. *Willd. mon.* 29. *Loureiro cochinch.* 561. *Mart. cent. t.* 6. *Barrel. ic.* 645? 641?

Racemes decompound, naked, patulous; leaves lanceolate-ovate.

22. Amaranthus hypochondriacus. *Prince's-feather Amaranth.*

Lin. ſpec. 1407. *Reich.* 4. 148. *hort. cliff.* 444. *upſ.* 286. *Willd. mon.* 30. *Gærtn. fruct.* 2. 215.

Racemes compound, crowded, erect; leaves oblong-lanceolate, mucronate.

23. Amaranthus ſanguineus. *Spreading* or *Bloody Amaranth.*

Lin. ſpec. 1407. *Reich.* 4. 147. *Willd. mon.* 31. *t.* 2. *f.* 3. *Mill. fig.* 15. *t.* 22. *Barrel. ic.* 649. 640. 639.

Racemes compound, erect; branches ſpreading, ſmooth; leaves oblong, acute.

[24. Amaranthus paniculatus.

Lin. ſpec. 1406. *Reich.* 4. 147. *Willd. mon.* 32. *t.* 2. *f.* 4. *Barrel. ic.* 658?

Racemes compound; branches ſpreading, pubeſcent; leaves ovate-lanceolate.]

25. Amaranthus retroflexus. *Hairy Amaranth.*

Lin. ſpec. 1407. *Reich.* 4. 147. *Willd. mon.* 33 *t.* 11. *f.* 21.

Racemes ſuperdecompound, erect; branches pubeſcent; leaves ovate, waved.

[26. Amaranthus chloroſtachys.

Willd. mon. 34. *t.* 10. *f.* 19.

Racemes compound, nodding; leaves lanceolate.]

27. Amaranthus flavus. *Pale Amaranth.*

Lin. ſpec. 1406. *Reich.* 4. 147. *Willd. mon.* 35. *t.* 3. *f.* 6.

Racemes compound, nodding; leaves ovate-lanceolate.

28. Amaranthus caudatus. *Pendulous Amaranth,* or *Love-lies-bleeding.*

Lin. ſpec. 1406. *Reich.* 4. 148. *hort. cliff.* 443. *upſ.* 285. *fl. zeyl. n.* 563. *Willd. mon.* 36. *Weinmann t.* 89. *Barrel. ic.* 657. 660. 644. *Mor. hiſt. ſ.* 5. *t.* 31. *f.* 2. *Ger. herb.* 254. *f.* 4. *Bauh. pin.* 121. 2.

β. A. maximus. *Tree Amaranth. Mill. dict. n.* 5. *Weinm. t.* 88. *f.* 6. *Swert,* 2. *t.* 21. *f.* 1. *Beſl. eyſt. aut.* 2. *f.* 7. *Dod. pempt.* 185. *f.* 2. *and* 518. *f.* 2. *Lob. ic.* 251. *f.* 2. *Barrel. ic.* 659. 663. 664. *Raii hiſt.* 201.

Blitum maximum. *Bauh. pin.* 120. *Dalech. hiſt.* 1. 539. *f.* 1. *Camer. epit.* 234. *Matth.* 357. *f.* 1. *Tabern.* 2. 142. *f.* 111. *Bauh. hiſt.* 2. 968. *f.* 1. *Cluſ. hiſt.* 2. 81.

29. Amaranthus ſpinoſus. *Prickly Amaranth.*

Lin. ſpec. 1407. *Reich.* 4. 148. *hort. cliff.* 444. *fl. zeyl. n.* 338. *Willd. mon.* 38. *t.* 4. *f.* 8. *Lour. coch.* 561. *Gron. virg.* 148. *Sabb. hort. rom.* 4. *t.* 53. *Herm. lugdb. t.* 33. *Weinm.* 252. *Rumph. amb.* 5. 234. *t.* 83. *f.* 1. *Sloan. jam.* 1. 143. *Brown. jam.* 340. 1. *Raii hiſt.* 199. (Blitum).

Racemes terminating compound, axils thorny.

DESCRIPTIONS, *&c.*

[The Amaranths are annual, herbaceous plants. The leaves ſimple, alternate, ending in a little briſtle. Stipules none. Flowers looſely diſpoſed either in glomerules or in ſpikes. Almoſt all the ſpecies are natives of America, eſpecially North America; ſome however are found in the tropical countries of Aſia and Africa, and two only in Europe[*].

1. Stem a ſpan high, upright or rather aſcending, ſmooth, grooved, whitiſh except at the baſe where it is purpliſh, branches reflex-ſpreading, uſually ſomewhat flexuoſe, eſpecially towards the top. Leaves ſomewhat waved, green, ſmooth, marked with lines, the younger ones ending in a little briſtle, which vaniſhes with age: petiole very ſhort. Glomerules in pairs, green, four or five-flowered, preſſed cloſe to the angles of the leaves, with a ſubflexuoſe rachis, and ſupported by ſubulate, ſcattered bractes. The calyx both of the male and female flowers is compoſed of three ſubulate, mucronate leaflets[†].

Native of North America. Cultivated in Chelſea garden in 1723. It flowers from july to ſeptember[‡].

2. Stem greeniſh white, a ſpan high, decumbent, ſmooth, four-cornered with the corners blunt eſpecially towards the top. Leaves petioled, green, ſmooth, marked with lines, ending in a herbaceous, reflex, minute, whitiſh point. Petioles winged, channelled, almoſt the length of the leaves. Glomerules in pairs, ſeſſile, few-flowered, with ſcattered ſubulate bractes intermixed. The three leaflets of the calyx are oblong-lanceolate whitiſh, with a green nerve, and at the end a long, ſubulate, herbaceous point. This ſpecies is nearly related to the firſt, from which however it may eaſily be diſtinguiſhed by its ſimple, decumbent ſtem, by the longer petioles of the leaves which are not ſo ſtout as in the other, by the roundiſh glomerules, and by the ſquareneſs of the ſtem[§]. Native of Penſylvania, on the coaſt, from whence it has migrated into Italy. It was introduced here in 1778, by Monſ. Thouin; and flowers in july and auguſt[‖].

3. Stem weak, filiform, decumbent, divided at the baſe into a few branches, green except at bottom where it is browniſh, round, ſlightly ſtreaked, ſmooth. Leaves blunt, emarginate, green, ſmooth. Petioles of a middling length, channelled, green,

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[*] Willdenow.　[†] Ibid.　[‡] Hort. Kew.　[§] Willdenow.　[‖] Hort. Kew.

edged with the decreaſing leaf. Spike ſolitary; terminating, quite ſimple, compoſed of only five or ſix flowers. No lateral glomerules, but only a flower or two ſcattered in the axils of the leaves. Calyx five-leaved; leaflets diaphanous, white, oblong, acute, edged with green. It is diſtinguiſhed from the reſt, by the capſule not opening tranſverſely, but being entire [*]. The plant, from which Willdenow made his deſcription, was weak, and would probably have produced a greater abundance of flowers, if it had been placed in a moderate ſtove.

Linneus thinks that it has the appearance of *A. viridis*; but Willdenow is of opinion that it bears more reſemblance to the foregoing and the next ſpecies.

Its native place is unknown.

4. Stem decumbent or aſcending, branched at the baſe, round, ſtreaked, red and ſmooth: branches quite ſimple, diffuſed. Leaves ſmooth, green, glaucous beneath, with a ſhort, green, herbaceous point below the inciſure, more conſpicuous in the younger than the older leaves. Petioles green, channelled, ſurrounded at top with a leafy edge. Glomerules axillary, at the baſe of each petiole, with from ſix to eight flowers in each: bractes numerous, ſubulate, acuminate, mucronate, tranſparent-white, with a green nerve. Calyx of the female flower one-leafed, ventricoſe: the five ſegments ſpreading very much, blunt, tranſparent-white. When the ſeed is ripe, the capſules fall with the calyx, which is then twice as long as the bractes. Calyx of the male flower three-leaved, the length of the bractes, membranaceous, tranſparent; the leaflets oblong, obtuſe, with a green nerve.

This ſpecies varies in different ſituations. In a hot-bed the ſtems were a foot high, and the whole plant was green except the calyxes. In the open air the ſtem was red, the length of the middle finger, almoſt upright; and the leaves were much ſmaller.

It differs from the other ſpecies, particularly from the ſecond, which it moſt reſembles, in having the ſtem round, and the calyx of the female flowers one-leafed and funnel-ſhaped.

Found wild by way ſides and among rubbiſh in the tropical countries of Aſia, Africa, and America; as in Jamaica, Guiana, Senegal, Guinea, Ceylon, *&c.* [†].

It was introduced here in 1778, by Monſ. Thouin; and flowers in auguſt [‡].

5. Stem upright, a foot and half high, green, ſtreaked, ſmooth and even. Leaves petioled, naked; petioles ſwelling a little at the baſe: from the axils comes a branch and a head, conſiſting of a very ſhort, many-flowered peduncle, with a branch on each ſide at the baſe converging into a green head. Spike terminating, ſhort, ovate, ſmall, almoſt like the lateral heads. Flowers ſeveral, the hermaphrodites with two ſtamens, and two ſtyles; the females with three ſtyles [§].

Native of Guiana, China, Cochin, and Amboina. The inhabitants eat the leaves and ſtalks of this ſort, boiled, with oil and pepper [‖], and prefer it to any of the others.

It was introduced among us in 1780, by Sir Joſeph Banks, baronet; and flowers in july and auguſt [¶].

6. Stem obſcurely angular, ſtreaked, green, a foot high and more, ſmooth, decumbent. Leaves ſmooth, green, very blunt, ſlightly emarginate, with a very ſmall briſtle; the breadth almoſt equal to the length. Petioles as long as the leaves, and even longer, ſmooth, channelled, bordered at top with the decreaſing leaf. Flowers in large, ſolitary, roundiſh glomerules, from the axils, on ſhort peduncles: at the top they form a cloſe, blunt ſpike, an inch in length, nodding a little. Calyxes five-leaved; leaflets white-membranaceous, tranſparent, oblong, with a green nerve ending in a briſtle of the ſame colour. Bractes copious, reſembling the calycine leaflets. Native of the Eaſt Indies [**].

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[*] Willdenow.
[†] Ibid.
[‡] Hort. kew.
[§] Willdenow and Lin. amæn.
[‖] Rumphius.
[¶] Hort. kew.
[**] Willdenow.

7. Stem a foot and half high, upright, ſtreaked, ſmooth, green, round, with ſhort branches at bottom. Leaves green with whitiſh veins, blunt, ſlightly emarginate, with a ſmall green briſtle at the end. Petioles channelled, ſurrounded with a leafy margin, green, much ſhorter than the leaf. Glomerules in pairs, roundiſh, on very ſhort peduncles, from the axils; on the top of the ſtalk a ſlender, interrupted, upright, linear ſpike, almoſt two inches in length. Calyxes three-leaved; leaflets white-membranaceous, oblong, acuminate, with a green nerve, and a long point. Oblong, membranaceous bractes, of the ſame ſtructure with the leaflets of the calyx, ſurround the flowers. This reſembles the foregoing ſpecies very much; but differs in having a three-leaved calyx; the glomerules axillary and in pairs; the ſpike terminating, erect, and more ſlender; the leaves rhomb-lanceolate; and the petiole ſhorter than the leaves.

Suppoſed to be a native of Japan [*].

8. Stem upright, half a foot high, dark purple, ſmooth, ſtreaked, ſimple. Leaves blunt, wrinkled, waved, emarginate, mucronate, with a ſhort, white point; the lower ones rufous liver-coloured on the upper ſurface, bright purple on the lower; with elevated veins; the upper ones green, with red tips. Petioles channelled, bright purple, ſmooth, edged at top with the decreaſing leaf; the lower ones nearly the length of the leaves. Glomerules ſubſeſſile, dark purple, on a very ſhort, undivided peduncle. Calyxes five-leaved; leaflets oblong, purple-membranaceous, ending in a dark red point.—This ſpecies varies in the colour of the leaves. In the open air, they are of a dirty purple on their upper ſurface, and the younger ones are green; in a ſtove the whole plant is of a fine purple colour. It is however eaſily diſtinguiſhed in all ſtates by its colour, its leaves, and the lateneſs of its flowering, after all the others are paſt.——Lamarck joins this with *A. tricolor*. Native of Guiana [†]; and the Eaſt Indies. Cultivated in 1731, by Mr. Miller [‡];] who obſerves that it grows to the ſame height with the *tricolor*, and in the manner of growth greatly reſembles it; but that the leaves have only two colours, an obſcure purple and a bright crimſon, ſo blended as to ſet off each other, and making a fine appearance when the plants are vigorous.

[9. Stem a foot high, not more, dark red, upright, ſtreaked, ſmooth, ſomewhat flexuoſe at top, and a little pubeſcent. Leaves green on the upper ſurface, red on the lower, ſmooth, with ſmall, elevated, red veins. Petioles red, channelled, ſhorter than the leaf, ſmooth, edged with the decreaſing leaf. Glomerules ſeſſile in the axils of the leaves, ovate: at the top of the ſtalk they form a very ſhort ovate, ſeſſile ſpike, of a reddiſh green colour. Calyxes five-leaved; leaflets membranaceous green, with a red nerve, and a point of the ſame colour.—It varies with leaves entirely green.—Perhaps it may be a variety of the foregoing ſpecies; but it differs from it, in having a terminating ſpike; axillary, ſeſſile glomerules; leaves not ſo much waved or wrinkled; and alſo in its colour.—It differs from *A. triſtis*, in having a ſhorter, cloſer, red ſpike; leaves attenuated to both ends; ſhorter petioles; in its red colour, and whole habit. Native of Bengal, and the Society Iſles [§].

It was introduced here in 1778, by Monſ. Thouin, and flowers from july to ſeptember [‖].

10. Stem upright, a foot or a foot and half in height, ſmooth and even, round, white. Leaves ſmooth, pale green, ſo deeply emarginate as to appear ſometimes obcordate; they have hardly any point. Petioles ſlightly channelled, white, very ſmooth. Glomerules ſhort, on trifid peduncles; pedicels branched, conglobate at top. Calyx of the male flower three or five-leaved, with three or five ſtamens; the leaflets white-membranaceous, bluntiſh. Calyx of the female five-leaved; leaflets obtuſe, green-membranaceous. Bractes lanceolate, obtuſe,

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[*] Willdenow.
[†] Ibid.
[‡] Hort. kew.
[§] Willdenow.
[‖] Hort. kew.

alternate along the rachis of the glomerule. Capſules even, not wrinkled, as in the other ſorts.——— It reſembles *A. viridis*; but differs from it in the great bluntneſs of the leaves, which are deeply emarginate; in the edge of the leaf being neither red nor waved; in the glomerules being branched and ſolitary; and in the peduncles and pedicels not being flexuoſe.—Native of Guiana, the Eaſt Indies, and Egypt ¶.]

It is not entitled to a place in gardens on account of its beauty. This and the next ſort are eſteemed in ſome parts of India as eſculent herbs; they gather them when young, and dreſs them as we do Spinach; but being much inferior to it, they are ſeldom uſed where Spinach will thrive. [It was cultivated by Mr. Miller in 1768; and flowers in july *.

11. Stem a foot or a foot and half high, upright, obſcurely angular, ſtreaked, red, ſmooth. Leaves on long petioles, bluntiſh, the older ones are a little emarginate, the younger ones have a white, ſhort point, bent in; the edge is red, and waved ſo as to have the appearance of being obſcurely crenulate; they decreaſe into the petiole: in open ſituations they are bright green, but in the ſhade duſky. Petioles green, channelled, ſometimes a little ſcabrous at bottom. From the axils of the leaves ſpring glomerules in a ſort of double ſpike, with a branchlet from the axils of which there are ſometimes very ſhort glomerules in pairs. Rachis flexuoſe, red, thinly ſet with minute bractes. Calyx of the male flower three-leaved; leaflets oblong, blunt, white-membranaceous, with a green nerve. Calyx of the female flower five-leaved; leaflets oblong, ſharp. Capſule blunt, much wrinkled. This ſort is diſtinct from all the reſt, in having the bractes not ſurrounding the flowers, but ſcattered along the rachis of the glomerule. Native of Jamaica and Braſil. The European botaniſts have confounded this with a large variety of *A. Blitum* †.

Cultivated in 1768, by Mr. Miller. It flowers in auguſt and ſeptember ‡.

12. Stem a foot and half or two feet in height, obſcurely angular, ſmooth, upright. Leaves blue with a red point, ſmooth, waved; the younger ones red with yellow tips; thoſe in a mature ſtate coral-red at the baſe, violet in the middle, green at the end; the old ones green with a violet baſe. Petioles very long, ſmooth, green, channelled, bordered. Glomerules geminate, green, axillary. Calyxes three-leaved; leaflets oblong, acuminate, membranaceous, with a green nerve. It varies in the colour of the leaves, which are leſs painted in the open air than in the ſtove §. It was in Gerard's garden, in 1596, and flowers from june to ſeptember ||.] It has been long cultivated for the beauty of its variegated leaves, in which the colours are elegantly mixed. When the plants are in full vigour, theſe are large, and cloſely ſet from the bottom to the top of the ſtalks; the branches alſo form a ſort of pyramid: ſo that there is not a more handſome plant than this, when it is in full luſtre.

[Native of Guiana, Perſia, Ceylon, China, Japan, the Society Iſles, *&c.*

13. Stem upright, two feet high, hollow, dark red, ſmooth, round, deeply ſtreaked or grooved. Leaves duſky green with pale purple veins, bluntly emarginate, with a ſhort and very blunt point; the edge a little waved. Petioles ſmooth, channelled, red, the length of the leaves. Flowers glomerate in the axils, rounded, green, on branched peduncles. Others terminating, in a ſlender interrupted ſpike, about three inches in length. Calyxes five-leaved; leaflets oblong, blunt, white-membranaceous, with a green nerve. Bractes ſubulate, very ſhort. Native of Virginia and Guiana**.

It was cultivated in 1768, by Mr. Miller; and flowers from july to ſeptember ††.

14. Stem a foot and half high, ſtreaked, green, ſmooth, upright, putting forth a few branches at bottom. The bottom leaves ſubcordate-ovate, ſmooth, green, with a very ſhort, green point; the upper ones are rather rhomb-ovate, and more acute. Petioles much longer than the leaves, channelled, red, bordered at top. Flowers green, in a looſe ſlender ſpike. Calyxes five-leaved; leaflets oblong, obtuſe, white-membranaceous, ending in a green, ſetaceous point *.—Native of China, Cochin, Amboina, and Braſil.] The young plants of this ſort are much uſed, as we do Spinach, in theſe countries. [Linneus ſays, that the leaves have a livid ſpot underneath, but this is not always obſervable. The colour of the leaves, although it be remarkable in this genus, is yet changed by culture. This ſpecies is nearly related to the following, but may eaſily be diſtinguiſhed by its upright ſtalk, more looſe and ſlender ſpike, rhomboidal leaves, and five-leaved calyx †.

It was cultivated in 1759, by Mr. Miller, and flowers from june to auguſt ‡.

15. Stem a ſpan high, upright, flexuoſe, reddiſh, ſtreaked, ſmooth, with diffuſed branches at the baſe. Leaves ſmooth, green, emarginate, with a very ſhort, white point, a little waved about the edge. Petioles green, ſmooth, and long. Flowers axillary, ſeſſile, glomerate, collected at the top into a ſingle ſlender ſpike, two inches long. Calyxes three-leaved; leaflets oblong, bluntiſh, green-membranaceous. Bractes ſcattered, oblong, blunt.——Native of all Europe, except the very cold parts, Japan, *&c.* in cultivated grounds, on dung-hills, banks, among rubbiſh, *&c.*

16. Stems two feet high, looſe, (not upright and ſtiff) flexuoſe, climbing among ſhrubs. Leaves petioled, remote. Flowers in a few terminating, looſe, green ſpikes; ſpicules very ſhort, curved inwards. Capſules ovate. It reſembles the foregoing ſpecies. Native of America §.

17. Stem red, near a foot high, upright, ſtreaked, ſmooth, a little flexuoſe at top. Leaves ſmooth, green, ſpreading, with a very ſhort point. Petioles channelled, ſmooth, green. Spike quite ſimple, terminating, green; in ſome ſlender and interrupted, in others thick and blunt: there are alſo glomerules in the axils. Calyxes five-leaved; leaflets oblong, lanceolate, acute, membranaceous, with a green nerve. Bractes very many, ſubulate, mucronate, ſurrounding the flowers.—It is doubtful whether this be a diſtinct ſort, or merely hybridous; as perhaps ſeveral others are. It is the connecting link, in point of outward form, between the three-ſtamened and five-ſtamened Amaranths. It varies much; for from the ſame ſeed ariſe individuals wholly green, red, and rufous liver-coloured; with ſpikes both green and red, ſometimes very thin and ſlender, ſometimes condenſed, blunt, and thick, ſometimes again long and interrupted: their ſtature however is always low, and the ſpike ſimple. The native place is not known ||.

18. Stem two feet high, and in gardens double that height, green or red, upright, ſmooth, ſtreaked. Leaves green with the edges red, ſometimes entirely green, ſharp at the end with a ſhort, red point. Petioles ſlightly channelled, red. Racemes naked, compound, upright; in the open air very much crowded; in plants raiſed in a hot-bed ſomewhat diſtant, branched, and green. Calyxes five-leaved: leaflets oblong, membranaceous, acuminate. Bractes ſubulate, green, in ſome red, ſurrounding the flowers ¶.—Retzius deſcribes the leaves as cordate; the petioles and nerves as hirſute; and the number of ſtamens three or four. Theſe differences may perhaps be attributed to ſoil. Nothing is more common than to find a difference in the number of ſtamens among the Amaranths; and the ſpecies which are ſet down as three-ſtamened have frequently four ſtamens in the flowers **. Willdenow enumerates four varieties—1. Wholly green. 2. With a red ſtalk. 3. With the racemes red-

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¶ Willdenow. * Hort. kew. † Willdenow. ‡ Hort. kew.
§ Willdenow. || Hort. kew. ** Willdenow. †† Hort. kew.

* Willd. † Ibid. ‡ Hort. kew. § Willdenow. Lin. ſuppl.
|| Willdenow. ¶ Ibid. ** Ibid.

diſh, the reſt green. 4. With red racemes. Theſe are different in their appearance; but ariſe from the ſame ſeed. There are probably more, for in this genus, and eſpecially in this ſpecies, hybridous plants are very apt to ariſe, on account of the ſeparation of the ſexes. It is found wild in Virginia and Arabia Felix *. It was cultivated in 1656, by Mr. John Tradeſcant, junior, and flowers from june to ſeptember †.

19. Stem two feet high and more, obſcurely angular, grooved, ſmooth, green, red or marked with red lines at the baſe. Leaves green; the end produced, blunt, emarginate with a ſmall point, decreaſing at the baſe into the petiole, with whitiſh veins underneath. Petioles channelled, green, upright. Racemes heaped, cylindraceous, preſſed cloſe to the ſtalk, green. Calyxes five-leaved; leaflets green, ovate, acuminate, membranaceous, with a green nerve, and a point of the ſame colour. Bractes ſubulate-ovate, pointed, with a green nerve. It differs from all the five-ſtamened ſpecies, in its upright racemes preſſed cloſe to the ſtalk; and the ſtiffneſs of the whole habit. Its native place of growth is unknown ‡.

20. Stem upright, a foot high, green, roundiſh, ſmooth, ſtreaked. Leaves green, ſmooth; the point very ſhort, herbaceous. Petioles red at the baſe, ſmooth, channelled. Raceme green, terminating, ſomewhat diffuſed; in the lower part of the ſtem the racemes are quite ſimple. Calyxes five-leaved; leaflets oblong, obtuſe, membranaceous. Bractes ſubulate, pointed, green, ſurrounding diſtant glomerules of flowers. Capſule oblong, wrinkled at bottom. Seed dark brown, ſhining. It varies with a reddiſh ſtalk and leaves. The edge of the leaves has almoſt always a tendency to red, but the other parts are green. It is diſtinguiſhed from *A. hybridus*, which it reſembles very much, in having the leaves blunt at the end, and being much ſmaller in ſtature. The ſtem is never more than a foot high §.

21. Stem a foot and half or two feet in height, grooved, green with red ſtreaks, ſmooth, ſlightly pubeſcent among the flowers. Leaves green, ſpotted with brown above, red beneath, bluntiſh with a reddiſh, ſhort point. Petioles red, channelled, ſmooth. Racemes red and green, with branchlets ſpreading and nodding a little. Calyx five-leaved; leaflets oblong, pointed, white-membranaceous, with a red nerve, and a point of the ſame colour. It varies of a ſhining red colour, with a red ſtalk, with pale leaves, with a green ſtalk, with variegated leaves, *&c.* || As firſt cultivated in England in 1728, the ſtem was wholly red and ſmooth; the petioles, ribs, and nerves of the leaves underneath purple; the ſpikes purple, much ſpreading, and a little nodding ¶.] They were very beautiful, and made a gay appearance for the two firſt years; but afterwards the ſeeds degenerated, and the plants had little beauty; which is the ſame with ſome others of this genus. [It is a native of the Eaſt Indies and of China: and flowers from june to auguſt.

22. Stem erect, a foot and half or two feet in height, ſmooth, except under the leaves, where it is a little ſcabrous, reddiſh, roundiſh, ſtreaked and grooved. Leaves red and green, acute, with elevated veins. Petioles channelled, reddiſh. Racemes naked, red, lateral, ſhort, placed about the ſtem without order. Calyxes five-leaved; leaflets oblong, acute, membranaceous, red.—It varies with leaves more or leſs red, with very red and paler racemes, with a green and red, with a rough and ſmooth ſtalk. It approaches very near both in ſtructure, and variableneſs of colour to *A. hybridus*; and is diſtinguiſhed from it, not without difficulty, only by the following circumſtances. 1. The racemes are more red. 2. The leaves are much ſharper at the end. 3. The baſe of the leaves runs far down along the petiole. Upon the whole it ſeems only to be a variety of that. It is a native of Virginia **. It flowers from july to ſeptember. Mr. Miller cultivated it in 1739 ††:] but it is now become a common weed, frequently growing upon dung-hills: the plants abound with ſeeds, ſo that where they are permitted to ſcatter, they will come up abundantly the following ſummer; and will remain in the ground ſeveral years.

23. [Stem upright, four feet high, firm, red, round, ſtreaked. Leaves ſomewhat convex, or rather ſo contracted as to have the form of a boat, pointed; the older ones rather blunt; the upper ſurface is a mixture of red and green, the lower more or leſs purple. Petioles tinged with purple, channelled, roughiſh, winged at top with the leaf. Racemes very red; branches ſmooth, the lower ones ſpreading. Calyxes five-leaved; leaflets oblong, blunt, membranaceous, red. Bractes ſubulate-ſetaceous, red, longer than the flowers, cloſely ſurrounding the glomerules. Theſe are more diſtant; and the racemes are more branched than in *A. paniculatus* *.]

The ſeeds were ſent to Mr. Miller from the Bahama Iſlands before 1755, as an eſculent plant, bearing fine flowers. He deſcribes it as growing three feet high, with purple ſtalks and leaves; the ſpikes ſhort and ſwelling out in the middle, frequently produced from the axils; but at the extremity of the ſtalk ariſes a large cluſter of ſpikes placed croſſwiſe, with one upright ſtalk in the middle: theſe are of a bright purple colour at firſt, but afterwards become darker, as the ſeeds ripen. It flowers from the middle of june to ſeptember.

[24. Stem upright, firm, a fathom in height, grooved, bluntly angular, green, ſlightly pubeſcent. Leaves roughiſh, green, purpliſh about the edge, and with veins of the ſame colour. Petioles channelled, reddiſh, pubeſcent. Racemes red, cloſely imbricate. Calyxes five-leaved; leaflets oblong, red, pointed. Bractes oblong, pointed, ſurrounding the glomerules of flowers.—It differs from *A. ſanguineus* in its pubeſcent branches, pointed calyxes, cloſer glomerules, and the whole habit.—Native of America †.

25. Stem upright, three feet high, ſomewhat flexuoſe, green, round, grooved, very pubeſcent, branched at bottom, branches reflex when young, afterwards upright. Leaves ovate-acuminate, with a very ſhort, green point, the veins beneath pubeſcent. Petioles green, ſcabrous, channelled, pubeſcent. Racemes green, with the branches ſpreading. Calyxes five-leaved; leaflets tranſparent, white-membranaceous with a green nerve, oblong, obtuſe, with a membranaceous white point. Bractes ſetaceous-ſubulate, green, twice as long as the flowers. It differs very much from all the other ſpecies, in its pubeſcent ſtem, ſtouter ſtature, green colour of the whole, and peculiar habit. It approaches to *A. paniculatus* in the pubeſcence of the racemes; but differs in having green ſpikes, ſetaceous-ſubulate bractes, and leaves waved about the edge. Native of Penſylvania ‡. It flowers from july to ſeptember; and was cultivated by Mr. Miller, in 1759 §.] Being now become a common weed in many gardens near London, it is ſeldom allowed a place except in botanic gardens.

[26. Stem four feet high, ſomewhat flatted, ſtreaked and grooved, ſmooth; that and the whole plant are green. Leaves flat, ſmooth, acute, pointed. Petioles long, channelled, ſmooth, bordered. Racemes looſe, the upper ones nodding, and a little pubeſcent. Calyxes five-leaved; leaflets oblong, tranſparent, acuminate, nerve and point green. Bractes ſcattered, oblong, acuminate. It differs from *A. retroflexus*, which it otherwiſe reſembles very much, in its ſmooth ſtalk, lanceolate flat leaves, the glomerules in more diſtant racemes, and in being much more ſlender. The native place of growth is not known ||.

27. Stem four feet high and more, roundiſh, ſtreaked and grooved, ſomewhat flexuoſe, green marked with red lines, ſmooth. Leaves ſomewhat waved, pointed, green with reddiſh veins beneath. Petioles red, channelled, bordered. Flowers crowded in the racemes, green, with red pubeſcent branches.

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* Willdenow. † Hort. kew. ‡ Willd. § Ibid. || Ibid. ¶ Martyn rar. ** Willdenow. †† Hort. kew.

* Willdenow. † Ibid. ‡ Ibid. § Hort. kew. || Willdenow.

Calyxes five-leaved; leaflets oblong, ſharp. Bractes lanceolate-ſetaceous, ſcatteringly ſurrounding the flowers. It differs from the foregoing, in the form and waving of the leaves; in the red lines on the ſtalk; in the red rachis of the flowers, and in the greater cloſeneſs of the racemes: from *A. retroflexus*, in having the leaves leſs waved, ovate-lanceolate, much leſs obtuſe; the ſtem at bottom and the petioles ſmooth; and the colour in the ſtem, rachis, and veins of the leaves red. Although it has the name *flavus*, the flowers are always green; only turning yellow as the ſeed ripens [*]. It is a native of the Eaſt Indies. Mr. Miller, who cultivated it in 1768, mentions, that he received the ſeeds from Portugal, by the title of *Bredos*, recommending it to be cultivated as a culinary herb: but the Portugueze call all the green Amaranths by this name [†].

28. Stem generally two feet high, green, obſcurely angular, grooved and ſtreaked, ſmooth, covered at top with thin, whitiſh, ſcattered hairs: the upper part nods on account of the great length of the racemes. Leaves ſmooth, bright green, blunt, emarginate, with an incurved tranſparent point. Petioles much ſhorter than the leaf. Racemes terminating, elegantly purple, very long, cylindrical, compoſed of flowers very cloſely glomerate. Calyxes five-leaved; leaflets oblong, red, acuminate, membranaceous. Bractes oblong, pointed, ſcattered [‡].] Mr. Miller ſays, that he has meaſured ſome of the ſpikes two feet and a half long.

β. The *Tree-Amaranth*, which Mr. Miller makes a diſtinct ſpecies, riſes to the height of ſeven or eight feet. The ſpikes are ſeldom half the length of thoſe of the other, but are much thicker.—[This degenerates gradually into the ſmaller. The ſeeds alſo, which at firſt are white, become red [§].—It flowers in auguſt and ſeptember; and was cultivated in 1683, by Mr. James Sutherland [‖].—Native of Perſia, Ceylon, Guiana, Peru, &c.

29. Stem upright, flexuoſe, a foot or eighteen inches high, green, roundiſh, ſmooth, ſtreaked; with ſhort branches. Leaves rhomb-ovate, waved, green, ſmooth, blunt, ſpreading, emarginate, with a very ſhort, whitiſh point. Primordial leaves obovate. Petioles long, green, channelled, ſmooth, bordered at top. At each ſide of the petiole is a ſtiff ſpine, about four lines in length, three-cornered, ſharp, green. Racemes almoſt erect, green, cylindraceous except that they become narrower at the top: flowers very cloſely heaped together, the upper ones male, the lower female. In the axils are glomerules, which ſeem uſually to have none but female flowers. Calyxes five-leaved; leaflets green-membranaceous, oblong, acute. Bractes minute, ſubulate every where among the flowers.—When raiſed in a ſtove it is more ſlender, and the ſtem decumbent: in the open air it is rigid and upright.——It varies with the ſpikes and ſtem reddiſh.——Native of the Eaſt and Weſt Indies, Guiana, Guinea, &c. In the former they eat it as a green boiled, with Baſella cordifolia [¶].——It was cultivated in 1683, by Mr. James Sutherland; and flowers from july to ſeptember [**].] This ſpecies makes no great figure, and therefore is rarely allowed a place, except in botanic gardens.

[The old Engliſh names of the few ſorts formerly known, were *Flower-gentle*, *Floramour*, and *Velvet-flower* or *Flower-Velure*; but all theſe have given place to *Amaranth*.]

Moſt of the ſpecies are uſed as culinary plants in hot countries; and the ſeeds of ſeveral have been ſent to England, with advice to cultivate them for the ſame purpoſe here. Where eſculent plants are ſcarce, theſe may be eſteemed; but Spinach being cultivated with us with greater eaſe, and being alſo much preferable, theſe are not worthy of being propagated as eſculents.

PROPAGATION AND CULTURE.

The ſorts which are worthy of a place in the pleaſure garden, are particularly the eighth and twelfth: theſe are tender, and require ſome art and care to bring them to perfection in England, therefore their management will be hereafter more particularly inſerted. They are generally diſpoſed in pots with Cocks-combs and other ſhowy plants, to adorn court-yards, and other immediate environs of the houſe.

Next to theſe are the twenty-third and twenty-eighth ſorts, for the ornament of principal borders in the pleaſure-garden or parterres. The ſeeds of theſe ſhould be ſown upon a moderate hot-bed toward the end of march, and when the plants come up, they ſhould have a large ſhare of air admitted to them in mild weather, to prevent their drawing up weak. When they are large enough to tranſplant, there ſhould be another moderate hot-bed provided, to which they ſhould be removed, placing them at ſix inches diſtance every way, obſerving to water them, as alſo to ſhade them from the ſun until they have taken new root; after which the air ſhould be freely admitted to them, at all times when the weather is favourable; their waterings ſhould be frequent, but not given in great quantities. As the plants advance, and the warmth of the ſeaſon increaſes, they ſhould have a greater ſhare of air, that by degrees they may be hardened to bear the open air. The beginning of june they may be taken up with large balls of earth to their roots, and planted ſome into pots, and others into the borders of the pleaſure-garden, obſerving to ſhade them until they have taken good root; after which they muſt be frequently watered in dry weather, eſpecially thoſe in the pots, which will require watering every evening in warm dry weather. The tree Amaranth, (28. β.) will not thrive in pots, but ſhould be planted in a rich light ſoil, where, if it be allowed room, and plentifully watered in dry weather, the plants will grow to a very large ſize, and make a fine appearance.

The twenty-firſt ſort is alſo tender, whoever therefore is inclinable to cultivate that plant, ſhould treat it in the ſame manner as is directed for the twenty-third and twenty-eighth.

The other ſorts being hardy enough to grow in the open air, may be ſown on a bed of light earth in the ſpring, and when the plants are fit to remove, they may be tranſplanted into any part of the garden, where they will thrive and produce plenty of ſeeds, which, if permitted to ſcatter, will ſtock the garden with plants.

The twenty-third and twenty-eighth ſorts muſt be ſown on a good hot-bed in february, or the beginning of march at fartheſt; and in about a fortnight's time, if the bed is in good temper, the plants will riſe; ſoon after which you muſt prepare another hot-bed, covered with good, rich, light earth, about four inches thick; then raiſe up the young plants with your finger, ſo as not to break off the tender roots, and prick them into your new hot-bed about four inches diſtance every way, giving them a gentle watering to ſettle the earth to their roots; but in doing this, be very cautious not to bear the young plants down to the ground by haſty watering, which rarely riſe again, or at leaſt ſo as to recover their former ſtrength in a long time, but very often rot in the ſtems, and die quite away.

In the middle of the day keep them ſcreened with mats from the heat of the ſun, and give them air by raiſing up the glaſſes; and if the glaſſes are wet, it will be proper to turn them every day, in good weather that they may dry; for the moiſture which is occaſioned by the fermentation of the dung, and the perſpiration of the plants, is of a noxious quality, and very unkindly to plants; ſo that if the weather happens to prove bad, that you cannot turn your glaſſes, it will be of great ſervice to the plants to wipe off all moiſture two or three times a day with a woollen cloth to prevent its dropping upon the plants. When the plants are firmly rooted, and begin to grow, you muſt obſerve to give them air every day, more or leſs, as the weather is cold or hot, to prevent their drawing up too faſt, which greatly weakens their ſtems.

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[*] Willdenow.
[†] Ibid.
[‡] Ibid.
[§] Ibid.
[‖] Hort. kew.
[¶] Willdenow.
[**] Hort. kew.

In about three weeks or a month's time, theſe plants will have grown ſo as to meet, and will ſtand in need of another hot-bed, which ſhould be of a moderate temper, and covered with the ſame rich earth about ſix inches thick, into which they ſhould be removed, obſerving to take them up with as much earth about their roots as poſſible, and plant them ſix or ſeven inches diſtance every way, giving them ſome water to ſettle the earth about their roots; but be very careful not to water them heavily, ſo as to bear down the plants, as was before directed; and keep them ſhaded in the heat of the day, until they have taken freſh roots; and be ſure to refreſh them often gently with water, and give them air in proportion to the heat of the weather, covering the glaſſes with mats every night, leſt the cold chill your beds, and ſtop the growth of the plants.

The middle of may you muſt provide another hot-bed, which ſhould be covered with a deep frame, that the plants may have room to grow. Upon this hot-bed you muſt ſet as many three-penny pots as can ſtand within the compaſs of the frame; theſe pots muſt be filled with good rich earth, and the cavities between each pot filled up with any common earth, to prevent the heat of the bed from evaporating, and filling the frame with noxious ſteams: when the bed is in good order to receive the plants, they ſhould be carefully taken up with a trowel, obſerving to preſerve as much earth to their roots as poſſible; then place each ſingle plant in the middle of one of the pots, filling the pot up with the earth before deſcribed, and ſettle it cloſe to the root of the plant with your hands; water them gently, as before, and ſhade them in the heat of the day from the violence of the ſun, by covering the glaſſes with mats.

In about three weeks more theſe plants will have grown to a conſiderable ſize and ſtrength, ſo that you muſt now raiſe the glaſſes very much in the daytime; and when the air is ſoft, and the ſun is clouded, draw off the glaſſes, and expoſe them to the open air; and repeat this as often as the weather will permit, which will harden them by degrees to be removed abroad into the places where they are to remain the whole ſeaſon; but it is not adviſeable to ſet theſe plants in the open air until after the firſt week in july, obſerving to do it when the air is perfectly ſoft, and, if poſſible, in a gentle ſhower of rain.

Let them at firſt be ſet in ſhelter for two or three days, where they may be ſcreened from the violence of the ſun, and ſtrong winds, to which they muſt be inured by degrees. Theſe plants, when grown to a good ſtature, perſpire very freely, and muſt be every day refreſhed with water, if the weather proves hot and dry; otherwiſe they will ſtint, and never produce ſo large leaves, as thoſe which are ſkilfully treated.

This is the proper management, in order to have fine Amaranths, which, if rightly followed, and the kinds are good, in a favourable ſeaſon, will produce large fine leaves, and theſe plants are the greateſt ornament to a good garden for upwards of two months in the latter part of ſummer.

Where perſons are curious in having theſe annual plants in great perfection, there ſhould be a glaſscaſe erected with upright and ſloping glaſſes on every ſide, with a pit in the bottom for tan, in which the pots ſhould be plunged; if this be raiſed eight or nine feet to the ridge, and the upright glaſſes are five feet, there will be room and height enough to raiſe theſe and other annual plants to great perfection, and in ſuch a building, many of thoſe tender annual plants, which rarely perfect ſeeds in this climate, without ſuch contrivance, may be every year brought ſo forward as to ripen their ſeeds.

[The ſtate of the cultivation of exotic plants in England, at the end of the ſixteenth century, appears from the direction which Gerard gives for that of Amaranthus tricolor. "The Floramor, ſays he, "would be ſowen in a bed of hot hors-dung with "ſome earth ſtrowed thereon in the end of march, "and ſo covered with mats or ſuch like in the "night and laid to the ſun in the day time; other-"wiſe the winter wil approch before it commeth to "perfection, for that it is very impatient of our "colde clymate. The right honourable the Lord "Edward Zouche gave me the ſeedes thereof, the "which brought foorth their pleaſant leaves, but "periſhed before the ſeede was ripe, which chaunced "for want of this inſtruction *."

The Amaranths are very prolific, Willdenow informs us that he ſaved eight ounces of ſeed from one plant of *A. caudatus.* The ſeeds preſerve their germinating quality ſeveral years, but continue longer in the ground than freſh ſeeds, which germinate in eight days †.

Amaranthus. See *Achyranthes. Celoſia. Illecebrum. Ireſine. Rivina.*

Amaranthus luteus. See *Gnaphalium.*

Amarella. See *Gentiana.*]

AMARYLLIS. (*The name of a ſhepherdeſs in Theocritus and Virgil: if it be derived from* αμαρυγμα *or* ἀμαρυγη, *ſplendor, it is given with great propriety to this ſplendid genus.*)

Lin. gen. n. 406. *Reich.* 439. *Schreb.* 554. *Juſſ.* 55.

Lilio-narciſſus. *Tournef.* 207.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Lilia* or *Liliaceæ.* *Spathaceæ* Lin. *Narciſſi* Juſſ.

GENERIC CHARACTER.

Cal. *Spathe* oblong, obtuſe, compreſſed, emarginate, gaping on the flat ſide and withering.

Cor. *Petals* ſix, lanceolate. *Nectary* ſix very ſhort ſcales without the baſe of the filaments.

Stam. *Filaments* ſix, awl-ſhaped; with oblong, incumbent, riſing *Anthers.*

Pist. *Germ* roundiſh, furrowed, inferior; *Style* filiform, almoſt of the length and in the ſituation of the ſtamens: *Stigma* trifid, ſlender.

Per. a ſub-ovate, three-celled, three-valved *Capſule.*

Seeds ſeveral.

Obs. *The inflection of the petals, ſtamens, and piſtil is very various in the different ſpecies of this genus. The corolla in moſt of the ſpecies is rather hexapetaloid than ſix-petalled.*

ESSENTIAL CHARACTER.

Cor. hexapetaloid, irregular. *Filaments* inſerted into the throat of the tube, bending down, unequal in proportion or direction.

SPECIES.

1. Amaryllis lutea. *Yellow Amaryllis,* or *Autumnal Narciſſus.*

Lin. ſpec. 420. *Reich.* 2. 25. *hort. cliff.* 135. *Ait. hort. kew.* 1. 415. *Berg. phyt.* 2. 163. *Cluſ. hiſt.* 1. 164. *Weinm. phyt.* 3. *t.* 652. *f.* C. (Lilio-narciſſus) *Rudb. elyſ.* 2. 129. *f.* 1. (Colchicum.)

Spathe undivided, obtuſe; flower ſeſſile; corolla bell-ſhaped, erect, ſhortly tubular at the baſe; ſtamens erect, alternately ſhorter.

[2. Amaryllis Pumilio. *Dwarf Amaryllis.*

Ait. hort. kew. 1. 415.

Spathe two-leaved, one-flowered; corolla funnel-ſhaped, equal, ſegments revolute; ſtamens bent in, alternately ſhorter.]

3. Amaryllis Atamaſco. *Atamaſco Lily.*

Lin. ſpec. 420. *Reich.* 2. 25. *hort. cliff.* 135. *Ait. hort. kew.* 1. 416. *Gron. virg.* 36. *Cateſb. car.* 3. *t.* 12. *Barrel. ic.* 994. *Mor. hiſt.* 2. 366. *ſ.* 4. *t.* 24. *f.* 4. *Rudb. elyſ.* 2. 94. *t.* 16. *Weinm. phyt.* 3. *t.* 652. *f.* 6. *Trew, ſeligm. t.* 37.

Spathe bifid, acute; flower pedicelled, corolla bell-ſhaped, nearly equal, erect, ſhortly tubular at the baſe; ſtamens bent down, equal.

4. Amaryllis formoſiſſima. *Jacobea Lily.*

Lin. ſpec. 420. *Reich.* 2. 26. *hort. cliff.* 135.

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* Gerard's Herball. edit. 1597.

† Willd. p. 6.

upſ. 75. *Ait. hort. kew.* 1. 416. *Curtis, magaz. t.* 47. *Act. Stockh.* 1742. *p.* 93. *t.* 6. *Mor. hiſt. ſ.* 4. *t.* 10. *f.* 31. *Barrel. ic. t.* 1035. *Dill. elth.* 195. *t.* 162. *f.* 196. (Lilio-narciſſus). *Rudb. elyſ.* 2. 89. *f.* 10. *Cluſ. hiſt.* 1. 157. *Park. parad.* 71. *f.* 3. *Bauh. hiſt.* 2. 609. *Swert. flor. t.* 28. *Trew, ſeligm. t.* 24. (Narciſſus.)

Spathe undivided; flower pedicelled; corolla two-lip-lipped, nodding, deeply ſix-parted; ſtamens and piſtil bent down.

5. Amaryllis reginæ. *Mexican Lily.*

Lin. ſpec. 421. *Reich.* 2. 26. *Ait. hort. kew.* 1. 416. *Mill. fig.* 16. *t.* 23.

Spathe with about two flowers; pedicels divaricating; corollas bell-ſhaped, ſhortly tubular, nodding; throat of the tube hirſute; leaves lanceolate patulous.

[6. Amaryllis purpurea. *Purple-flowered Amaryllis.*

Ait. hort. kew. 1. 417.

A. ſpecioſa. *L'Herit. ſert. ang.* 12. *n.* 11.

Crinum ſpecioſum. *Lin. ſuppl.* 195.

Spathe with about two flowers, corollas ſomewhat erect, tubular at the baſe, throat of the tube ſmooth; leaves linear-lanceolate.

7. Amaryllis equeſtris. *Barbadoes Lily.*

Ait. hort. kew. 1. 417. *Herm. par.* 194. *Merian ſur. t.* 22. (Lilium).

A. dubia. *Lin. amæn.* 8. 254.

Spathe with about two flowers, pedicels erect ſhorter than the ſpathe, tube filiform horizontal, border ſpreading open obliquely and curved upwards, throat hairy.

8. Amaryllis reticulata. *Flat-ſtalked Amaryllis.*

L'Herit. ſert. ang. t. 14. *Ait. hort. kew.* 1. 417.

Spathe with about two flowers, corollas tubular at the baſe and nodding, throat of the tube ſmooth, ſcape compreſſed, leaves oblong attenuated at the baſe.]

9. Amaryllis Belladonna. *Belladonna Lily.*

Lin. ſpec. 421. *ſyſt.* 320. *Reich.* 2. 26. *hort. cliff.* 135. *Ait. hort. kew.* 1. 417. *Swartz, obſ.* 124. *Mill. fig.* 15. *t.* 24. *Mill. illuſtr. Sloan. jam.* 1. 244. *Seba, thes.* 1. 25. *t.* 17. *f.* 1.

Corollas ſomewhat erect, ſix-petalled, petals flat; ſcape compreſſed; leaves ſharply channelled, bluntly keeled, very ſmooth.

[10. Amaryllis vittata. *Superb* or *Ribband Amaryllis.*

L'Herit. ſert. angl. t. 15. *Ait. hort. kew.* 1. 418. *Curtis, magaz. t.* 129.

Flowers pedicelled, corollas wedge-funnel-ſhaped, the rachis of the outer faſtened to the edge of the inner petals, ſcape round, ſtigmas grooved.

11. Amaryllis falcata. *Sickle-leaved Amaryllis* or *Crinum.*

Ait. hort. kew. 1. 418. *L'Herit. ſert. angl.* 13. *n.* 15.

Crinum falcatum. *Lin. ſyſt.* 319. *Jacqu. hort.* 3. 34. *t.* 60.

Corollas peduncled, erect, ſix-petalled; ſcape compreſſed, length of the umbel; leaves flat, preſſed to the ground, about the edge ſickle-ſhaped, white-cartilaginous crenate.

12. Amaryllis ornata. *Cape Coaſt Lily* or *Amaryllis.*

Ait. hort. kew. 1. 418. *Ehret. pict. t.* 5. *f.* 2?

Flowers ſeſſile, corollas tubular at the baſe, tube longer than the ſpathes and border, curved, ſegments of the border oblong, awned, loweſt ſegment divaricate concave.]

13. Amaryllis longifolia. *Long-leaved Amaryllis.*

Lin. ſpec. 421. *Reich.* 2. 27. *Ait. hort. kew.* 1. 419. *Ehret, pict. t.* 13. *Herm. par. t.* 195. *L'Herit. ſert. angl.* 13. *n.* 16.

Flowers pedicelled, 12—20 *flowers in a ſpathe, corollas tubular at the baſe, tube curved ſhort, ſegments of the border lanceolate obtuſe, leaves broad-ſubulate channelled flaccid at the tip.*

[14. Amaryllis revoluta. *Rovolute Amaryllis.*

Ait. hort. kew. 1. 419. *L'Herit. ſert. angl.* 14. *n.* 18.

Flowers pedicelled, corollas tubular at the baſe, tube filiform ſhort curved, leaves linear narrow channelled long flaccid from their origin.

15. Amaryllis aurea. *Golden Amaryllis.*

Ait. hort. kew. 1. 419. *L'Herit. ſert. angl. t.* 15.

Flowers pedicelled ſomewhat erect, corollas funnel-form-club-ſhaped, almoſt ſix-petalled, ſegments linear-lanceolate, ſtamens and ſtyle ſtraight; leaves linear, erect, channelled, with a reflex, ſmooth margin.]

16. Amaryllis orientalis. *Broad-leaved African Amaryllis.*

Lin. ſpec. 422. *Reich.* 2. 27. *Ait. hort. kew.* 1. 420. *Mor. hiſt.* 2. 368. *ſ.* 4. *t.* 10. *f.* 35. (Lilio-Narciſſus.) *Swert. flor.* 31. *f.* 1.

Brunſvigia. *Heiſt. mon. fig.*

Spathe many-flowered, flowers pedicelled, ſix-parted, conſiderably ſhorter than the peduncles, irregular; germs wedge-ſhaped, angular.

17. Amaryllis ſarnienſis. *Guernſey Lily.*

Lin. ſpec. 421. *Reich.* 2. 27. *hort. cliff.* 135. *upſ.* 75. *Ait. hort. kew.* 1. 420. *Thunb. jap.* 131. *Lour. cochinch.* 200. *Douglas mon. fig.* (Lilium.) *Corn. canad.* 157. *t.* 158. *Rudb. elyſ.* 2. 23. *f.* 14. *Ehret. ſel. t.* 9. *f.* 3. *Kæmpf. amæn.* 872. *Seba, muſ.* 1. *t.* 17. *f.* 3. (Narciſſus.) *Trew, ſeligm. t.* 30.

Petals linear, flat, ſtamens and piſtil ſtraightiſh longer than the corolla, ſtigmas parted, revolute.

[18. Amaryllis undulata. *Waved-flower African Amaryllis.*

Lin. ſyſt. 320. *Reich.* 2. 26. *Ait. hort. kew.* 1. 420, *Jacqu. hort.* 3. 11. *t.* 13. *Meerburg ic.* 13. *J. Fr. Miller ic.* 8.

Petals linear channelled waved, ſtamens and piſtil bent down, ſhorter than the corolla, ſtigma obſolete.

19. Amaryllis radiata. *Snow-drop-leaved Amaryllis.*

Ait. hort. kew. 1. 421. *L'Herit. ſert. angl.* 16. *n.* 26.

Lilio-Narciſſus 5. *Trew, ſeligm. t.* 35.

Petals lanceolate waved, ſtamens and piſtil bent down, diverging, twice as long as the corolla, ſtigma obſolete.

20. Amaryllis montana.

Billardiere ic. ſyr. 2. 5. *t.* 1.

Spathe many-flowered, leaves linear-ſubulate, petals alternate mucronate, ſtamens and ſtyle erect.

21. Amaryllis tubiſpatha.

L'Herit. ſert. ang. 9. *n.* 2.

Spathe one-leafed tubular bifid one-flowered, peduncle twice as long as the ſpathe.

22. Amaryllis tubiflora.

L'Herit. ſert. angl. 10. *n.* 3. *Feuill. obſ.* 3. 29. *t.* 20. (Lilio-narciſſus).

Spathe one-flowered two-leaved, corolla funnel-ſhaped, with a very long tube.

23. Amaryllis ſpiralis.

L'Herit. ſert. angl. 10. *n.* 4. *t.* 13.

Spathe two-leaved few-flowered, peduncles filiform very long, leaves ſubulate.

24. Amaryllis maculata.

L'Herit. ſert. angl. 10. *n.* 6.

Spathe one-flowered two-leaved linear, flower peduncled, ſtamens and ſtyle bent down.

25. Amaryllis chilenſis.

L'Herit. ſert. angl. 11. *n.* 7. *Feuill. obſ.* 3. *t.* 21.

Spathe one or two-flowered, one or two-leaved, lanceolate, flowers peduncled, leaves linear.

26. Amaryllis clavata.

L'Herit. ſert. angl. 11. *n.* 8.

Spathe one-flowered two-leaved ſubulate, corolla club-ſhaped.]

27. Amaryllis zeylanica. *Ceylon Lily.*

Lin. ſpec. 421. *L'Herit. ſert. angl.* 13. *n.* 17.

Crinum zeylanicum. *Lin. ſyſt.* 318. *Reich.* 2. 24. *Comm. hort.* 1. 73. *t.* 37. *Rudb. elyſ.* 2. 181. *f.* 9. *Ehret. pict.* 5. *f.* 2? *Trew, ehret.* 3. *t.* 13? (Lilio-narciſſus). *Rumph. amb.* 5. 306. *t.* 105.

A. bulbiſperma. *Burm. prodr.* 19.

Spathe many-flowered, corollas reclining, tube filiform very long, ſegments uncinate.

28. Amaryllis latifolia.

L'Herit. ſert. angl. 14. *n.* 19.

Crinum latifolium. *Lin. ſpec.* 419. *Reich.* 2. 23. *Mill. dict. n.* 4. *Rheed. mal.* 11. 77. *t.* 39.

Spathe many-flowered, flowers pedicelled, ſomewhat reclining. tubular at the baſe; leaves oblong-lanceolate.

[29. Amaryllis cinnamomea.

L'Herit. ſert. angl. 16. *n.* 27. *t.* 17.

Spathe many-flowered, corollas ſubhexapetalous lanceolate waved, ſtamens and piſtil erect ſhorter than the corolla.

DESCRIPTIONS, &c.

1. The flowers of *Yellow Amaryllis* ſeldom riſe above three or four inches high; they are ſhaped ſomewhat like thoſe of the large yellow Crocus; the green leaves come up at the ſame time, like the Saffron, and after the flowers are paſt, the leaves increaſe all the winter. The roots are ſhaped like thoſe of the Narciſſus. [It is a native of the ſouth of France, Spain, Italy and Thrace *, and was cultivated in 1596, by Gerard. It flowers in ſeptember †.

This ſpecies recedes a little from the genus ‡.

2. Root-leaf linear, narrowed at bottom. Scape round, a palm high, greeniſh. Flower terminating, ſolitary. Leaflets of the ſpathe linear-ſubulate, embracing at the baſe, longer than the tube of the corolla, green. Tube of the corolla an inch in length, white, with ſix raiſed white lines on the outſide, and as many red ones on the inſide, alternate with the former. Segments of the border ovate-oblong, acute, reflex, longer than the tube, white on the outſide, brick-coloured within. Filaments filiform, inſerted into the tube below the throat, bent in at the tip, white; three alternately ſhorter: anthers oblong, incumbent, yellow. Germ oblong: ſtyle filiform, longer than the ſtamens, white: ſtigma trifid; the ſegments linear, red with a white tip. Native of the Cape of Good Hope; where it was found by Mr. Francis Maſſon. It was introduced here in 1774, and flowers in november §.]

3. The flowers of the *Atamaſco Lily* at their firſt appearance are of a fine carnation colour on the outſide, but fade till they are almoſt white. They are nearly as large as thoſe of the ſmall Orange Lily, but do not grow above ſix or eight inches high; they appear the end of may, or beginning of june, and ſometimes in auguſt. It is a native of Virginia and Carolina, where it grows plentifully in the fields and woods, and makes a beautiful appearance when in flower. [Cultivated in 1680, by Mr. Charles Hatton ||.]

4. The flower-ſtems of the *Jacobæa Lily* are produced from the ſides of the bulbs, ſo that after the flower produced on one ſide is decayed, another ſtalk ariſes from the other ſide of the bulb; but there is uſually no more than one flower produced on the ſame ſtalk. The flowers are large, and of a very deep red; the under petals are very large, and the whole flower ſtands nodding on one ſide of the ſtalk, making a moſt beautiful appearance. [Each filament has a ſcale, ariſing from the receptacle, ſitting cloſe at the baſe. Sometimes, but rarely, two flowers proceed from the ſame ſpathe. It is a native of South America, and was firſt known in Europe in 1593 ¶. It was figured by Parkinſon in 1629, and called by him, the Indian Daffodil with a red flower **. In 1658, it was cultivated in the Oxford garden ††.

5. *Mexican Lily.* Bulb green, ſcape round, ſubcompreſſed. Corolla ſcarlet, with a bottom of a whitiſh green: the three outer petals reverſed at the tip, the three inner fringed at the baſe; the ſtyle red ‡‡.] The flower-ſtems ſeldom riſe more than one foot high; each ſtem ſupports two, three or four flowers, rarely more; they are large, and of a bright copper colour, inclining to red; the ſpathe, which covers the buds before they open, divides into two parts to the bottom, ſtanding on each ſide the umbel of flowers, joined to the peduncles. It flowered in Mr. Fairchild's garden at Hoxton in 1728, when the late Dr. James Douglaſs cauſed a figure of it to be drawn, and wrote a folio pamphlet on it. He gave it the title of *Lilium Reginæ*, becauſe it was in full beauty on the firſt of march, which was the late queen's birth-day. Mr. Fairchild told me the roots were brought from Mexico; ſo he gave it the name of Mexican Lily, which is ſtill continued to it by the Engliſh gardeners. It flowers conſtantly in the ſpring, when it is placed in a very warm ſtove. It is in beauty in february, and thoſe which are in a moderate temperature of air, will flower in march or april. [This ſpecies is, by a miſtake of the engraver, numbered xxiii in Mr. Miller's plates: it ſhould have been xxiv.

6. Very nearly allied to the foregoing; inſomuch that Monſ. L'Heritier doubts whether it be a diſtinct ſpecies. The corolla is large, and of a blood-red purple colour. It is a native of the Cape of Good Hope, where it was found by Thunberg and Maſſon. Introduced here in 1774 *.

7. Native of the Weſt Indies. Introduced in 1778, by William Pitcairn, M. D. †.

8. This is diſtinguiſhed by the petals being tranſverſely veined, and by the ſmoothneſs of the throat ‡. It flowers in april; is a native of Brazil; and was introduced in 1777, by Edw. Whitaker Gray, M. D. §.

9. *Belladonna Lily* differs from the fifth ſpecies in having the edges of the petals waved, and not reverſed at the tip ||.] Scape purple, ſuſtaining from five to ſeven flowers, in ſhape like the common Red Lily, and near as large, but of a ſoft purple colour, inclining to white within ſide toward the bottom, and having an agreeable ſcent. It was firſt brought to England about the year 1712, from Portugal, where the gardens formerly abounded with theſe flowers; but the Jacobæa Lily has ſince ſupplanted this in moſt of their gardens, and the bulbs imported thence for this of late years have generally proved to be the Jacobæa Lily. The gardens in Italy have great quantities of theſe flowers, eſpecially about Florence, where they are commonly ſold in the markets, under the name of Narciſſus Belladonna. This ſort uſually flowers about the end of ſeptember, or the beginning of october, in England; and, if the roots are ſtrong, the ſtem will riſe upwards of two feet high. If the ſeaſon is favourable, or the flowers are ſcreened from froſts, violent winds and heavy rains, they will continue in beauty a month or longer; and are very ornamental plants to a garden, at a ſeaſon when there is a great ſcarcity of flowers. [Native of the Weſt Indies, on ſhady hills, by the ſide of ſtreams ¶. It is numbered xxiv in Mr. Miller's plates; but ſhould have been xxiii.

10. The petals uniting at bottom form a fleſhy tube, but the edges of the outer ones are free at the baſe **. Monſ. L'Heritier gave it the name of *vittata*, from their ribband-like appearance, being ſtriped with red on a white ground. When it bloſſoms in perfection, it deſerves the name of ſuperb, which the late Mr. Aiton has given it; the ſtem riſing to the height of three feet or more, and producing from two to five beautiful flowers. It uſually bloſſoms in april or may, but may be forwarded by artificial heat. Of what country it is a native is not known with certainty, but moſt probably of the Cape ††. It was introduced into England by Mr. William Malcolm, in 1769 ‡‡.

11. Leaves linear, obtuſe, thickiſh, glaucous. Scape lateral, upright, half the height of the leaves, rufous. Spathe two-leaved; valves ovate, bluntiſh, entire, ſubereċt, dirty roſe-colour and yellowiſh. Flowers ſweet-ſcented, as many as ſeven in number, ſubereċt, in a ſort of umbel, on obſcurely angular, ſhining peduncles, an inch and half in length. Corolla equal, funnel-ſhaped; tube ſhort, petals long, narrowing a little towards the baſe; white with the middle of the back red. Stamens not bent down. Style bent down, red §§. Profeſſor N. J. Jacquin received the bulb of this ſpecies from the Cape in 1770. Introduced here in 1774, by Mr. Francis Maſſon |||.

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* Linneus.
† Hort. kew.
‡ L'Heritier.
§ Hort. kew.
|| Ibid.
¶ Linneus.
** Curtis magaz.
†† Hort. kew.
‡‡ Linneus.

* Hort. kew.
† Ibid.
‡ L'Heritier.
§ Hort. kew.
|| Linneus.
¶ Swartz obſ.
** L'Heritier.
†† Curt. mag.
‡‡ Hort. kew.
§§ Jacqu. hort.
||| Hort. kew.

12. *Cape Coaſt Lily* is a native of Guinea, and flowers with us in june and july. It was probably cultivated by Robert James Lord Petre in 1740[*].]

13. The flower-ſtem rarely riſes more than three or four inches high, but ſupports a great number of flowers, of a deep purple colour, appearing in december. The bulbs are large; the leaves long and narrow. It is a native of the Cape of Good Hope; [and was introduced in 1773, by Mr. Francis Maſſon. It flowers in july[†].

14. Leaves two feet long, half an inch broad, channelled. Scape a foot high. Umbel four-ſix flowered. Flowers ſweet-ſcented: tube three-cornered, green, bent in; ſegments of the border two inches long, white within, on the outſide pale red about the middle, to which part they are rolled back. Native of the Cape of Good Hope. Found there by Mr. Francis Maſſon. Introduced in 1774. It flowers in ſeptember[‡].

15. Leaves keeled, a foot and half long, ſcarcely an inch broad. Scape a little compreſſed, ſcarcely two feet high. Spathe two-leaved, lanceolate, ſhrivelling, three inches long, containing from five to nine flowers. Pedicels unequal, an inch or more in length, with a membranaceous, lanceolate bracte at the baſe, the length of the pedicels. Corolla yellow: tube three-cornered, ſcarcely half an inch in length; ſegments of the border thicker at the end, ſlightly hooked, two inches and a half long, with blunt, greeniſh keels. Filaments inſerted into the throat, three alternately longer, and three ſhorter than the corolla: anthers linear-oblong, ſtraight, pale yellow. Germ ovate, bluntly three-cornered: ſtyle filiform, longer than the ſtamens: ſtigma tripartile, ſcarlet. Native of China. Introduced in 1777, by John Fothergill, M. D. It flowers in auguſt and ſeptember[§].]

16. Bulbs large and almoſt round; leaves long, broad, and rounded at their extremities, theſe ſpread two ways on the ſurface of the ground, and do not come up till after the flower-ſtem appears, which is generally in november; and after the flowers are paſt, the leaves increaſe till ſpring, and in may they begin to decay, ſo that from the middle of june to october the plant is void of leaves. It grows naturally at the Cape of Good Hope; from whence Mr. Miller ſays that he received the roots, which ſucceeded in the Chelſea garden. [In the Kew Catalogue, it is ſaid to be introduced in 1767, by Mr. William Malcolm.

17. *Guernſey Lily.* Bulb an oblong ſpheroid, flatted moſt at the lower end, ſix or ſeven inches round where thickeſt. Leaves dark willow-green, ſhining, from half an inch to three quarters of an inch in breadth, a little blunt at the end, from two to four in number, rarely five. Scape flattened, twelve or fourteen inches in height, and more. Spathe ſplits and falls back in two unequal pieces of a reddiſh colour and triangular figure. Pedicels from an inch to almoſt two inches in length. Number of flowers commonly from eight to twelve. Circumference of each flower about ſeven inches. The corolla, when in its prime, has the colour of a fine gold tiſſue wrought on a roſe-coloured ground; and when it begins to fade, it is a pink: when beheld in a full ſun-ſhine, it ſeems to be ſtudded with diamonds, but by candle-light the ſpecks or ſpangles look more like fine gold duſt: when the petals begin to wither, they aſſume a deep crimſon colour. The flowers begin to come out at the end of auguſt, and the head is uſually three weeks in expanding gradually. This beautiful plant is a native of Japan, and has been long naturalized in Guernſey. According to Cornutus, it was brought from Japan to Paris, and cultivated in Morin's garden before 1634. It was in the royal garden before 1666. In England, it was cultivated by General Lambert, at Wimbledon, in 1659, but it ſeems then to have been little known. In 1664 it was grown more common. It does not appear to have been in Holland before the year 1695.

The plants are reputed to owe their origin in Guernſey, to the ſhipwreck of a veſſel in its return from Japan, probably before the middle of the laſt century[*].

18. Bulb roundiſh-ovate. Leaves few, linear, bluntiſh, almoſt erect. Scape obſcurely and bluntly ancipital, the length of the leaves. Spathe two-leaved, leaflets oblong, ſtreaked, quite entire, purple on the outſide, fleſh-coloured within, ſubpellucid, erect. Peduncles about twelve in an umbel, ſlender, patulous, one-flowered; among which ſome capillary, roſe-coloured threads are intermixed. Petals roſe-coloured. The flowers are void of ſcent, and expand from november to the beginning of january. Native of the Cape of Good Hope[†]. Introduced about 1767, by John Blackburne, Eſq. and flowers here from april to june[‡].

19. It is not known where this ſpecies grows naturally. It was cultivated by Mr. Miller, in 1758; and flowers in june[§].

20. Stem upright, ſomewhat flexuoſe, often branched, leafy, ſcarcely ſtreaked. Leaves ſheathing; thoſe on the ſtem half-ſtem-claſping, membranaceous at the baſe. Flowers panicled, terminating, uſually in an umbel. Spathe many-leaved, leaflets the number of the flowers, lanceolate, withering. Petals oblong, blue, three alternately pointed at the tip, the reſt blunt. Filaments filiform, ſtraight, inſerted into the ſegments of the corolla at the claws; three of them ſhorter, fixed to the pointed petals. Anthers four-grooved. Germ turbinate. Style longer than the ſtamens. Stigmas three, recurved. Capſule ovate-oblong, drawn to a point at bottom, ſcarcely ſtreaked. Seeds ovate-oblong, black. Native of the higher parts of mount Lebanon[||].

21. Scape erect, four inches high. Spathe occupying almoſt the middle of the ſcape, tubuloſe, cylindraceous, bifid, with the ſegments oppoſite. Flower upright. Three alternate filaments ſhorter. Found at Buenos Ayres, by Commerſon[¶].

22. According to Dombey, who obſerved this ſpecies in Peru, the filaments are equal. Monſ. L'Heritier thinks them only nearly ſo[**].

23. Corolla ſix-parted, with an equal border ſpreading out very wide, and a ſhort tube. Filaments erect, alternately ſhorter. Scape twiſted at the baſe. Diſcovered by Bruguiere, in ſandy grounds near the Cape of Good Hope[††].

24. Scape variegated with linear ſpots. Corolla bell-ſhaped. Found in Chili, by Dombey[‡‡].

25. This has the flowers of A. Belladonna or Reginæ; they are of a purple colour. Found alſo in Chili, by Dombey[§§].

26. Flower pedicelled. Tube narrow at the baſe and then widening: border very ſhort. Native of the ſouthern part of Africa[||||].

27. Stature of *Crinum americanum.* Leaves of *Scilla officinalis*, fleſhy, ſcabrous with a toothletted edge. Spathe bivalve, beſides ſome interior ſcales or fragments. Germs ſeſſile. Tube of the corolla of the ſame colour with the ſcape, which is rufous. Border white, with lanceolate, recurved petals, with a red keel underneath. Filaments and ſtyle blood-red[¶¶]. Pericarps viviparous[***].

I have left this ſpecies where Linneus had firſt placed it, and in the genus to which Monſ. L'Heritier has reſtored it. The Lilio-narciſſus, figured by Ehret, is ſaid to have come from the Cape, whereas this is a native of the Eaſt Indies, and it is doubtful whether his be the ſame with ours. Mr. Miller has the *A. zeylanica*, which he ſays is commonly called *Ceylon Lily*; and refers to Commelin's figure: but ſince he affirms that he has received roots and ſeeds of it from the Weſt Indies, and gives no deſcription of the plant, we cannot be certain that he intended this ſpecies.]

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[*] Hort. kew. [†] Ibid. [‡] Ibid. [§] Ibid.

[*] Douglas deſcr. of the Guernſey Lily, fol. 1737. [†] Jacquin. [‡] Hort. kew. [§] Ibid. [||] Billardiere. [¶] L'Heritier. [**] L'Heritier. [††] Ibid. [‡‡] Ibid. [§§] Ibid. [||||] L'Heritier. [¶¶] Lin. ſyſt. [***] L'Heritier.

28. Mr. Miller compares this ſpecies with *Crinum aſiaticum*; and ſays, that it has roots like that; the leaves narrower at their baſe, and ſtained with purple on their under ſide; the ſcapes purple, and growing to the ſame height as thoſe of *C. aſiaticum*; the flowers of the ſame ſhape, but the tube purple, and the ſegments having a purple ſtripe running through them; the ſtamens alſo are purple: ſo that this ſpecies is more beautiful than that. [It is a native of the Eaſt Indies.

29. Flowers ſmaller by half than in *A. undulata.* Petals twice as broad, and the outer ones more revolute. Stigma ſimple. It is allied to *Hæmanthus.* Found at the Cape of Good Hope, by Bruguiere *.

PROPAGATION AND CULTURE.

Theſe plants are of the Liliaceous or Bulbous tribe; moſt of them have flowers of ſingular beauty, highly deſerving the care and attention of the curious Botaniſt and Floriſt.]

1. The yellow autumnal Amaryllis is very hardy, and increaſes faſt by offsets. The ſeaſon for tranſplanting theſe roots is any time from may to the end of july, when their leaves are decayed, after which it will be too late to remove them; for they will begin to puſh out new fibres by the middle of auguſt, or ſooner if the ſeaſon be moiſt, and many times they flower the beginning of ſeptember; ſo that if they are tranſplanted, it will ſpoil their flowering. This plant will grow in any ſoil or ſituation; but it will thrive beſt in a freſh, light, dry ſoil, and in an open ſituation; not under the dripping of trees, nor too near walls. It is commonly called by the gardeners, the Yellow Autumnal Narciſſus, *&c.* and is uſually ſold by them with Colchicums, for autumnal ornaments to gardens; for which purpoſe this is a pretty plant, as it will frequently keep flowering from the beginning of ſeptember to the middle of november, provided the froſt is not ſo ſevere as to deſtroy the flowers; for although there is but one flower in each cover, yet there is a ſucceſſion of flowers from the ſame root, eſpecially when they are ſuffered to remain three or four years unremoved.

3. The Atamaſco Lily alſo is ſo hardy, as to thrive in the open air in England, provided the roots be planted in a warm ſituation, and on a dry ſoil: it may be propagated by offsets from the bulbs.

4. The Jacobæa Lily is now become pretty common in the curious gardens in England, the roots ſending forth plenty of offsets, eſpecially when they are kept in a moderate warmth in winter: for the roots of this kind will live in a good green-houſe, or may be preſerved through the winter under a common hot-bed frame; but then they will not flower ſo often, nor ſend out ſo many offsets, as when they are placed in a moderate ſtove in winter. This will produce its flowers two or three times in a year, and is not regular to any ſeaſon; but from march to the beginning of ſeptember, the flowers will be produced when the roots are in vigour.

It is propagated by offsets, which may be taken off every year; the beſt time to ſhift and part theſe roots is in auguſt, that they may take good root before winter; in doing this, there ſhould be care taken not to break off the fibres from their roots. They ſhould be planted in pots of a middling ſize; and if they are kept in a moderate degree of warmth, they will produce their flowers in plenty, and the roots will make great increaſe.

5. The Mexican Lily being not ſo hardy as the foregoing, or the Belladonna Lily, muſt be placed in a warm ſtove; and if the pots are plunged into a hot-bed of tanner's bark, the roots will thrive better, and the flowers will be ſtrong. It is increaſed by offsets, as the others, and flowers uſually the beginning of ſpring, when it makes a fine appearance in the ſtove.

9. The method in which I have cultivated the Belladonna Lily for ſome years paſt with great ſucceſs, is as follows. I prepared a border cloſe to a wall which had a ſouth-weſt aſpect, of about ſix feet wide, in the following manner, *viz.* I removed all the earth to the depth of three feet, then I put ſome very rotten dung in the bottom, ſix inches thick, upon which I laid light garden mould about twenty inches deep; after making this level, I placed the roots at ſix inches diſtance every way, and then covered them over with light ſandy earth, to the height of the border, whereby the upper part of the roots were five or ſix inches buried, and in the winter I covered the border all over with rotten tanner's bark, three inches deep, to prevent the froſt from penetrating the ground; and when the froſt was very ſevere, I laid ſome mats or ſtraw over the leaves to protect them from being killed. With this management the roots have greatly increaſed, and have conſtantly flowered every year; ſome of them have put out two or three ſtems, which grew near three feet high, and produced many flowers in each umbel, which have made a fine appearance during the month of october. The green leaves come up ſoon after, and abide all the winter and ſpring until june, at which time they decay; ſoon after which the roots ſhould be tranſplanted, for if they are let ſtand till july, they will have ſent forth new fibres, when it will greatly injure the roots, if they are diſturbed. If ſome of theſe roots are planted in a warm border, cloſe to a ſouth wall, and on a dry ſoil, they will thrive very well, eſpecially if they are covered in ſevere froſt; and theſe roots will flower much ſtronger than thoſe which are kept in pots, and will multiply faſter.

[10. Rarely puts forth offsets from the roots, but readily produces ſeeds, by which it is propagated without difficulty.]

13. The thirteenth ſort may be treated in the ſame manner as the Jacobæa Lily. It will increaſe pretty faſt by offsets, when properly managed. It uſually flowers in winter, if the pots be placed in a moderate ſtove; and as at that ſeaſon there are few flowers in the open air, this is more valuable on that account.

16. The ſixteenth ſpecies muſt be placed during winter in a ſtove, where there is a moderate ſhare of warmth, nor ſhould it have ſo much water as the Jacobæa Lily.

17. The Guernſey Lily is ſuppoſed to come originally from Japan, but has been many years cultivated in the gardens of Guernſey and Jerſey; in both which places, it ſeems to thrive as well as if it was their native country; and from thoſe iſlands their roots are ſent annually to the curious in moſt parts of Europe. The bulbs are generally brought over in june and july; but the ſooner they are taken out of the ground after their leaves decay, the better they are: for although the roots which are taken up when their flower-ſtems begin to appear, will flower, yet their flowers will not be ſo large, nor will their roots be near ſo good after, as thoſe which were removed before they had ſent out freſh fibres.

When theſe roots come over, they ſhould be planted in pots filled with freſh, light, ſandy earth, mixed with a little very rotten dung, and placed in a warm ſituation, obſerving now and then to refreſh the earth with water: but by no means let them have too much wet, which would rot their roots, eſpecially before they come up. About the middle of ſeptember, ſuch of the roots as are ſtrong enough to flower, will begin to ſhew the bud of their flower-ſtem, which is commonly of a red colour; therefore you ſhould remove theſe pots into a ſituation where they may have the full benefit of the ſun, and may be ſheltered from ſtrong winds: but by no means place them too near a wall, nor under glaſſes, which would draw them up weak, and render them leſs beautiful. At this ſeaſon they ſhould be gently refreſhed with water, if the weather be warm and dry; but if it ſhould prove very wet, they ſhould be ſcreened from it.

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* L'Heritier.

When the flowers begin to open, the pots ſhould be removed under ſhelter, to prevent the flowers from being injured by too much wet: but they muſt not be kept too cloſe, nor placed in a ſituation too warm, which would occaſion their colour to be leſs lively, and haſten their decay. The flowers of this plant will continue in beauty, if rightly managed, a full month; and though they have no ſcent, yet, for the richneſs of their colour, they are juſtly eſteemed in the firſt rank of the flowery tribe.

After the flowers are decayed, the leaves will begin to ſhoot forth in length, and if ſheltered from ſevere cold, will continue growing all the winter; but they muſt have as much free air as poſſible in mild weather, and be covered only in great rains or froſts; for which purpoſe, a common hot-bed frame is the propereſt ſhelter for them; becauſe the glaſſes may be taken off conſtantly every day in dry open weather, which will encourage the leaves to grow ſtrong and broad; whereas when they are placed in a green-houſe, or not expoſed to the open air, they will grow long and ſlender, and have a pale weak aſpect, whereby the roots will become weak, ſo that it ſeldom happens that they produce flowers under ſuch management.

Theſe roots ſhould be tranſplanted every fourth or fifth year toward the latter end of june, or beginning of july, and planted into freſh earth, but they ſhould not be oftener removed, for that would retard their flowering. The offsets ſhould alſo be taken off, and planted into ſeveral pots, which, in three years time, will produce flowers; ſo that after a perſon is once ſtocked with theſe roots, he may increaſe them, ſo as to have a ſupply of blowing roots, without being at the trouble or expenſe of ſending to Guernſey every year for freſh roots; and the roots preſerved here will flower ſtronger than thoſe which are uſually brought from thence, for the inhabitants of thoſe iſlands are not very curious in cultivating them. Their uſual method is to plant them at a great diſtance in a bed of common earth, where they let them remain for many years; in which time they produce ſuch a number of offsets, that many times one ſingle cluſter has contained above a hundred roots; by which means, thoſe which grow on the inſide are ſo much compreſſed by the outer roots, that they are perfectly flatted; and from the number of roots growing in each cluſter, they are all rendered weak, and unfit to produce ſuch large ſtems of flowers, as thoſe which have grown ſingle, and are of a ſpherical figure.

But when a perſon is poſſeſſed of a large number of theſe roots, it will be troubleſome to preſerve them in pots, therefore there ſhould be a bed prepared of the following earth, in ſome well-ſheltered part of the garden, *viz.* Take a third part of freſh virgin earth from a paſture ground, which is light, then put near an equal part of ſea-ſand, to which you ſhould add rotten dung, and ſifted lime-rubbiſh, of each an equal quantity. With this earth, when well mixed and incorporated, you ſhould make your bed about two feet thick, raiſing it about four or five inches above the ſurface of the ground, if the ſituation be dry; but if the ground be wet, it ſhould be raiſed eight or nine inches higher. In this bed, about the beginning of july, as was before directed, you ſhould plant the roots about ſix or eight inches aſunder each way; and in the winter, when the froſt begins, you ſhould either cover the bed with a frame, or arch it over, and cover it with mats and ſtraw, to prevent their leaves from being pinched with cold; but in the ſpring the covering may be entirely removed, and the bed kept conſtantly clear from weeds, during the ſummer, obſerving to ſtir the ſurface of the earth now and then; and every year, when the leaves are decayed, you ſhould ſift a little freſh earth over the beds, to encourage the roots. In this bed the roots may remain until they are ſtrong enough to produce flowers, when they may be taken up and planted in pots, as was before directed, or ſuffered to remain in the ſame bed to flower.

The roots of theſe plants do not flower again the ſucceeding year, as in many other ſorts of bulbs; but if their bulbs contain two buds in their center, as is often the caſe, they very often flower twice within the compaſs of three years; after which, the ſame individual root does not flower again in ſeveral years, but only the offsets from it.

27. The *Ceylon Lily* is tender, and muſt be treated in the ſame manner as the Mexican Lily; this is more common in the gardens in Holland than in this country, and as it is a plant which increaſes but ſlowly, will not be very common here. It flowers uſually in june and july, and ſometimes the ſame root will flower again in autumn; for if the pots are plunged into a bed of tanner's bark, the roots generally flower twice every year, but the flowers are not of long duration.

28. May be increaſed by offsets from the roots, or by the bulbs which ſucceed the flowers. It muſt be treated in the ſame manner as is directed for the Crinums.

The beſt time to tranſplant the roots of all the ſpecies is about the beginning of auguſt, when their leaves are quite decayed, before they put out new fibres, for it will be very improper to remove them afterwards.

All theſe bulbous-rooted flowers delight in a looſe ſandy earth, mixed with good kitchen-garden mould; and in the culture of them there ſhould be but little water given them at thoſe times when their leaves decay, and the roots are not in a growing ſtate, for much moiſture at that time will often cauſe them to rot; but when they are growing, and putting out their flower-ſtems, they ſhould be frequently refreſhed with water, but not given in too great quantities at a time. The pots, with the tender ſorts, ſhould conſtantly be kept in the ſtove; and in ſummer they ſhould have as much free air as poſſible; for although ſome of theſe ſorts may be kept abroad in ſummer, yet thoſe do not thrive ſo well, nor flower ſo conſtantly, as thoſe which are treated in the manner here deſcribed.

[AMARYLLIS capenſis. See *Hypoxis ſtellata.*
——— ciliaris. See *Hæmanthus ciliaris.*
——— diſticha. See *Hæmanthus toxicarius.*
——— umbrella. See *Cyrtanthus obliquus.*

AMASONĬA. (*Named from* Amaſon, *a traveller into America.*)

Lin. ſuppl. 48. *n.* 1409. *ſyſt.* 581. *Gen. Schreb. n.* 1061. *Juſſ.* 418.

Taligalea. *Aubl.* 252?

Claſſ. 14. 2. Didynamia Angioſpermia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, bell-ſhaped, ſemiquinquefid, acute, equal, permanent.

COR. one-petalled, tubulous, longer than the calyx: *border* quinquefid, ſubequal, ſpreading, ſmall.

STAM. *Filaments* four, at the upper ſide of the corolla and longer than it; bending in at the end: two of them ſhorter. *Anthers* oval, incumbent.

PIST. *Germ* ovate; *ſtyle* in the ſituation and form of the ſtamens: *ſtigmas* two, ſharp.

PER. none.

SEEDS an ovate, one-celled *Nut*, of the ſame length with the calyx.

OBS. *This agrees with the* Taligalea *of Aublet, in every thing except the fruit, which, according to him, is a drupe longer than the calyx, one-celled, and containing two, ſmall, hemiſpherical, one-celled nuts. Perhaps Linneus ſaw only an imperfect fruit.*

ESSENTIAL CHARACTER.

Cor. tubulous; limb ſmall, quinquefid. *Nut* ovate, one-celled.

SPECIES.

1. Amaſonia erecta.

Lin. ſuppl. p. 294. *ſyſt.* 581.

DESCRIPTION.

1. It is a native of Surinam. The ſtem is herbaceous, three feet in height, round, and quite ſimple. The leaves are alternate, petiolate, remote, elliptic-lanceolate, ſubſerrate, ſcabrous. The flow-

ers in a ſimple, terminal raceme, a foot long, with about three flowers on a pedicle. Bractes ovate, ſeſſile, a little longer than the flowers, which are yellow, nodding, and grow all on one ſide of the ſtalk *.

Ambapaya. See *Carica.*

Ambayba. See *Cecropia.*

Ambel. See *Nymphæa.*

Ambelania. See *Willughbeia.*

Amberboi. See *Centaurea.*

Amber-tree. See *Anthoſpermum.*

Ambora. See *Mithridatea.*

Ambraria. See *Anthoſpermum.*

Ambroma. See *Abroma.*]

AMBROSĬA. (Plin. Αμϐροσια, *Dioſcor.* from α, and ϐροτος, *immortal food.*)

Lin. gen. n. 1057. *Reich.* 1153. *Schreb.* 1427. *Gærtn. t.* 164. *Tournef.* 252. *Juſſ.* 191.

Claſſ. 21. 5. Monoecia Pentandria.

Nat. order of *Compoſitæ Nucamentaceæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

** *Male flowers compound.*

Cal. *Perianth* common, one-leafed, flat, of the ſame length with the floſcules.

Cor. *compound,* uniform, tubulous, equal, hemiſpherical. *Proper* one-petalled, tubulous, funnel-ſhaped, erect, quinquefid, (trifid, Syſt.)

Stam. *Filaments* very ſmall; *anthers* erect, parallel, acuminate.

Pist. *Style* filiform, length of the ſtamens: *ſtigma* orbiculate, membranaceous.

Rec. *common,* ſcarcely any, naked.

** *Female flowers below the males, doubled.*

Cal. *Perianth* one-leafed, acuminate, entire, permanent, the belly five-toothed, one-flowered.

Cor. none.

Pist. *Germ* ovate, in the bottom of the calyx; *ſtyle* filiform of the ſame length with the calyx: *ſtigmas* two, ſetaceous, long, divaricate.

Per. a ſubovate *nut,* formed from the calyx hardened, one-celled, not opening, crowned with the five acuminate teeth of the calyx.

Seed ſingle, roundiſh.

ESSENTIAL CHARACTER.

Male. *Calyx* common one-leafed. *Cor.* one-petalled, trifid, funnel-ſhaped. *Recept.* naked.

Female. *Cal.* one-leafed, entire, the belly five-toothed, one-flowered. *Cor.* none. *Nut* of the hardened calyx one-ſeeded.

SPECIES.

1. Ambroſia trifida. *Trifid-leaved Ambroſia.*
   Lin. ſpec. 1401. *Reich.* 4. 138. *hort. upſ.* 284. *cliff.* 443. *Mor. hiſt.* 3. *p.* 4. *n.* 5. *ſ.* 6. *t.* 1. *f.* 4. *Gærtn. fruct.* 2. 417.
   β. A. gigantea inodora. fol. aſperis trifidis. *Raii hiſt.* 3. 109.
   Leaves three-lobed, ſerrate.
2. Ambroſia elatior. *Tall Ambroſia.*
   Lin. ſpec. 1401. *Reich.* 4. 139. *hort. upſ.* 284. *Swartz obſ.* 359. *Brown. jam.* 339. *n.* 1.
   Leaves pinnatifid; racemes panicled, terminal, ſmooth.
3. Ambroſia artemiſifolia. *Mugwort-leaved Ambroſia.*
   Lin. ſpec. 1401. *Reich.* 4. 139.
   Leaves bipinnatifid, the firſt leaves at the origin of the ſmaller branches undivided, and quite entire.
4. Ambroſia maritima. *Sea Ambroſia.*
   Lin. ſpec. 1401. *Reich.* 4. 139. *hort. cliff.* 443.
   Leaves multifid, ſpikes ſolitary, hairy, ſubſeſſile.
5. Ambroſia arboreſcens. *Tree Ambroſia.*
   Mill. dict. n. 5.
   Leaves pinnatifid hirſute, racemes ſolitary terminating, ſtem ſhrubby.

DESCRIPTIONS, *&c.*

[The four firſt are annual plants, and the laſt is perennial. The three firſt are natives of North America. The fourth grows naturally in Cappadocia, Tuſcany, and the county of Nice, on ſandy ſhores; and the fifth is a native of Peru. The ſecond grows alſo in the Weſt India iſlands.]

1. Is a common weed in North America; it often grows eight or ten feet high; and if it be planted in a rich moiſt ſoil, or often watered, it will grow much higher, and ſpread out into many branches; in which caſe they muſt be ſupported by ſtakes, being very ſubject to break with ſtrong winds. The flowers are not more conſpicuous than thoſe of hemp, and therefore this plant is preſerved only by perſons curious in botany. [Cultivated in 1699, by Mr. Jacob Bobart *. The ſort common in gardens has three-lobed leaves; but the larger variety (β) has the lower leaves five-lobed †.

2. *Tall Ambroſia* is an annual, herbaceous plant, from two to three feet in height, upright and branched. Leaves bipinnatifid, with a very long point, nerved, wrinkled, ſomewhat hirſute. Racemes compoſed of oppoſite branches, from four to ſix inches in length, lax, rather erect. Male flowers more numerous, approximating, nodding: common perianth five-toothed, cup-ſhaped, with very minute florets in it: proper extremely ſmall, five-cleft: corolla five-parted, the ſize of the calyx, with ovate, acute ſegments: filaments five; anthers oblong: the rudiment of a piſtil: five or ſix ſmaller flowers in the ray; their calyx five-cleft, their corolla conſiſting of five linear petals, no piſtil, germ, nor pericarp, but an upright, thick, pellucid ſtyle with a pencil-ſhaped ſtigma. Female flowers fewer, ſeſſile, from three to ſix, aggregate: calyx none except the minute lanceolate leaflets between the germs: germ oblong, angular, ſtyle two-parted, ſtigmas recurved, ſimple. Native of Jamaica, in barren, ſandy and rocky ſituations, by river ſides, in the ſouthern part of the iſland. It flowers there from february to june ‡: but with us in july and auguſt. It was cultivated by Mr. Samuel Doody, in 1696 §.

It has the appearance and taſte of Wormwood ‖.] Mr. Miller affirms, that he has frequently received the ſeeds from Virginia and Carolina, as well as from the Weſt India iſlands.

3. Divides into many branches, the lower part of which has entire leaves, but the upper has compound leaves, reſembling thoſe of the ſecond ſort; the ſpikes of flowers are axillary, in which this differs from the ſecond.

[The primary ſtem, ſcarcely more than a foot in height, is more diffuſed: the branches four feet long, riſing above the racemes, ſo that the racemes are lateral, not terminal as in the foregoing ſpecies ¶. Cultivated 1759, by Mr. Miller **.]

4. Riſes about two feet and a half high: the leaves, upon being handled, emit a ſtrong odour: the ſpikes of flowers are axillary.

[The ſtems are hairy; the leaves very ſoft and pubeſcent; the racemes cloſe; the male flowers ſubſeſſile; nor does the ſpike ſit on a long peduncle, as in the foregoing ſpecies ††. Cultivated 1570 ‡‡.]

5. Grows to the height of ten or twelve feet, with a woody ſtem, dividing into ſeveral branches; the leaves are hairy, compoſed of ſeveral winged lobes, placed alternately; the ſpikes of flowers are ſingle, hairy, and produced at the extremities of the branches; the female flowers grow in ſmall, ſeparate cluſters.

PROPAGATION AND CULTURE.

1. The ſeeds, when ſown in the ſpring, ſeldom germinate the firſt year, but frequently remain in the ground until the following ſpring; ſo that when the plants do not appear, the ground muſt not be diſturbed till after the ſpring following. When the plants come up, ſome of them may be tranſplanted into a moiſt rich ſoil, allowing them at leaſt four or five feet room every way. If the ſeeds ripen and are ſuffered to ſcatter, they will vegetate the following ſpring, provided the ground be not diſturbed; or if the ſeeds be ſown in autumn, the plants will come up in the ſpring, and may be treated as above.

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* Linneus.

* Hort. kew † Linneus. ‡ Swartz.
§ Hort. kew. ‖ Swartz. ¶ Linneus.
** Hort. kew. †† Linneus. ‡‡ Hort. kew.

2. This ſort will come up and thrive in the open air in England, but the plants ſo raiſed will not produce good ſeeds, unleſs the ſeaſon is warm; therefore to obtain them every year, it is neceſſary to cultivate them in the following manner. The ſeeds of this plant ſhould be ſown on a moderate hot-bed in march, and when the plants are come up two inches high, they muſt be tranſplanted into another moderate hot-bed, allowing each plant three or four inches ſquare: obſerving to water them pretty well, and ſhade them until they have taken new root; afterward they muſt have a large ſhare of freſh air every day, when the weather is warm, and frequent waterings, for they are very thirſty plants. When the plants are grown pretty ſtrong, they muſt be taken up with balls of earth to their roots, and planted in large pots filled with light earth; and if they are placed on a very moderate hot-bed until they are well rooted, it will greatly forward their flowering. Toward the latter end of may, they ſhould be placed abroad with other hardy annual plants, among which they will make a variety. Theſe will flower in july, and their ſeeds ripen in ſeptember.

3. May be cultivated in the ſame manner.

4. Seldom perfects its ſeeds in England, unleſs the plants are brought forward in the ſpring; therefore the ſeeds ſhould be ſown in the autumn in a warm border, and when the plants come up in the ſpring, they ſhould be tranſplanted into another warm border of poor ground; for when theſe plants are put into rich moiſt land, they grow very luxuriantly, and do not flower till late in the ſeaſon. The beſt method therefore to obtain good ſeeds, is to plant ſome of them in lime-rubbiſh. The ſeeds of this ſort alſo will come up ſpontaneouſly. There is not much beauty in it, and it is admitted into gardens only for variety.

5. May be propagated by cuttings or ſeeds: if by the former, they ſhould be planted in a ſhady border, in any of the ſummer months; they will require to be frequently watered. In a month or five weeks they will have good roots, and ſhould be taken up and potted; for when they are left longer in the full ground, they will grow very luxuriant, and not ſo ſoon recover their removal. This ſort is hardy enough to be expoſed to the open air in ſummer; and in winter, if it be ſheltered in a common greenhouſe, will live ſeveral years. In mild winters, the roots live in the full ground, in a warm border, but hard froſt will kill them.

The ſeeds, when ſown in the ſpring, ſeldom come up the ſame year; but thoſe which fall in the autumn, or are ſown at that time, will come up the ſpring following.

AMBROSIA. See Artemisia and Cochlearia.

[AMBROSINIA. (So named in honour of the two brothers Bartolomeo and Hyacinto Ambroſini, Profeſſors of Botany at Bologna fifty-two years.)

Baſſii monogr. Lin. gen. n. 1238. *app. Reich.* 1118. *Schreb.* 1386. *Juſſ.* 24.

Claſſ. 20. 7. Gynandria Polyandria.—21. 1. Monoecia Monandria. *Schreb.* 12. 1. Polyandria Monogynia. *Swartz.*

Nat. order of *Piperitæ.*——*Aroideæ* Juſſ.

GENERIC CHARACTER.

* *Males.*

Cal. *Spathe* one-leafed, cowled, convolute at the baſe, converging at the tip; *partition* membranaceous. (Spadix *Baſſ.*) divided into two cells communicating at top.

Cor. none.

Stam. *Filaments* none. *Anthers* very many, ſolitary, within the hinder cell of the ſpathe, in the upper part of the partition, digeſted in a diſtinct order.

Nectaries two, roundiſh, concave, at the baſe of the anthers.

* *Female.*

Cal. *Spathe* common with the males. *Perianth* none.

Pist. *Germ* in the anterior cell of the ſpathe, and the lower part of the partition, ſolitary, roundiſh. *Style* cylindrical, ſhorter than the ſpathe. *Stigma* obtuſe.

Per. *Capſule?* roundiſh, one-celled.

Seeds very many, ovate, neſtling.

ESSENTIAL CHARACTER.

Spathe one-leafed, ſeparated by a partition. *Stamens* on the inner: *piſtils* on the outer ſide of it.

SPECIES.

1. Ambroſinia Baſſii.
Lin. ſyſt. 827. *Reich.* 4. 68.
Ambroſina *Baſſ. monogr. fig.*
Ariſarum *Bocc. ſic. t.* 26. *Mor. hiſt.* 3. *ſ.* 13. *t.* 6. *f.* 19. *Raii hiſt.* 1907. *Cup. hort.* 21 & 22.

DESCRIPTION.

Root perennial, tuberous, acrid. Leaves radical, petiolate, ovate, ſhining. Spadix quite ſimple, cylindrical. Spathe fleſhy, greeniſh white on the outſide, deeper green on the inſide, with purple ſpots, ending in a ſharp recurved point. The leaves appear at the beginning of autumn, and decay in the ſpring. It is a native of Sicily near Palermo; and was firſt found, deſcribed and figured by Bocconi *.

PROPAGATION AND CULTURE.

It requires the protection of a green-houſe, and may be increaſed from the root.

Amelanchier. See *Chionanthus* and *Meſpilus.*

Amelloides. See *Cineraria.*]

AMELLUS. (From *Mella,* a river of Gaul according to ſome; from *Mel,* honey, according to others.)

Lin. gen. n. 978. *Reich.* 1065. *Schreb.* 1315. *Gærtn. t.* 173. *Juſſ.* 190.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of *Compoſitæ oppoſitifoliæ.*—*Corymbiferæ.* Juſſ.

GENERIC CHARACTER.

Cal. *common* imbricate, roundiſh, (ſcales linear, preſſed cloſe. G.)

Cor. *compound* radiate. *Corollets* hermaphrodite very many in the diſk. *Females* very many in the ray. *Proper* of the hermaphrodite tubulous, five-cleft. *Female* ligulate, lax, two or three-toothed.

Stam. in the hermaphrodites: *Filaments* five, capillary, ſhort. *Anther* cylindrical, tubulous.

Pist. in the hermaphrodites: *Germ* obovate. *Style* filiform, the length of the ſtamens. *Stigmas* two, filiform. *Females* very like the hermaphrodites.

Per. none. *Calyx* unchanged.

Seeds to the hermaphrodites ſolitary, obovate. *Down* capillary—to the females, very like the others.

Rec. chaffy.

Obs. *The teeth in the corollets of the ray are ſcarcely to be ſeen.* G.

ESSENTIAL CHARACTER.

Cal. imbricate. *Corollets* of the ray undivided. *Down* ſimple. *Recept.* chaffy.

SPECIES.

1. Amellus Lychnitis. *Trailing Amellus.*
Lin. ſpec. 1276. *ſyſt.* 778. *Reich.* 3. 873. *mant.* 476. *hort. cliff.* 415. *Berg. cap.* 298. *Gærtn. fruct.* 2. 459.
Verbeſina aſteroides. *Lin. ſpec. edit.* 1. 902.
Chryſanthemum africanum, &c. *Breyn. prodr.* 3. *t.* 15. *f.* 2.
Leaves oppoſite, lanceolate, obtuſe, downy, peduncles one-flowered.

2. Amellus umbellatus. *Umbelled Amellus.*
Lin. ſpec. 1276. *Reich.* 3. 873. *Amæn. acad.* 5. *p.* 407. *Swartz obſ.* 310.
Solidago villoſa, &c. *Brown. jam.* 320. *n.* 1. *t.* 33. *f.* 2. (good.)
Leaves oppoſite, three-nerved, downy underneath, flowers umbelled.

DESCRIPTIONS, &c.

1. Riſes from two to three feet high, ſending out branches on every ſide, terminated by flower-ſtalks, each ſupporting one violet-coloured flower, with a yellow diſk, ſhaped like thoſe of the *Aſter,* and appearing in july or auguſt. [Stem round. Leaves quite entire, ſeſſile, roughiſh. Peduncles terminal,

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* Baſſi.

with one or two leaflets. On account of the length of the chaffs it cannot be aſſociated with *Cineraria aſteroides*; which however it reſembles much; but the leaves are oppoſite, except the upper ones, ſeſſile and cinereous. The down is villoſe with few rays*. It grows naturally at the Cape of Good Hope. Cultivated in 1768, by Mr. Miller†.

2. This has herbaceous, upright, ſimple, round, hairy ſtems, two feet high, or at moſt two feet and a half. Leaves at firſt radical (afterwards the ſtem is naked at bottom), petioled, wedge-ſhaped at the baſe, ſomewhat decurrent and ſerrate, nerved, ſmooth, dark green, white and ſoft beneath. Upper ſtem-leaves on ſhorter petioles, ſmaller. The ſtem towards the top is generally divided into three branches; each of which is ſubdivided into many ſmall flower-branches, forming a ſort of umbel. The umbellules have from three to eight flowers, with linear leaflets, from two to four, under them. Peduncles an inch long, each ſuſtaining one large yellow flower. Scales of the calyx lanceolate, membranaceous, hoary. Hermaphrodite corollets fewer in the diſk, funnel-ſhaped, with a reflex border: females in the ray numerous, linear, blunt, bifid. Seeds to all the flowers obconical. Down ſeſſile, ſimple, hairy. Receptacle hirſute, not briſtly. It has the habit of *Tuſſilago*, and would be of that genus, if the down were ſtipitate, and the receptacle naked‡. Linneus obſerves, that this is extremely different from the firſt ſpecies, but is connected with it by means of the briſtly chaffs between the florets. It is a native of Jamaica, in the cooler woods and mountains, and flowers there in ſummer.]

PROPAGATION AND CULTURE.

1. A perennial plant, eaſily propagated by cuttings, planted in the ſhade during any of the ſummer months, and duly watered. Theſe ſhould be taken up with balls of earth to their roots, and planted in pots, that they may be ſheltered in winter, either under a common frame, or in a green-houſe, where they may have plenty of air in mild weather, otherwiſe they will draw up weak and have little beauty.

2. May be propagated by ſeeds, which ſhould be ſown on a hot-bed in the ſpring; when the plants are fit to remove, two or three of them ſhould be planted in pots, then plunged into a hot-bed of tan, to bring them forward to get ripe ſeeds in the autumn, otherwiſe the plants will require a ſtove in winter.

AMELLUS. See *Calea* and *Erigeron*.

AMELLUS Virgilii. See *Aſter*.

AMERI. See *Indigofera*.

AMERICAN EARTHNUT. See *Arachis*.

[AMERIMNUM. (*Browne's name is Amerimnon, which is exactly the Greek word for any thing void of care, or in a ſtate of ſecurity; but what induced him to give this name to the ſhrub I cannot conjecture, unleſs it was the careleſs flow of the branches.*)

Lin. gen. Schreb. 1160. *Jacq. amer.* 199. *Swartz prodr.* 104. *Juſſ.* 363. *Brown. jam.* 299. *t.* 31. *f.* 2.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ* or *Leguminoſæ*.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tube bell-ſhaped, five-toothed; *teeth* ſharp.

COR. papilionaceous.
Standard with an oblong claw, roundiſh heart-ſhaped, expanding, convex.
Wings lanceolate, ſhorter than the ſtandard.
Keel ſhort.

STAM. *Filaments* ten, conjoined. *Anthers* roundiſh.

PIST. *Germ* pedicelled, oblong, compreſſed-leafy, varicoſe, with lateral veins, within woody, not gaping. *Cells* diſpoſed longitudinally within.

SEEDS ſolitary, kidney-ſhaped, thicker at the baſe, appendicled at the tip.

ESSENTIAL CHARACTER.

Cal. two-lipped. *Legume* compreſſed-leafy, two-valved, gaping. *Seeds* few, ſolitary.

SPECIES.

1. Amerimnum Brownei.
Swartz prodr. 104. *Brown. jam.* 288. *t.* 3. *f.* 3. *Jacqu. amer.* 199. *t.* 180. *f.* 58.
Unarmed: leaves petioled, alternate, ſubcordate-ovate; racemes compound, axillary and lateral.

2. Amerimnum Ebenus. *Prickly Amerimnum*, or *Jamaica Ebony*.
Swartz prodr. 104.
Pterocarpus ſeſſilifolius. *Lin.*
P. buxifolius. *Murray in ſyſt.* 642. *Ait. hort. kew.* 3. 7.
Aſpalathus Ebenus. *Lin. ſpec.* 1001. *Reich.* 3. 414. *ſyſt.* 647.
Brya. *Brown. jam.* 299. *t.* 31. *f.* 2.]
Spartium arboreſcens. *Mill. dict. n.* 10. *Sloan. jam.* 2. 30. *t.* 175. *f.* 1.
Spiny: leaves ſubſeſſile aggregate obovate-oblong, peduncles two-flowered.

DESCRIPTIONS, &c.

[1. This ſhrub riſes commonly to the height of ten feet, and ſupports itſelf upon other ſhrubs. It divides into long, round branches, covered with a blackiſh bark, and ſubdividing into a great number of alternate twigs. Leaves quite entire, ſharp, ſhining, two or three inches in length. The common peduncles ſuſtain about ten flowers; which are ſmall, white, and have a very ſweet ſcent: they come out in great abundance after the rainy ſeaſon. The ſtandard of the corolla after fecundation becomes erect, whereas before it ſpread out wide. Native of Carthagena, Jamaica, and Domingo*.

2. The ſecond ſort is very common in Jamaica, and ſeveral other places in the Weſt-Indies, where the wood is cut, and ſent to England under the title of Ebony, though it is not the true Ebony, which is a native of the eaſtern country, and is a plant of a very different genus. The wood of this American Ebony being of a fine greeniſh brown colour, and poliſhing very well, is much coveted by the inſtrument-makers; and is of a very hard durable nature. [Dr. Browne adds, that the ſmall dimenſions of this ſhrubby tree render it fit only for few purpoſes, the trunk ſeldom exceeding three or four inches in diameter: but that the ſlender branches, being very tough and flexile, are frequently uſed for riding ſwitches, and generally kept at all the wharfs about Kingſton, to ſcourge the refractory ſlaves.]

This tree has a pretty thick ſtem which riſes twelve or fourteen feet high, covered with a rugged brown bark, and divides into many ſpreading branches, which grow almoſt horizontal, and are armed with ſhort brown crooked ſpines. The leaves are ſmall, ſtiff, and wedge-ſhaped, coming out in cluſters, and ſit cloſe to the branches. The flowers come out upon ſlender foot-ſtalks from the ſide of the branches ſingly; they are of a bright yellow colour, and are ſucceeded by compreſſed moon-ſhaped pods, which incloſe one kidney-ſhaped ſeed.

PROPAGATION AND CULTURE.

2. The ſecond ſort is propagated by ſeeds, which muſt be procured from the countries of its natural growth, for the plants do not produce ſeeds in this climate. Theſe ſeeds ſhould be ſown in pots filled with light freſh earth early in the ſpring, and plunged into a good hot-bed of tanner's bark, or placed in tan under pots, as their covers are very hard. In about ſix weeks the plants will appear, when they muſt be carefully treated, being very tender while young; they muſt have freſh air admitted to them every day when the weather is warm, and ſhould be frequently refreſhed with water, when the earth in the pots appears dry. In about five or ſix weeks after the plants appear they will be fit to tranſplant, when they ſhould be carefully ſhaken out of the pots and ſeparated, planting each into a ſmall pot filled with light rich earth, and then plunged into the hot-bed again, being careful to ſhade them from the ſun

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* Linneus. † Hort. kew. ‡ Swartz.

* Jacqu. amer.

every day until they have taken root; after which time they muſt be treated in the ſame manner as other very tender exotic plants, by giving them air every day in warm weather, and watering them once in two or three days gently, and when the nights are cold, to cover the glaſſes. In this hot-bed the plants may remain till autumn, when they muſt be removed into the ſtove, and plunged into the bark-bed. Thoſe of them whoſe roots have filled the pots, ſhould be carefully ſhifted into pots one ſize larger before they are plunged; but as theſe plants are not of quick growth while young, they do not require to be often ſhifted out of the pots. During the winter ſeaſon theſe plants muſt be kept warm, eſpecially the firſt year, and muſt have but little water, and in cold weather it muſt be given to them in ſmall quantities; and if their leaves ſhould contract filth, they muſt be waſhed with a ſponge to clean them, otherwiſe the plants will not thrive. As theſe plants are very tender when young, they will not live in the open air in this country, even in the warmeſt part of the year; therefore they muſt be conſtantly kept in the ſtove, and ſhould be kept plunged in the bark-bed, obſerving in the ſummer ſeaſon, when the weather is warm, to admit a large ſhare of freſh air to the plants; but when they have obtained ſtrength, they may be expoſed for three months in a warm ſituation in the ſummer.

AMETHYSTEA. (*From the amethyſtine colour of the flowers.*)
Lin. gen. n. 34. *Reich.* 37. *Schreb.* 45. *Gærtn. t.* 66. *Juſſ.* 111.
Claſſ. 2. 1. Diandria Monogynia.
Nat. order of *Verticillatæ*. *Labiatæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tube bell-ſhaped, angular, ſemiquinquefid, ſubequal, acuminate, permanent.
Cor. one-petalled, ringent, little longer than the calyx: *border* five-parted, ſubequal; *upper lip* erect, rounded, concave, two-parted, gaping; *lower* three-parted, the ſides rounded, erect, ſhorter; the middle quite entire, concave, the length of the upper lip.
Stam. *Filaments* filiform, approximating, under the upper lip, and longer than it: *anthers* ſimple, roundiſh.
Pist. *Germ* quadrifid: *ſtyle* ſize of the ſtamens: *ſtigmas* two, acute.
Per. none; but the calyx becomes more bell-ſhaped and ſpreading.
Seeds four, ſhorter than the calyx, obtuſe, angular within.

ESSENTIAL CHARACTER.

Cor. quinquefid; the lower diviſion more ſpreading. *Stam.* approximated. *Cal.* ſubcampanulate. *Seeds* four, gibbous.

SPECIES.

1. Amethyſtea cærulea.
Lin. ſpec. 30. *ſyſt.* 67. *Reich.* 56. *hort. upſ.* 9. *amæn.* 386. *Gærtn. fruct.* 1. 315.
Amethyſtina. *Amm. ruth.* 4. *Hall. in comm. gott.* 1751. *t.* 10. *act. upſ.* 1742. *p.* 51. *f.* 1.

DESCRIPTION, &c.

It is an annual plant with an upright ſtalk, which riſes about a foot high; toward the top it puts out two or three ſmall lateral branches, with ſmall trifid leaves, ſawed on their edges, of a very dark green colour; at the extremity of the branches the flowers are produced in ſmall umbels; they are of a fine blue colour, as are alſo the upper part of the branches, and the leaves immediately under the umbel; ſo that although the flowers are ſmall, yet from their colour, with that of the upper part of the ſtalks, the plants make a pretty appearance, during their continuance in flower. If the ſeeds of this plant are ſown in the autumn, or are permitted to ſcatter, the plants will come up early the following ſpring, and theſe will flower the beginning of june; but thoſe which are ſown in the ſpring, will not flower till july; and in dry ſeaſons, the ſeeds will remain in the ground a whole year, ſo that the beſt time for ſowing them is in the autumn.

This plant is a native of the mountains of Siberia, from whence the ſeeds were ſent to the imperial gardens at Peterſburgh, where the plants flouriſhed and perfected their ſeeds, part of which were ſent me by the late Dr. Ammann, which grew in 1759, in the Chelſea garden, where the plants annually produce ſeeds.

PROPAGATION AND CULTURE.

When the plants come up, they will require no other care but to keep them clean from weeds, and where they are too cloſe, to thin them; for they do not thrive when tranſplanted, therefore the ſeeds ſhould be ſown where they are to remain.

AMMANNIA. (*Named by Houſtoun in honour of John Ammann, Profeſſor of Botany at Peterſburgh. Paul Ammann was Profeſſor of Medicine at Leipſic.*)
Reliqu. Houſt. t. 5. *Lin. gen. n.* 155. *Reich.* 163. *Schreb.* 206. *Gærtn. t.* 112. *Juſſ.* 333.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Calycanthemæ*. *Salicariæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* bell-ſhaped, oblong, erect, with eight ſtreaks, and folds, quadrangular, eight-toothed: teeth alternate bent in, permanent.
Cor. none, or four-petalled: petals vertically ovate, ſpreading, inſerted into the calyx.
Stam. *Filaments* (four or eight *G.*) briſtly, the length of the calyx, into which they are inſerted: *anthers* twin.
Pist. *Germ* ſubovate, large, ſuperior: *ſtyle* ſimple, very ſhort: *ſtigma* headed.
Per. a roundiſh, four-celled *capſule*, (Berry, *G.*) covered with the calyx.
Seeds numerous, ſmall.
Obs. *The petals are often deficient, but ſometimes occur in the ſame ſpecies.*
A. baccifera *has four-toothed calyxes.*

ESSENTIAL CHARACTER.

Cor. four-petalled, inſerted into the calyx. *Cal.* one-leafed, plaited, eight-toothed, inferior. *Capſ.* four-celled.

SPECIES.

1. Ammannia latifolia. *Broad-leaved Ammannia.*
Lin. ſpec. 174. *ſyſt.* 162. *Reich.* 339. *mant.* 331. *hort. cliff.* 344. *upſ.* 30. *Amm. herb.* 344. *Gærtn. fruct.* 2. 142.
Iſnardia. *Brown. jam.* 148.
Aparines. *Sloan. jam.* 1. *t.* 7. *f.* 4.
Leaves half-ſtem-claſping, ſtalk ſquare, branches erect.

2. Ammannia ramoſior. *Branching Ammannia.*
Lin. ſpec. 175. *ſyſt.* 162. *Reich.* 340. *mant.* 332. *Jungh. ic. cent.* 1. *f.* 7.
Ludvigia. *Clayt. virg.* 774.
Leaves half-ſtem-claſping, ſtalk ſquare, branches very ſpreading.

3. Ammannia baccifera. *Berry-bearing Ammannia.*
Lin. ſpec. 175. *ſyſt.* 162. *Reich.* 340. *Burm. ind. t.* 15. *f.* 3.
Cornelia verticillata. *Ard. ſpec.* 2. *p.* 9. *t.* 1.
Leaves ſub-petiolate, capſules larger than the calyx, and coloured.

[4. Ammannia octandra. *Eight-ſtamened Ammannia.*
Lin. ſuppl. p. 127. *ſyſt.* 162.
Flowers petaloid and eight-ſtamened.

5. Ammannia pinnatifida. *Pinnatifid-leaved Ammannia.*
Lin. ſuppl. p. 127. *ſyſt.* 162.
Stalks procumbent, rooting, compreſſed, leaves linear, pinnatifid.

6. Ammannia debilis. *Cluſter-flowered Ammannia.*
Ait. hort. kew. 1. 163.
Leaves lanceolate attenuated at the baſe, ſtem branching, flowers in bundles from the axils, capſules two-celled.

7. Ammannia ſanguinolenta.
Swartz prodr. 33.
Leaves half-ſtem-claſping, cordate at the baſe, flowers ſubpedunculed, eight-ſtamened, petal-bearing.

DESCRIPTIONS, &c.

1. Root annual. Stem with obtuſe angles, the alternate ſides convex. Flowers verticillate, three on each ſide, ſeſſile. The alternate teeth of the calyx convergent. Style ſhorter than the germ. Petals four, white ones, or none*.] It grows about a foot and half high, with an upright ſquare ſtalk, and long narrow leaves in form of a triangle; theſe grow the whole length of the ſtem; they are of a pale green, and the conſiſtence of Purſlane leaves; the ſtalks are alſo ſucculent, and of the ſame colour with thoſe of that plant. The flowers come out in whorls, at the joints where the leaves adhere, in cluſters. This grows naturally in moiſt places in Jamaica, from whence Dr. Houſtoun (about 1731) ſent the ſeeds to England, which ſucceeded at Chelſea, and have thence been diſtributed to moſt of the botanic gardens in Europe.

[2. Stem with acute angles, the ſides flat; branches ſpreading. Leaves lanceolate-linear, dilated at the baſe, reddiſh. Flowers lateral, axillary, five on each ſide, ſubpetiolate. Calyx with eight ſpreading teeth. Style longer than the germ. Petals four, purple, roundiſh, ſpreading. Filaments purple.]

This is an annual plant, growing naturally in Virginia and Carolina. It riſes about a foot high, with red ſucculent ſtalks, putting out ſide branches, which are oppoſite, round and ſimple. The flowers are produced ſingle from the axils on the lower part of the branches, but toward the top they are in cluſters; they have little beauty, and therefore are only preſerved in botanic gardens for the ſake of variety. [Cultivated 1759 †.

3. This is a tender low plant, erect, without branches. Stem reddiſh, round. Leaves oppoſite, lanceolate, quite entire. Flowers in whorls, many at the axils of the leaves, ſitting each on its proper peduncle, and very ſmall. Capſule red, larger than the calyx ‡.] It is a native of China, and is now naturalized in Italy. Having but little beauty, it is rarely preſerved in gardens.

4. Stem erect, lofty, ſmooth, branched. Leaves oppoſite, ſeſſile, ſtem-claſping, linear-lanceolate, ſmooth, quite entire. Peduncles axillary, very ſhort, three or one-flowered. Petals blood-red §. Found by Koenig in the Eaſt-Indies.

5. Leaves ſparſe, approximating, the ſmaller pinnas filiform. Flowers axillary, ſmall, one or more. Corolla red. Capſules four-cornered ‖. Found by Sonnerat in the iſle of Java.

6. Annual. Calyx angular. Petals pale purple. Filaments ſhorter than the calyx, and inſerted at the bottom of it. Anthers ovate, yellow. Capſule ovate, two-celled. Native of the Eaſt-Indies. Introduced in 1778, by Sir Joſeph Banks, Baronet. It flowers in july and auguſt ¶.

7. Native of Jamaica and Domingo **.

PROPAGATION AND CULTURE.

1—3. They muſt be raiſed from ſeeds on a hot-bed in the ſpring, and afterwards removed to another hot-bed to bring them forward. When the plants have acquired ſtrength, they ſhould be tranſplanted into pots filled with rich light earth, and placed under a frame, obſerving to ſhade them till they have taken freſh root; then they ſhould be placed in a glaſs caſe or ſtove to ripen their ſeeds, for the plants are too tender to thrive in the open air in this country, unleſs the ſummer ſhould prove very warm.

The ſecond ſort, however, will perfect its ſeeds in the open air, if the plants be raiſed on a hot-bed in the ſpring, and planted in a warm border.

The other ſpecies (4—7) are ſtove plants.

AMMI. (Ἄμμι. *Gr. Dioſc.* from ἄμμος, *ſand.*)
Lin. gen. n. 334. *Reich.* 365. *Schreb.* 467. *Gærtn. t.* 22. *Tournef.* 159. *Juſſ.* 224.
Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ* or *Umbelliferæ*.

GENERIC CHARACTER.

CAL. *Univerſal umbel* manifold, frequently of fifty rays: *partial* ſhort, crowded. *Univerſal involucre* of many linear, pinnatifid, acute leaflets, ſcarcely the length of the umbel: *partial* many-leaved; *leaflets* linear, acute, ſimple, ſhorter than its umbellet. *Proper perianth* ſcarcely apparent.
COR. *univerſal* uniform, all the floſcules fertile: *proper* of five inflex, heart-ſhaped petals, of unequal ſize in the ray: almoſt in the middle of the diſk.
STAM. *Filaments* capillary: *anthers* roundiſh.
PIST. *Germ* inferior: *ſtyles* reflex: *ſtigmas* obtuſe.
PER. none. Fruit roundiſh, ſmooth, ſmall, ſtreaked, bipartile.
SEEDS two, convex and ſtreaked on one ſide: flat on the other.
OBS. *In* A. copticum: *the fruit is muricate.*

ESSENTIAL CHARACTER.

Invol. pinnatifid. *Cor.* radiate: all hermaphrodite; *Fruit* ſmooth.

SPECIES.

1. Ammi majus. *Common Biſhops-weed.*
Lin. ſpec. 349. *Reich.* 670. *Gærtn. fruct.* 1. 98. *Villars dauph.* 2. 591. *Mill. fig.* 25. *Plenck. ic. t.* 181. *Blackw. t.* 447. *Raii hiſt.* 455. 1. *Ger.* 881. *f.* 1. *emac.* 1036. 1. *Park. theat.* 912. 1. *Dod. pempt.* 415. *Riv. pent. t.* 85. (Ammioſelinon.)
Lower leaves pinnate, lanceolate, ſerrate; upper ones multifid, linear.

[2. Ammi copticum.
Lin. mant. 56. *ſyſt.* 277. *Reich.* 670. *Jacq. hort.* 2. *t.* 196.
Leaves ſuper-decompound, linear; ſeeds muricate.]

3. Ammi glaucifolium. *Perennial Biſhops-weed.*
Lin. ſpec. 349. *Reich.* 670. *Villars dauph.* 2. 592. *Mor. hiſt.* 3. 295. 2.
Daucus petræus glaucifolius. *Bauh. hiſt.* 3. 58.
Subdiviſions of all the leaves lanceolate.

DESCRIPTIONS, &c.

1. The firſt ſort is annual [and grows in vineyards and fields in the ſouthern parts of Europe, and in the eaſt. It was cultivated by Gerard in 1597 *.] Of this there is a variety, which is mentioned by Bauhin as a diſtinct ſpecies, under the title of *Ammi majus foliis plurimum inciſis, et nonnihil criſpis*: but I have frequently had this variety ariſe from the ſeeds of the former.

[2. Stature of Dill; green. Stem ſmooth, ſtreaked. Leaves tripinnate, oblong, ſmooth, linear. Umbels with ten rays, not large. Involucre five-leaved, linear, and the length of the rays; partial involucre ſeven-leaved, acute, linear, undivided; the four interior ſhorter; the reſt the length of the rays. Corollas white, equal, quinquangular. Fruit ovate, muricate on every ſide. Seeds ſtreaked with five ſwellings, rather gibbous than broad: aromatic †. Found in Egypt by Forſkahl. Annual. Introduced in 1773, by John Earl of Bute ‡.

3. This has the appearance of being only a variety of the firſt ſpecies. It is annual, as that is. The ſtem is from one to two feet high, hard, ſmooth, ſcarcely grooved, with ſeveral upright branches at top, each ſupported by a ſmall ſeſſile leaf. The lower leaves are glaucous, as in the common ſort, but tripinnate, or rather triternate; the leaflets oblong and linear, with only one deep tooth or inciſion on the middle of each ſide, but this is ſometimes wanting: the ſtem with its diviſions, the involucres and umbels differ little from the firſt, the plant is only more glaucous, the laſt diviſions of the leaves finer and more diſtinct, and the white point which terminates them more apparent and ſharper. It is a native of the ſouth of France. Probably the ſame with a ſpecies deſcribed by Guettard (Stamp. 2. 433.) But it does not ſeem to be the plant of John Bauhin and Moriſon §. As to Miller, he deſcribes it as] a perennial plant, which is preſerved in botanic gardens for variety; but having little beauty, is rarely admitted into other gardens.

PROPAGATION AND CULTURE.

1. This plant is propagated by ſeeds, which ſhould be ſown in autumn in the place where they

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* Linneus. † Hort. kew. ‡ Linneus. § Ibid.
‖ Linneus. ¶ Hort. kew. ** Swartz.

* Hort. kew. † Lin. mant. ‡ Hort. kew. § Vill. dauph.

are to remain: and in the ſpring, the ground ſhould be hoed to cut up the weeds, and alſo to thin the plants in the ſame manner as is practiſed for Carrots, leaving them four or five inches aſunder: or if the ground is good where they grow, they muſt be left at leaſt ſix inches, for they will grow large and cover the ground: after this they will require no farther care, but to keep them clean from weeds. In june they will flower, and their ſeeds will ripen in auguſt, which ſhould be gathered as they ripen, otherwiſe they will ſoon ſcatter. Theſe ſeeds are uſed in medicine, and may be had in plenty with this management; for this plant will grow in any ſituation that is open, but thrives beſt on light ſandy land. When the ſeeds are ſown in the ſpring, they ſeldom come up the ſame year; and if they ſhould, thoſe plants will be weak, and produce few ſeeds.

3. It will grow in any open ſituation, is very hardy, and thrives beſt on a moiſt ſoil.

Ammi. See *Bunium. Cicuta. Seſeli. Siſon* and *Sium.*

Ammoides. See *Seſeli.*

AMOMUM. (Αμωμον Gr. from the Arabic.)
Lin. gen. n. 2. *Reich.* 2. *Schreb.* 3. *Muſ. cliff.* §. 2. 5. *Swartz obſ.* 1. *Juſſ.* 63. Zinziber *Gærtn. t.* 12.
Nat. order of *Scitamineæ. Cannæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, cylindraceous, unequally trifid.

Cor. monopetalous, funnel-ſhaped: *tube* cylindraceous; *border* three-parted, parts oblong, ſpreading. *Nectary* two-leaved or two-lipped: lower lip inſerted under the upper ſegment of the corolla, ſpreading, almoſt erect, entire or three-lobed.

Stam. *Filament* none, except the upper lip of the nectary, ſmaller than the lower and oppoſite to it, acuminate or three-lobed at the tip; along the middle or at the end of which grows longitudinally a large oblong *anther*, geminate, or divided by a longitudinal furrow into two, which are one-valved.

Pist. *Germ* inferior, oblong. *Style* filiform, drawn through the future of the anther. *Stigma* turbinate, obtuſe, ciliate.

Per. *Capſule* fleſhy, ovate, three-cornered, three-celled, three-valved.

Seeds ſeveral, covered with a ſort of berried aril.

Obs. *The infloreſcence is in a ſpike on a diſtinct ſcape.*

ESSENTIAL CHARACTER.

Cal. trifid, unequal, cylindric. *Cor.* three-parted, unequal, ſpreading. *Nect.* two-lipped, almoſt erect.

SPECIES.

1. Amomum Zinziber. *Narrow-leaved Ginger.*
Lin. ſpec. 1. *ſyſt.* 50. *Reich.* 2. *hort. cliff.* 3. *upſ.* 1. *fl. zeyl.* 3. *mat. med.* 1. *Swartz obſ.* 2. *Lour. coch.* 2. *Jacq. hort.* 1. *t.* 75. *Plenck. ic. t.* 1. *Rumph. amb.* 5. *t.* 66. *f.* 1. *Rheed. mal.* 11. *t.* 12.
Scape middle-ſized, ſpike ovate, leaves linear-lanceolate.

2. Amomum Zerumbet. *Broad-leaved Ginger, or Zerumbet.*
Lin. ſpec. 1. *ſyſt.* 50. *Reich.* 3. *Lour. coch.* 2. *Mill. fig. t.* 26. *Ehret. pict. t.* 14. *f.* 1. *Murray in comm. gött.* 1775. *t.* 2. *Jacq. hort.* 3. *t.* 54. *Plenck. ic. t.* 2. *Herm. lugdb. t.* 637. *Rumph. amb.* 5. *t.* 64. *f.* 1. *Rheed. mal.* 11. *t.* 13.
Scape naked; ſpike oblong, obtuſe.

[3. Amomum ſylveſtre. *Great wild Ginger.*
Swartz prodr. 11. *Sloan. jam.* 1. 165. *t.* 105. *f.* 2. *Brown. jam.* 113. 2.
Scape naked, ſpike elongate with oblong ventricoſe bractes, leaves broad-lanceolate.

4. Amomum Mioga. *Japaneſe Ginger.*
Thunb. jap. 14. *Kæmpf. amæn.* 5. 826. *ic. ſelect. t.* 1.
Scape very ſhort, capſule ovate, leaves enſiform acute.]

5. Amomum Cardamomum. *Cardamom.*
Lin. ſpec. 2. *Reich.* 3. *mat. med.* 2. *fl. zeyl.* 4. *Sonn. ind.* 2. 240. *t.* 136. *Blackw. t.* 385. *f.* 1, 2, 3. *and t.* 584, 585. *Rumph. amb.* 5. *t.* 65. *f.* 1. *Rheed. mal.* 11. *t.* 6. *Woodv.* 356. *t.* 131. *Plenck. ic. t.* 3.
Scape very ſimple and ſhort, bractes alternate, looſe.

[6. Amomum villoſum.
Loureiro cochinch. 4.
Globba criſpa. *Rumph. amb. l.* 11. *c.* 30. *t.* 61.
Scape ſhort reclining, bractes linear, fruit villoſe.

7. Amomum medium.
Lour. cochinch. 4.
Spike cauline, branched; fruit oblong, ſtreaked, valveleſs.

8. Amomum globoſum.
Lour. cochinch. 4.
Spike cauline, branched; fruit globoſe, with an even ſurface.

9. Amomum hirſutum.
Lour. cochinch. 5.
Spike cauline, ſimple, reclining; fruit roundiſh, hirſute.

10. Amomum Granum Paradiſi. *Grains of Paradiſe.*
Lin. ſpec. 2. *ſyſt.* 50. *Reich.* 1. 3. *mat. med.* 3. *Blackw. herb. t.* 385. *f.* 4. *Plenck. ic. t.* 112. *Rheed. mal.* 11. *t.* 6. (Elettari.)
Scape branching, very ſhort.]

11. Amomum Galanga. *Galangale.*
Lour. coch. 5.
Maranta Galanga. *Lin. ſpec.* 3. *Reich.* 1. 4. *mat. med.* 35. *Mill. dict. n.* 2.
Galanga. *Rumph. amb.* 5. 143. *t.* 63.
Spike cauline, erect; ſpathes ſubtriflorous; capſule three-cornered-ovate, ſmooth.

[12. Amomum arboreum.
Lour. coch. 7.
Stem arboreous, fruit calycine.

DESCRIPTIONS, &c.

1. *Ginger.* Root creeping by palmate, compreſſed, fleſhy tubers, with age becoming fibroſe. Culm annual, two feet high, quite ſingle, ſolid, upright. Leaves half a foot in length, ſmooth, alternate, on ſhort, embracing petioles. Scape ſeparate, eight inches high, thick, round, ſtraight, ſcaly, uſually without leaves. Spike upright, compoſed of large, ovate, ſubacuminate, coloured ſcales, half cloſing the flowers. Calyx a ſmall, double ſpathe. Corolla yellowiſh green, with a long, ſlender tube; the ſegments of the border conical, and nearly equal. Nectary reddiſh brown, ovate, quite entire, petal-ſhaped, winged on each ſide at the baſe, ſomewhat ſhorter than the corolla, faſtened to it below the anterior fiſſure of the ſegments. Filament (upper lip of the nectary) filiform, placed on the corolla, and ſhorter than it. Anther ovate, large, cloven longitudinally, embracing the filiform ſtyle; ſtigma cylindraceous, ciliate at the tip. Capſule ſmooth, with many oblong ſeeds in it *.]

It is a native of the Eaſt-Indies, and other countries of Aſia; and is largely cultivated both there and in the Weſt-Indies. The dried roots furniſh a conſiderable export from our Weſt-India iſlands. Theſe roots, it is well known, are of great uſe both in the kitchen and in medicine; and preſerved green as a ſweetmeat, are preferable to every other ſort. [It flowers with us in ſeptember; and was cultivated in 1731, by Mr. Miller †.

The root of Ginger appears to be much leſs liable to heat the conſtitution, than might be expected from the penetrating warmth and pungency of its taſte. It gives out the whole of its virtue to rectified ſpirit, and great part of it to water. The ſpirituous tincture inſpiſſated, yields a fiery extract, ſmelling moderately of the ginger. A ſyrup made from an infuſion of three or four ounces of the root in three pints of boiling water, is kept in the ſhops. The caſes in which ginger is more immediately serviceable, are flatulent cholics, debility and laxity of the ſyſtem, and in torpid and phlegmatic conſtitutions, to excite a briſker action of the veſſels.

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* Loureiro.

† Hort. kew.

The manner of preparing it for uſe, in the Weſt Indies, is as follows. When the ſtalks are wholly withered, the roots are fit to take up; which is generally done in january and february. Being picked and cleared, they are gradually ſcalded, in boiling water: after this they are ſpread, and expoſed to the ſun till the whole is ſufficiently cured; they are then divided into parcels of about one hundred weight each, and put into bags for the market; this is called black ginger. The white ginger is never ſcalded, but every root is picked, waſhed, and ſcraped ſeparately, and then dried in the ſun and air.

To preſerve this root in ſyrup, it is dug when the ſhoots do not exceed five or ſix inches in height. Being picked and waſhed, they are ſcalded till tender: then put into cold water, and ſcraped and peeled gradually: this operation may laſt three or four days, during which time the roots are conſtantly kept in water, frequently ſhifted. They are then put into jars, and covered with a thin ſyrup, which after two or three days is ſhifted, and a richer put on; this is ſometimes again removed; and even a fourth put on; but it ſeldom requires more than three ſyrups. The ſhifted ſyrups are diluted, and fermented into a ſmall pleaſant liquor, called cool drink*.

2. *Zerumbet* or *broad-leaved Ginger* has the tubers of the root much larger, round, twiſted, thick, branched, horizontal, pale-coloured, with but little ſmell, and a bitteriſh, not an ardent flavour like true Ginger. Culm four feet high, perennial, ſtraight, quite ſimple, round and ſolid like the foregoing ſpecies. Leaves lanceolate, large, ſmooth, petioled, embracing, aſcending obliquely. Scape a foot high, diſtinct, thick, ſcaly, red. Spike large, with rounded, cloſe, one-flowered, red ſcales. Calyx a ſingle acute ſpathe. Corolla pale, with a long tube; the upper ſegment of the border acute, the two lower ones ſubovate. Nectary of the ſame colour, petal-ſhaped, very blunt, bifid, faſtened to the throat of the corolla. Filament flat, ſubulate, bent in, adhering to the hinder ſegment of the corolla, and nearly equal to it. Anther oblong, faſtened to the middle of the filament †.

Native of the Eaſt Indies, Cochinchina, &c. Alſo in Otaheite and the other Society iſles.]

With us it flowers from ſeptember to november; when the ſtalks periſh in the ſame manner as the true Ginger.

[It was cultivated in 1690, in the royal garden ar Hampton Court ‡.

This is uſed externally in the eaſt, in cataplaſms and fomentations; but not as ſpice or medicine internally; though Garcias affirms that it makes a better preſerve with ſugar than the other.

3. This differs in nothing from the preceding, only the ſtalk riſes eight or nine feet high, having much larger leaves, and inſtead of the flowers and fruits being on the end of the ſame ſtalk, they are on another about three feet high, immediately ſpringing from the root, like our *Arums* or *Orobanches*, being jointed, and having each internode covered with a dry purpliſh membrane, coming from the under joint, and on its top, a ſpike of flowers four inches long, exactly like the former, only larger §.

Native of Jamaica, where it is frequent enough in the woods. Browne ſays, that its common height is five or ſix feet, and that the flower-ſtalks ſeldom riſe above one or two feet from the ground.

The root is warm, and ſtimulates very gently; it may be properly adminiſtred as a ſtomachic and alexipharmic ‖.

4. Root fuſiform, fibroſe, aromatic. Stem weak, the whole covered with long decurrent ſheaths of leaves, a foot high and more. Leaves alternate, ſharp but not cuſped, ſmooth, many nerved, ſpreading, a ſpan long. Scape diſtinct, very ſhort. Flowers ſeſſile, in bundles, rolled up in imbricate ſcales; alternately embracing the ſtalk, oblong, acute, ſtreaked, concave, ſmooth, white, an inch in length, the inner ones ſmaller. Perianth none, but the ſcales on the ſpathe. Border of the corolla four-parted; the three outer parts regular, equal, oblong, acute, concave, white: the inmoſt, unlike the others, ovate, very concave, obtuſe, with two ears at bottom, yellow, ſurround the parts of fructification, a little ſhorter than the reſt. Nectary none, except the inner ſegment of the corolla. Filament ſingle, faſtened longitudinally to the tube of the corolla, erect, extended beyond the anthers, greeniſh white, the length of the corolla. Anthers two, faſtened to the filament longitudinally, oblong, twin, yellow. Style riſing through a fiſſure between the anthers, the length of the filament. Stigma thickened, cylindric, white; the mouth with a hole punched in it, and lacerated. Capſule ſubovate, obtuſe. Seeds very many, minute, annexed to the middle pyramid. Within the tube of the corolla, at the baſe of the ſtamen, are two little whitiſh points, thickened at the baſe, hollow, and very ſhort.—It approaches very near to A. Cardamomum of Java, in having the ſpike of flowers diſtinct from the leaves, and ovate capſules: but it differs in having the ſcape more faſcicled and ſhorter, not oblong and imbricate; the leaves enſiform, and merely acute, whereas in that they are obovate-elliptic, with a long briſtle at the tip; they are alſo much ſhorter, only about a ſpan in length, but in the other they are frequently four feet long.——In the leaves it bears a great reſemblance to A. Zinziber and Zerumbet; but the ſpike of flowers is radical, with ſcarcely any ſcape.—It is a native of Japan, where it flowers in ſeptember *.]

5. The Cardamom has thick fleſhy roots, reſembling thoſe of the large Flag Iris; in the ſpring theſe ſend forth many green reed-like ſtalks, which riſe to the height of ſeven or eight feet, garniſhed with very long narrow leaves, ſet alternately, cloſely embracing them at their baſe. The ſtalks decay entirely in autumn, and new ones ariſe from the roots in the ſpring, but it has not produced any flowers as yet in England, though the roots thrive and increaſe greatly where they are properly managed. [Cardamom is an object of conſiderable commerce in Malabar. The Indians themſelves make great uſe of it, they mix the ſeeds with their Betel, thinking that it facilitates digeſtion.

The leſſer Cardamom, which in all probability will prove to be a different ſpecies from this, affords an elegant and uſeful aromatic; very warm, yet not fiery, or ſubject, like pepper, to produce immoderate heat. The ſeeds which are the part uſed in medicine, give out their warmth to watery as well as to ſpirituous menſtrua, but much more powerfully to the latter. The tincture of Cardamoms is occaſionally made uſe of as a pleaſant, warm cordial, as well as for flavouring other medicines.

6. *Root* horizontal, ſomewhat woody, creeping; with very long, thick, ſtrong ſmelling fibres. *Culm* perennial, quite ſimple, weak but upright, round, ſix feet high. *Leaves* lanceolate, nerveleſs, ſmooth, petioled, ſtem-claſping, reflex. *Scape* four inches high, ſlender. *Spike* ſubovate, with linear, imbricate bractes. *Corolla* pale, with a petal-ſhaped, ſhort, blunt nectary. *Pericarp* ſubglobular, half an inch long, rufous, three-celled but valveleſs, with many thick, villoſe hairs on the outſide. *Seeds* angular, brown, faſtened by interjacent little membranes. The ſmell of the whole plant is aromatic, mild, with a ſmall degree of ſharpneſs. Taſte of the fruit, when freſh, ſweetiſh and pleaſant. Native of the mountains of Cochinchina. The ſeeds are in great requeſt among the Chineſe merchants; being much uſed in medicine in China †.

7. *Culm* perennial, ſtraight, ſingle, eight feet high, thick and round. *Leaves* large, oblong, ſharpiſh, ſmooth, with embracing petioles. *Spike* long, terminating. *Pericarp* obtuſe, ſubcolumnar, thick, coriaceous, juiceleſs. *Seeds* angular, ſeparated by little

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* Browne. † Loureiro. ‡ Hort. kew. § Sloane. ‖ Browne.

* Thunberg. † Loureiro.

membranes, brown, ſtrong-ſcented, biting to the taſte. Native of China, in the province *Yunan*, to the weſt of Canton. The ſeeds are uſed in agues; for culinary purpoſes; and to increaſe the ſtrength of any odours whatever ‡.

Loureiro ſuſpects this to be the plant deſcribed and figured by Bontius (Jav. l. 6. c. 37. p. 127.) under the name of *Cardamomum majus*: and affirms that the form of the fruit agrees with *Card. medium*, in Matthiolus, l. 1. c. 5. p. 28.

8. *Root* tubercled, creeping, ſhort. *Culm* perennial, quite ſingle, round, erect, four feet in height. *Leaves* lanceolate, large, ſmooth, nerveleſs, petioled, ſtem-claſping, erect. *Spike* ovate-oblong, erect, with oblique branches; and partial ſpathes, containing about four flowers. *Perianth* tubuloſe, three or four-toothed. *Corolla* reddiſh white; the ſegments oblong-ovate, nearly equal. *Nectary* waved, rounded at the tip, emarginate, petal-ſhaped, ſtanding on the corolla. *Filament* flattiſh, long. *Anther* oblong-ovate, with a vertical notch embracing the *ſtyle*; which is filiform, and longer than the anther. *Stigma* concave, ciliate. *Pericarp* white, valveleſs; the cover thin and brittle. *Seeds* angular, brown, ſtrong-ſmelling, and ſomewhat biting to the taſte.—Native of the mountains of China and Cochinchina; and uſed medicinally in both countries, in diſorders of the bowels, &c. §.

9. *Root* horizontal, branched, creeping, *Culm* perennial, quite ſingle, erect, round, hirſute, ſix feet high. *Leaves* lanceolate, large, erect, with embracing petioles. *Spike* linear; with two-flowered peduncles and ſpathes. *Perianth* inferior, tubuloſe, four-cleft; with equal, rounded clefts. Segments of the corolla blunt, nearly equal. *Nectary* petal-ſhaped, very broad, obtuſe, curved inwards, four-cleft, with the two lateral ſegments ſhorter, rounded. *Fruit* roundiſh-three-cornered, very hirſute, valveleſs. *Seeds* angular. The corolla is variegated with white, red, and yellow. The ſmell and taſte are very weak. Native of Cochinchina, in woods ‖.

10. As yet we know very little about this plant. It is a native of Guinea, and of the iſlands of Ceylon, and Madagaſcar. It was introduced in 1785 by Lee and Kennedy ¶.

A. Granum Paradiſi is uſed for the ſame purpoſe as Cardamom, and in the ſame manner: it is however not ſo agreeable, and more nearly approaches to the fiery pungency of pepper.

11. *Galangale* has a horizontal, creeping root, compoſed of roundiſh, thick, twiſted, knotty tubers. *Culm* perennial, entirely ſimple, upright, ſmooth, ſix feet high. *Leaves* ovate-lanceolate, nerveleſs, ſmooth, upright, large, on embracing petioles. *Spike* oblong. *Perianth* inferior, tubuloſe, bluntly trifid. *Corolla* ſuperior, yellowiſh white; ſegments oblong-ovate, concave, nearly equal. *Nectary* petal-ſhaped, roundiſh, emarginate, nearly equal to the ſegments of the corolla. *Filament* linear, thick, grooved longitudinally, longer than the corolla. *Anther* oblong, bifid, embracing a ſtyle longer than itſelf. *Stigma* thickiſh, emarginate. *Seeds* roundiſh. The ſmell of the whole plant is aromatic; and it has a biting taſte.

Linneus has made the Galangale a ſpecies of *Maranta*; but the corolla is not ringent, nor five-cleft, nor has it two ſegments ſpreading, but all the ſegments, which are three in number, are nearly the ſame in ſize and figure. Rumphius indeed ſays that the flower has four petals; but what he calls the upright petal like a ſtandard, is the petal-ſhaped nectary, which however is not ſo much attenuated towards the baſe as it is repreſented in Rumphius's figure: Galangale therefore is a ſpecies of Amomum, as Bergius alſo has acknowledged it to be. It is a native of China and Cochinchina, and is cultivated in both countries. The root and ſeeds are both uſed there medicinally *. The root, as imported to us, has no very grateful ſmell, and an unpleaſant, bitteriſh, hot taſte. It was formerly in common uſe as a warm ſtomachic bitter, and generally made an ingredient in bitter infuſions; but is now almoſt wholly laid aſide, on account of its unpleaſant flavour. The ſpirituous extract is exceſſively fiery; and the watery extract is very hot and pungent. The eſſential oil has little ſmell, and no great pungency. The pungent matter therefore ſeems to be of the ſame nature with that of pepper; reſiding, not in the volatile oil, but in a more fixed matter †. In the eaſt, they uſe the freſh root in preſerving fiſh and meat, and to flavour the ſpirit which they draw from rice and ſugar. For this purpoſe, they bruiſe it groſsly, and make it up into balls with an equal quantity of rice. Theſe balls are hung up for a long time in a chimney, that they may imbibe the ſoot. A quantity of this ſubſtance is broken into the liquor prepared by boiling for making ſpirit, and is left in it all night; the next day the liquor is found in a ſtate of fermentation, and is put into the ſtill; and they procure a ſpirit from this mixture, not inferior to that which is drawn from the Coco Palm, and probably much more wholeſome.

The ſame root is uſually given in the ſhops for Galangale and for Zedoary ‡.

12. This is a tree about ten feet in height, with many twiſted, ſpreading branches. *Leaves* ovate-oblong, acuminate, quite entire, ſmall, tomentoſe beneath, all turned towards one ſide, on ſheathing petioles. *Flower* pale red, ſeſſile, ſupported by a conical, concave ſcale, keeled underneath at the tip. *Spike* ovate, flowering on all ſides. Tube of the perianth large, ovate-three-cornered; the three ſegments ſharp and upright. Corolla ſuperior; the ſegments lanceolate, and nearly equal. Nectary petal-ſhaped, broad-ovate, nearly equal to the corolla, faſtened to the tube of it on the inſide. Filament lanceolate, coloured, connected both with the tube of the corolla and the nectary. Anther linear, coaleſcing with the filament longitudinally. Germ calycine, three-cornered. Style filiform, incloſed within the notch of the anther, and longer than it. Stigma vertically flat, truncate. *Pericarp* ovate-three-cornered, when it is ripe opening at the corners into three valves from the tube of the calyx. *Seeds* longiſh, angular. It has ſcarcely any taſte or ſmell, and its uſe is unknown. The wood is very light, and not even fit for the fire. Native of the iſland of Sumatra, in a wood, on the eaſtern coaſt §.]

PROPAGATION AND CULTURE.

All theſe ſorts are tender, and require a warm ſtove to preſerve them in this country. They are eaſily propagated by parting their roots; the beſt time for doing this is in the ſpring, before they put out new ſhoots; for they ſhould not be tranſplanted in ſummer when they are in full vigour, nor do they ſucceed ſo well when they are removed in autumn, becauſe they remain long after in an inactive ſtate; and during that time, if wet comes to the roots, it often cauſes them to rot. When the roots are parted, they ſhould not be divided into ſmall pieces, eſpecially if they are deſigned to have flowers; for until the roots have ſpread to the ſide of the pots, they rarely put out flower-ſtems, for which reaſon they ſhould not be planted in very large pots.

Theſe plants thrive beſt in a light rich earth, ſuch as may be found in the kitchen-garden; with this the pots ſhould be filled within two inches of the top, then the roots ſhould be placed in the middle of the pots, obſerving that their crowns are upwards, and the pots filled up with the ſame rich earth; after this the pots ſhould be plunged into a hot-bed of tanner's bark, and muſt be ſparingly watered, until their ſtalks appear above ground, when they will require a greater ſhare of moiſture, eſpecially during the warm ſummer months; but in autumn the waterings muſt not be often, nor in great plenty; and during the winter ſeaſon, when the roots are inactive, very little water ſhould be given them. The pots with theſe roots ſhould conſtantly remain plunged in the tan-bed, for if they are taken out and placed on ſhelves in the ſtove, their fibres frequently ſhrink, which occaſions their roots to decay.

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‡ Loureiro. § Ibid. ‖ Ibid. ¶ Hort. kew. * Loureiro.

† Lewis mat. med. ‡ Loureiro. § Ibid.

With this management theſe plants have multiplied greatly, and the common Ginger has produced roots, weighing five or ſix ounces; but the others have been near a pound weight.

[In the Weſt Indies the Ginger thrives beſt in a rich cool ſoil; in a more clayey ſoil the root ſhrinks leſs in ſcalding. The land laid out for the culture of it, is firſt well cleared and hoed, then ſlightly trenched, and planted in march or april; it flowers about ſeptember; when the ſtalks are wholly withered, the roots are fit to take up, which is generally done in january and february *.

Amomum. See *Alpinia*, *Coſtus*, and *Siſon*.

Amomum Curcuma. See *Curcuma*.

Amomum Plinii } See *Solanum*.]
Amoris Pomum. }

AMORPHA. (from α, *priv. and* μορφη, *forma*,)

Lin. gen. n. 861. *Reich.* 933. *Schreb.* 1170. *Juſſ.* 357. *Gærtn. t.* 144.

Claſſ. 17. 3. Diadelphia decandria.

Nat. order of *Papilionaceæ* or *Leguminoſeæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubulous, cylindrical, turbinate; *mouth* erect, five-toothed, obtuſe, the two upper teeth larger than the others: permanent.

Cor. of one, ovate, concave *petal*, ſcarcely larger than the calyx, erect, inſerted into the calyx, between the two larger and upper teeth, and placed at the upper ſide of it.

Stam. *Filaments* very ſlightly united at the baſe, erect, unequal in length, longer than the corolla: *anthers* ſimple.

Pist. *Germ* roundiſh; *ſtyle* ſubulate, the length of the ſtamens: *ſtigma* ſimple.

Per. *Legume* lunulate, reflex, larger than the calyx, compreſſed, more reflex at the tip, one-celled, tubercled.

Seeds two, oblong-kidney-ſhaped.

ESSENTIAL CHARACTER.

Standard of the *Corolla* ovate, concave; *Wings* none; *Keel* none.

SPECIES.

1. Amorpha fruticoſa. *Baſtard Indigo.*
   Lin. ſpec. 1003. *Reich.* 3. 418. *hort. cliff. t.* 19. *Gærtn. fruct.* 2. 305. *Mill. fig.* 27. *Hort. angl.* 11. *t.* 4. *Duham. arb.* 1. *p.* 46. *t.* 16.

DESCRIPTION.

1. It riſes with many irregular ſtems, to the height of twelve or fourteen feet, with very long winged leaves, in ſhape like thoſe of the common Acacia. At the extremity of the ſame year's ſhoots, the flowers are produced in long ſlender ſpikes, they are ſmall and of a deep purple colour; make their appearance the beginning of july; and the ſeeds do not ripen in England. This ſhrub grows naturally in Carolina, where formerly the inhabitants made a coarſe ſort of Indigo from the young ſhoots, which occaſioned their giving it the name of *Baſtard Indigo*. The ſeeds were ſent to England, by Mr. Mark Cateſby, in 1724, from which many plants were raiſed in the gardens near London; theſe were of quick growth, and many of them produced flowers in three years. It is become very common in all gardens and nurſeries. [Thunberg obſerved it in the great iſland of Nipon belonging to Japan.]

PROPAGATION AND CULTURE.

It is generally propagated by ſeeds, which are annually ſent to England from different parts of America; for it is found in many of the northern colonies there; they uſually arrive in february, and ſhould be ſown as ſoon as poſſible, in a light ſoil. It may alſo be propagated by laying down the young branches, which in one year will make good roots, and may then be taken off, and planted either in the nurſery, or the places where they are deſigned to remain. If they are put into a nurſery, they ſhould not remain there more than one year: for as the plants make large ſhoots, they do not remove well when they have remained long in a place: they muſt have a ſheltered ſituation, otherwiſe their branches will be broken by the winds. As theſe ſhoots are large and ſoft, their upper parts are generally killed by froſt in winter, but they put out ſhoots again in plenty below the dead part, the ſpring following.

[Ampana. See *Boraſſus*.

Ampeloprasum. See *Allium*.

Amsonia. See *Tabernæmontana*.

Amygdalis similis. See *Theobroma*.]

AMYGDALUS. (from 'Αμυγδαλέα, by contraction 'Αμυγδαλῆ. The fruit 'Αμυγδάλη and 'Αμύγδαλον: from the lines or furrows on the ſtone, which the Greeks call ἀμυχὰς, from ἀμύσσω, *rado.*)

Lin. gen. n. 619. *Reich.* 674. *Schreb.* 848. *Tournef.* 402. *Juſſ.* 341. *Gærtn. t.* 93.

Perſica. *Tournef.* 400.

Claſſ. 12. 1. Icoſandria Monogynia.

Nat. order of *Pomaceæ*. *Roſaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubulous, inferior, quinquefid, deciduous; *diviſions* ſpreading, obtuſe.

Cor. of five *petals*, oblong-ovate, obtuſe, concave, inſerted into the calyx.

Stam. *Filaments* about thirty, filiform, erect, ſhorter by half than the corolla, inſerted into the calyx: *anthers* ſimple.

Pist. *Germ* roundiſh, villoſe: *ſtyle* ſimple, length of the ſtamens: *ſtigma* headed.

Per. A *Drupe*, roundiſh, villoſe, large, with a longitudinal furrow.

Seed. A *Nut*, ovate, compreſſed, acute, with prominent ſutures on each ſide, reticulated with furrows, and dotted with ſmall holes.

Obs. *The nut of the* Almond *is covered with a dry ſkin; that of the* Peach *with a ſoft pulp.—The only difference between this genus and* Prunus *is the pubeſcence of the ſkin, for the pores of the ſhell are not conſtant.* G. *Neither is the pubeſcence conſtant.*

ESSENTIAL CHARACTER.

Cal. quinquefid, inferior. *Pet.* five. *Drupe* having a ſhell perforated with pores: ſkin pubeſcent. G.

SPECIES.

1. Amygdalus Perſica.
   Lin. ſpec. 676. *Reich.* 2. 481. *hort. cliff.* 189. *upſ.* 123. *Thunb. jap.* 199. *Blackw. t.* 101. *Plenck, ic.* 386. *Raii hiſt.* 1515. *Duham. t.* 1—32. *vol.* 2. *p.* 64.
   α. *The Peach-tree.* With downy fruit.
   β. *Nectarine.* With ſmooth fruit.
   Raii hiſt. 1516.
   All the ſerratures of the leaves acute, the flowers ſeſſile and ſolitary.
2. Amygdalus communis. *The Almond Tree.*
   Lin. ſpec. 677. *ſyſt.* 462. *Reich.* 2. 482. *hort. cliff.* 186. *upſ.* 123. *Loureiro cochinch.* 316. *Hall. helv. n.* 1078. *Plenck, ic. t.* 385.
   α. A. Sylveſtris. *The common* or *wild Almond.*
   β. A. ſativa. *Sweet* or *Jordan Almond. Mill. fig. t.* 28. *f.* 1. *Duham. arb.* 5.
   γ. A. amara. *Bitter Almond. Blackw. t.* 105. *Duham. arb.* 7.
   The lower ſerratures of the leaves glandulous; the flowers ſeſſile and in couplets.
3. Amygdalus pumila. *Double-flowered Dwarf-Almond.*
   Lin. mant. 74. 514. *Reich.* 2. 482. *Syſt.* 462.
   Perſica africana nana, &c. *Herm. lugdb. t.* 489.
   A. Perſica nana, &c. *Pluk. phyt. t.* 11. *f.* 4.
   Perſica Amygdalus. *Mill. dict.*
   Leaves veined-wrinkled.
4. Amygdalus nana. *Common Dwarf Almond.*
   Lin. ſpec. 677. *Reich.* 2. 482. *hort. cliff.* 186. *upſ.* 124. *mant.* 396. *Gærtn. fruct.* 2. 75. *Pallas, Roſſ. p.* 12. *t.* 6. *Gmel. ſib.* 3. *p.* 171. *n.* 2. *Mill. fig. t.* 28. *f.* 2. *Pluk. phyt. t.* 11. *f.* 3. *Duham. arb.* 1. *t.* 3. *Curt. magaz. t.* 161.
   Armeniaca. *Amm. ruth.* 273. *t.* 30.
   Leaves attenuated at the baſe.

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* Browne.

[5. Amygdalus incana. *Hoary Dwarf Almond.*
Pallas roſſ. 13. *t.* 7.
Leaves lanceolate ſerrate wrinkled ſubſeſſile, white-tomentoſe beneath.]

6. Amygdalus orientalis. *Silvery-leaved Almond.*
Mill. dict. n. 4. *Ait. hort. kew.* 2. 162. *Duham. arb.* 48.
Leaves lanceolate quite entire ſilvery perennial, petiole ſhorter.

[7. Amygdalus cochinchinenſis.
Loureiro cochinch. 316.
Leaves ovate quite entire, racemes ſmall ſubterminal.

DESCRIPTIONS, &c.

1. The *Peach*, in its natural ſtate of growth, is a ſmall tree, with ſpreading branches. The leaves larger than thoſe of the Almond, lanceolate, alternate, ſmooth and ſerrate; the ſerratures ſhort, ſharp and regular. The flowers are ſeſſile, and ſolitary; the calyxes reddiſh, the corollas bell-ſhaped, with a ſpreading border, of a fine light purple, or pale roſe-colour, but with very little ſcent. The fruit is a roundiſh drupe, commonly pointed oppoſite to the peduncle, and with one longitudinal groove: the pulp is large, fleſhy and ſucculent, white or yelloiſh, ſometimes reddiſh, abounding with a grateful ſweet-acid juice; the outſide is of a pale greeniſh colour, with a bluſh or tawny redneſs frequently towards the ſun, and the ſkin is lanuginoſe or woolly; the ſtone is very thick and hard, full of deep irregular furrows, and incloſes a bitter kernel. The wood of this tree is of a reddiſh brown colour, darker towards the middle, and is fit for the uſe of the turner. It is of quick growth, and not of very long duration.

The original country of its nativity is not known. The Latin name of *Malus Perſica* indicates no more than that it came to the Romans from Perſia. It has been cultivated time immemorial in moſt parts of Aſia, has been adopted by almoſt every nation of Europe, and now flouriſhes abundantly in America, wherever it has been introduced by the Europeans. We have no exact tradition concerning the time of its firſt introduction into Greece or Italy; but no mention of it is made by Theophraſtus, for what he ſays of the *Perſea* by no means agrees with this tree.

Before we proceed to the varieties of the fruit, for which the Peach-tree is principally cultivated, it may be proper to obſerve, that there are few trees more ornamental in plantations, ſhrubberies, and wilderneſs quarters, particularly within view of the houſe, and in ſheltered ſituations, where they will diſplay their beautiful bloſſoms early in the ſpring, about the beginning of april; when flowers, eſpecially on trees, are particularly valuable.

The variety with double flowers is highly ornamental for the ſame purpoſe, and is certainly one of the moſt beautiful flowering trees that will admit of cultivation in our climate, in the open air. It will produce ſome fruit, notwithſtanding the flowers are double, but it is of no value, unleſs the trees be trained againſt walls. The bloſſoms appear about three weeks later than the common Peach.

We are enabled to aſcertain nearly the introduction of the double-bloſſomed Peach among us, from Parkinſon. For in his *Paradiſus terreſtris*, publiſhed in 1629, he ſays, "it hath not been ſeen or "knowne, long before the writing hereof."

This author mentions twenty-one ſorts of Peach cultivated in his time for the fruit, the names of which are theſe. 1. The great white. 2. The ſmall white. 3. Carnation. 4. Grand Carnation. 5. Red. 6. Ruſſet. 7. Iſland. 8. Newington. 9. Yellow. 10. St. James's. 11. Melocotone. 12. Peach du Troas. 13. Queen's. 14. Roman. 15. Duraſme or Spaniſh. 16. Black. 17. Alberza. 18. Almond Peach. 19. Man Peach. 20. Cherry Peach. 21. Nutmeg Peach.

Mr. Ray, ſixty years after Parkinſon, gives a liſt of eighteen different ſorts of Peaches then in moſt eſteem, the names of which are as follows.—— 1. The White Nutmeg. 2. The Red Nutmeg. 3. The Troy Peach, ſo called from Troyes in Champagne. 4. The Iſabelia. 5. The Savoy. 6. The Bourdeaux. 7. The early Newington. 8. The old Newington. 9. Violet Muſcate, 10. Perſicum. 11. Modaneſe. 12. Morello. 13. Rumbulliam. 14. Bellice. 15. Scarlet. 16. Royal. 17. Ricket. 18. Bloody Monſieur.]

Mr. Miller enumerates thirty-one ſorts as the principal known in his time in England; and which in his opinion are ſufficient for any gentleman to have a collection continuing through the whole ſeaſon of fruit.

1. The white Nutmeg (called by the French, L'Avant Pêche Blanche; Duh. n. 1. t. 2.) the fruit is ſmall and white; it is a little muſky and ſugary, but it is only eſteemed for its being the firſt ſort ripe. It is in eating pretty early in july, and ſoon becomes meally.

2. The red Nutmeg (L'Avant Pêche de Troyes: Duh. n. 2. t. 3.) the fruit is larger and rounder than the white Nutmeg, and is of a bright vermilion colour; the fleſh is white, but very red at the ſtone; it has a rich muſky flavour, and parts from the ſtone. This Peach is well eſteemed, and ripens towards the end of July.

3. The early or ſmall Mignon (Double de Troyes, or Mignonette: Duh. n. 3. t. 4.) the fruit is of a middling ſize, and round; it is very red on the ſide next the ſun; the fleſh is white, and ſeparates from the ſtone, where it is red; the juice is vinous and rich. It is ripe the end of july, or beginning of auguſt.

4. The yellow Alberge: (Duh. n. 5. t. 5.) the fruit is of a middling ſize, ſomewhat long; the fleſh is yellow and dry; it is ſeldom well flavoured, but ſhould be perfectly ripe before it is gathered, otherwiſe it is good for little. It is ripe early in auguſt.

5. The white Magdalen: (Duh. n. 8. t. 6.) the fruit is round, of a middling ſize; the fleſh is white to the ſtone, from which it ſeparates; the juice is ſeldom high flavoured; the ſtone is very ſmall. This ripens early in auguſt.

6. The early purple, La Pourprée hâtive: (Duh. n. 12. t. 8.) the fruit is large, round, and of a fine red colour; the fleſh is white, but very red at the ſtone; is very full of juice, which has a rich vinous flavour, and is by all good judges eſteemed an excellent Peach. This is ripe before the middle of auguſt.

7. The large or French Mignon: (Groſſe Mignonne Duh. n. 14. t. 10.) the fruit is a little oblong, and generally ſwelling on one ſide; it is of a fine colour; the juice is very ſugary, and of a high flavour; the fleſh is white, but very red at the ſtone, which is ſmall. This is ripe in the middle of auguſt, and is juſtly eſteemed one of the beſt Peaches; it ſeparates from the ſtone. This ſort of Peach is tender, and will not thrive on a common ſtock, ſo is generally budded upon ſome vigorous ſhooting Peach, or an Apricot, by the nurſerymen, which enhances the price of the trees. But the beſt method is to bud this Peach into ſome old healthy Apricot, which is planted to a ſouth or ſouth-eaſt aſpect, and to cut away the Apricot when the buds have taken, and made ſhoots: upon ſome trees which I have ſeen thus managed, there has been a much greater quantity of fairer, and better flavoured fruit than I have ever obſerved elſewhere, and the trees have been much more healthy.

8. The Chevreuſe, or Belle Chevreuſe: Duh. n. 18.) the fruit is of a middling ſize, a little oblong, of a fine red colour; the fleſh is white, but very red at the ſtone, from which it ſeparates; it is very full of a rich ſugary juice, and ripens towards the end of auguſt. This is a very good bearer, and may be ranged with the good Peaches.

9. The red Magdalen: Madeleine de Courſon: (Duh. n. 10. t. 7.) the fruit is large and round, of a fine red colour; the fleſh is white, but very red at the ſtone, from which it ſeparates; the juice is very

ſugary, and of an exquiſite flavour. The fruit is ripe the end of auguſt.

10. The early Newington, or Smith's Newington: (very like, if not the ſame, with what the French call Le Pavie blanc. Duh. n. 9.) the fruit is of a middling ſize, is of a fine red on the ſide next the ſun; the fleſh is firm and white, but very red at the ſtone, to which it cloſely adheres. It has a ſugary juice, and is ripe the end of auguſt.

11. The Montauban: the fruit is of a middling ſize, of a deep red, inclining to purple next the ſun, but of a pale colour toward the wall; the fleſh is melting and white to the ſtone, from which it ſeparates; the juice is rich, and the tree is a good bearer. It ripens the middle of auguſt.

12. The Malta: (which is very like, if not the ſame, with the Italian Peach: Duh. n. 11.) the fruit is of a middling ſize, of a fine red next the ſun: the fleſh is white and melting, but red at the ſtone, from which it ſeparates; the ſtone is flat and pointed: the tree is a good bearer. This ripens the end of auguſt.

13. The Nobleſſe: the fruit is large, of a bright red next the ſun; the fleſh is white and melting, and ſeparates from the ſtone, where it is of a faint red colour; the juice is very rich in a good ſeaſon. It ripens the end of auguſt, or beginning of ſeptember.

14. the Chancellor: (Duh. n. 19.) the fruit is ſhaped ſomewhat like the Belle Chevreuſe, but is rounder; the fleſh is white and melting, and ſeparates from the ſtone, where it is of a fine red colour; the ſkin is thin, and the juice is very rich. It ripens about the end of auguſt. This tree is very tender, and will not ſucceed on common ſtocks, ſo is budded twice, as the Mignon; and if budded on Apricots, as was directed for that ſort, will thrive much better than in any other method.

15. The Bellegarde (Gallande; Duh. n. 28. t. 20.) the fruit is very large and round, of a deep purple colour on the ſide to the ſun; the fleſh is white, melting, and ſeparates from the ſtone, where it is of a deep red colour; the juice is very rich. This ripens the beginning of ſeptember.

16. The Liſle (La petite Violette hâtive: Duh. n. 22. t. 16. f. 2.) the fruit is of a middling ſize, of a fine Violet colour toward the ſun; the fleſh is of a pale yellow and melting; it adheres to the ſtone, where it is very red; the juice is very vinous. This ripens the beginning of ſeptember.

17. The Bourdine: (Duh. n. 16. t. 12.) the fruit is large, round, and of a fine red colour next the ſun; the fleſh is white, melting, and ſeparates from the ſtone, where it is of a fine red colour; the juice is vinous and rich; this ripens the beginning of ſeptember. The tree bears plentifully, and will produce fruit in ſtandards very well.

18. The Roſſanna: (Duh. n. 6.) the fruit is large, a little longer than the Alberge; the fleſh is yellow and ſeparates from the ſtone, where it is red; the juice is rich and vinous. This ripens the beginning of ſeptember. This is the ſame with what ſome call the purple, and others the red Alberge, it being of a fine purple colour on the ſide next the ſun.

19. The Admirable: (Duham. n. 29. t. 21.) the fruit is large, round, and red on the ſide next the ſun; the fleſh is white, melting, and ſeparates from the ſtone, where it is of a deep red colour; the juice is ſugary and rich: it ripens the beginning of ſeptember. This is by ſome called the early Admirable, but is certainly what the French call L'Admirable, and they have no other of this name which ripens later.

20. The old Newington: the fruit is fair and large, of a beautiful red colour next the ſun; the fleſh is white, melting, and cloſely adheres to the ſtone, where it is of a deep red colour; the juice is very rich and vinous. It ripens about the middle of ſeptember.

21. The Rambouillet (commonly called Rumbullion;) the fruit is of a middling ſize, rather round than long, deeply divided by a furrow in the middle; it is of a fine red colour next the ſun, but of a light yellow next the wall; the fleſh is melting, of a bright yellow colour, and ſeparates from the ſtone, where it is of a deep red colour; the juice is rich, and of a vinous flavour. This ripens the middle of ſeptember, and is a good bearer.

22. The Bellis (which I believe to be what the French call La Belle de Vitry: Duham. n. 34. t. 25.) the fruit is of a middle ſize, round, and of a pale red next the ſun; the fleſh is white and adheres to the ſtone, where it is red; the juice is vinous and rich. This ripens the middle of ſeptember.

23. The Portugal: the fruit is large, and of a beautiful red colour towards the ſun, the ſkin generally ſpotted; the fleſh is firm, white, and cloſely adheres to the ſtone, where it is of a faint red colour; the ſtone is ſmall, but full of deep furrows; the juice is rich and vinous. This ripens the middle of ſeptember.

24. La Teton de Venus: (Duham. n. 32. t. 23.) the fruit is of a middling ſize reſembling the Admirable, of a pale red colour next the ſun; the fleſh is melting, white, and ſeparates from the ſtone, where it is red; the juice is ſugary and rich. This ripens late in ſeptember.

25. La Pourprée (Pourprée tardive, Duham. n. 13. t. 9.) the fruit is large, round, and of a fine purple colour; the fleſh is white, melting, and ſeparates from the ſtone, where it is red; the juice is ſugary and rich. This ripens late in ſeptember.

26. The Nivette: (Duham. n. 37. t. 28.) the fruit is large, oblong, of a bright red colour next the ſun, and of a pale yellow on the other ſide; the fleſh is melting, and full of rich juice, and is very red at the ſtone, from which it ſeparates: it ripens in the middle of ſeptember.

27. The Royal or Royal George (La Royale: Duham. n. 33. t. 24.) the fruit is large, round, and of a deep red on the ſide next the ſun, and of a paler colour on the other ſide; the fleſh is white, melting, and full of a rich juice; it parts from the ſtone, where it is of a deep red colour. This ripens the middle of ſeptember, and, when the autumn is good, is an excellent Peach.

28. The Perſique: (Duham. n. 38. t. 29.) the fruit is large, oblong, and of a fine red colour next the ſun; the fleſh is melting, and full of a rich juice; it ſeparates from the ſtone, where it is of a deep red colour. The ſtalk has a ſmall knot upon it; this makes a fine tree, and is a good bearer; it ripens the end of ſeptember. Many gardeners call this the Nivette.

29. The monſtrous Pavy of Pomponne (La Pavie rouge de Pomponne: Duham. n. 35. t. 26.) the fruit is very large and round, many times fourteen inches in circumference; the fleſh is white, melting, and cloſely adheres to the ſtone, where it is of a deep red colour; the outſide is a beautiful red next the ſun, and of a pale fleſh colour on the other ſide. This ripens the end of october, and when the autumn is warm, is an excellent Peach.

30. The Catharine: the fruit is large, round, and of a dark red colour next the ſun, the fleſh is white, melting, and full of a rich juice. It cloſely adheres to the ſtone, where it is of a deep red colour; it ripens the beginning of october, and in very good ſeaſons is an excellent Peach, but being ſo very late ripe, there are not many ſituations where it ripens well.

31. The Bloody Peach (La Sanguinole: Duham. n. 41.) this Peach is of a middling ſize, of a deep red next the ſun; the fleſh is of a deep red quite to the ſtone, and from thence is by ſome gardeners called the Mulberry Peach. This fruit rarely ripens in England, therefore is not often planted, but it bakes and preſerves excellently; for which, as alſo the curioſity, one or two trees may be planted, where there is extent of walling.

[To this ample liſt of Miller the addition has been very ſmall by ſucceeding cultivators.

Mawe, in his dictionary adds the following.

32. The Anne. A ſmall round yellowiſh white fruit, faintly tinged with red on the ſunny ſide: ripe early in auguſt.

33. The Violet. A middle-ſized roundiſh oval violet-coloured fruit: ripe towards the middle of ſeptember.

34. The Cambray. A middle-ſized longiſh pale-coloured fruit: ripe in october.

35. The Narbonne. A very large fruit, almoſt wholly of a greeniſh colour: ripe in october.]

There are ſome other ſorts of Peaches which are kept in ſome of the nurſeries, but thoſe which are here enumerated, are the ſorts moſt worth planting, and in the liſt, the choiceſt only ſhould be planted; but I ſhall juſt mention the names of thoſe ſorts omitted, for the ſatisfaction of the curious.

The Sion; the Bourdeaux; the Swalch or Dutch; the Carliſle; the Eaton; the Péche de Pau; (Duham. n. 39.) yellow Admirable; (Duham. n. 30. t. 22.) and the double Flowering. This laſt ſort is generally planted more for the beauty of the flowers, as was before obſerved, than for the goodneſs of the fruit, of which ſome years the ſtandard trees produce great plenty; but they are late ripe, and have a cold, watery, inſipid juice. The Dwarf Peach is alſo preſerved in ſome places as a curioſity. This is a tender tree, making weak ſhoots, which are very full of flower-buds. The fruit is not ſo large as a Nutmeg, and not good, nor will the tree laſt any time, it is not therefore worth cultivating.

And indeed, from theſe thirty-one above-named, there are not above ten of them which I would adviſe to be planted; becauſe, when a perſon can be furniſhed with thoſe which are good, or has the beſt of the ſeaſon, it is not worth while to plant any which are middling or indifferent, for the ſake of variety; therefore the ſorts which I ſhould prefer, are theſe.

The early purple; the Groſſe Mignon; Belle Chevreuſe; red Magdalen; Chancellor; Bellegarde; Bourdine; Roſſanna; Rambouillet, and Nivette.

[With theſe, other authors recommend the Small Mignon; Early Newington; Nobleſſe; Admirable; Royal; Monſtrous Pavy; Swalch; &c.]

Theſe are the ſorts beſt worth planting; but where there is room, and the ſituation very warm, one or two trees of the Catharine Peach ſhould have place, for in very warm ſeaſons it is an excellent fruit.

Theſe follow each other in their time of ripening, therefore they will be ſufficient to furniſh any family during the ſeaſon of this fruit: but as in ſome ſeaſons there will be ſome ſorts of Peaches very good, which in other ſeaſons often prove but indifferent; therefore when there is a ſufficient extent of good walls, I would recommend the planting three or four other ſorts, which ſome years are excellent, though in general not ſo good as thoſe before-mentioned. Theſe are the Montaubon, the Liſle, the old Newington, La Teton de Venus, and the Perſique.

The French diſtinguiſh thoſe we call Peaches into two ſorts, viz. Pavies and Peaches; thoſe are called Peaches which quit the ſtone, and thoſe, whoſe fleſh cloſely adheres to the ſtone, are called Pavies. Theſe are much more eſteemed in France than the Peaches, though in England the latter are preferred to the former by many perſons.

A good Peach ought to have a firm fleſh; the ſkin ſhould be thin, of a deep or bright red colour next the ſun, and of a yellowiſh caſt next the wall. The fleſh ſhould be of a yellowiſh colour, full of juice, which ſhould be high-flavoured, the ſtone ſmall, and the pulp or fleſh very thick. When a Peach has all theſe qualities, it may be eſteemed a valuable fruit.

[1. β. The NECTARINE is deemed by botaniſts to be a variety only of the Peach-tree. It is certainly not eaſy for a common eye to diſtinguiſh theſe trees, when they are not in a ſtate of fructification, nor are their differences ſuch as to warrant our conſidering them as ſpecifically ſeparate.

The Nectarine is commonly a ſmaller tree than the Peach; the trunk and larger branches covered with a lighter bark; the ſmaller branches or twigs more tender and inclining to red; the flowers are leſs than thoſe of the Peach, and of a darker red colour. Theſe differences however are frequently trifling, and by no means conſtant. The principal diſtinction certainly is in the fruit, which is ſmaller and rounder, without any lateral cleft; the fleſh or pulp firmer than in the Peach, and the ſkin or rind perfectly ſmooth.

This tree has its name *Nuciperſica*, from the ſimilitude of the fruit in ſmoothneſs, colour, ſize, and form to the Walnut (Nux), covered with its outer green ſhell. The Engliſh name of *Nectarine* is deſervedly given it, from the rich, racy, nectareous flavour of the fruit; which in its higheſt perfection is ſuperior to any other European fruit, and perhaps to many boaſted fruits of hotter climates.

Parkinson gives ſix varieties of the Nectarine; or, according to his orthography, the Nectorin. 1. The Muſke. 2. The Roman Red. 3. The baſtard Red. 4. The Yellow. 5. The Green. 6. The White.

To theſe Ray adds—7. The Murrey. 8. The Tawney. 9. The Yellow; which he probably ſuppoſed to be different from Parkinson's fourth; otherwiſe it is a repetition. 10. The Ruſſet. 11. The Painted or Variegated. 12. The Algiers.

Mr. Miller has only ten varieties, as follows.]

1. Fairchild's early Nectarine. This is one of the earlieſt Nectarines we have; it is a ſmall round fruit, about the ſize of the Nutmeg Peach, of a beautiful red colour, and well flavoured; it ripens the end of july, or beginning of auguſt.

2. Elruge Nectarine: it is a middle-ſized fruit, of a dark-red or purple colour next the ſun, but of a pale yellow or greeniſh colour towards the wall; it parts from the ſtone, and has a ſoft melting juice: this ripens the beginning or middle of auguſt.

3. Newington Nectarine: it is a fair large fruit, (when planted on a good ſoil) of a beautiful red colour next the ſun, but of a bright yellow towards the wall; it has an excellent rich juice; the pulp adheres cloſely to the ſtone, where it is of a deep red colour: this ripens the latter end of auguſt, or beginning of ſeptember, and is the beſt flavoured of all the ſorts, or perhaps of any known fruit in the world.

4 Scarlet Nectarine is ſomewhat leſs than the laſt, of a fine red or ſcarlet colour next the ſun, but loſes itſelf in paler red towards the wall: this ripens the end of auguſt, or beginning of ſeptember.

5. Brugnon or Italian Nectarine, is a fair large fruit, of a deep red colour next the ſun, but of a ſoft yellow towards the wall; the pulp is firm, of a rich flavour, and cloſely adheres to the ſtone, where it is very red: this ripens the end of auguſt, or beginning of ſeptember.

6. Roman Red Nectarine, is a large fair fruit, of a deep red or purple colour towards the ſun, but has a yellowiſh caſt next the wall; the fleſh is firm, of an excellent flavour, cloſely adhering to the ſtone, where it is very red: this ripens in ſeptember.

7. Murry Nectarine is a middle ſized fruit, of a dirty red colour on the ſide next the ſun, but of a yellowiſh green towards the wall, the pulp is tolerably well flavoured: this ripens the beginning of ſeptember.

8. Golden Nectarine is a fair handſome fruit, of a ſoft red colour next the ſun, but of a bright yellow next the wall; the pulp is very yellow, of a rich flavour, and cloſely adheres to the ſtone, where it is of a faint red colour: this ripens the middle of ſeptember.

9. Temple's Nectarine is a middle-ſized fruit, of a ſoft red colour next the ſun, of a yellowiſh green toward the wall: the pulp is melting, of a white colour towards the ſtone, from which it parts, and

has a fine poignant flavour; this ripens the end of ſeptember.

10. Peterborough, or late green Nectarine, is a middle ſized fruit, of a pale green colour on the outſide next the ſun, but of a whitiſh green towards the wall; the fleſh is firm, and, in a good ſeaſon, tolerably well flavoured; this ripens the middle of october.

[The beſt of theſe are the firſt, ſecond, third, ſixth and ninth; particularly the Newington and Roman. Some of the old Nectarines, not mentioned by Mr. Miller, are ſtill in cultivation; as the White (n. 6.) which is ripe in auguſt and ſeptemtember; the Tawny (n. 8.) which ripens in ſeptember, is a middle-ſized fruit, and adheres to the ſtone; and ſome others.]

There are ſome perſons who pretend to have more varieties than are here enumerated, but I much doubt whether they are different, there being ſo near a reſemblance between the fruits of this kind, that it requires a very cloſe attention to diſtinguiſh them well, eſpecially if the trees grow in different ſoils and aſpects, which many times alter the ſame fruit ſo much, as hardly to be diſtinguiſhed by perſons who are very converſant with them.

[2. The *Common Almond* will grow to the height of near twenty feet, with ſpreading branches. The leaves reſemble thoſe of the Peach very much, but the lower ſerratures are glandular; they proceed from buds both above and below the flowers, whereas in the Peach they proceed from the ends of the ſhoots above and not below the flowers. The form of the flowers is not very different, but they come out uſually in pairs, and vary more in their colour from the fine bluſh of the Apple-bloſſom to a ſnowy whiteneſs. The chief obvious diſtinction is in the fruit, which is flatter, with a coriaceous covering, inſtead of the rich pulp of the Peach and Nectarine, opening ſpontaneouſly when the kernel is ripe. The ſhell is never ſo hard as in the firſt ſpecies, and is ſometimes even tender and exceedingly brittle; it is flatter, ſmoother, and the furrows or holes are more ſuperficial.

This tree is ſcarcely worth conſidering in England, for the ſake of the fruit which it produces. It is a great object in ſome parts of Italy, and in the ſouth of France, where there are vaſt plantations of Almonds in Provence and Dauphiné. It is common in China and moſt of the Eaſtern countries; and in Barbary, where it is a native. It ſeems not to have been cultivated in Italy in the time of Cato, who calls the fruit *Nuces Græcæ*, or Greek nuts. With us however it is very valuable as an ornamental tree in clumps, ſhrubberies, *&c.* within view of the manſion: for it diſplays its delicate red-purple bloom in the month of march, when few other trees have either leaves or flowers. An Almond-tree covered with its beautiful bloſſoms is one of the moſt elegant objects in nature.]

In a forward ſpring they often appear in february, but in this caſe, froſt generally deſtroys them, and they bear little or no fruit; whereas when the trees do not flower till march, they ſeldom fail to bear plenty of fruit, many of which will be very ſweet and fit for the table when green, but they will not keep long.

Mr. Miller makes three ſpecies of the Almond: 1. *Amygdalus communis*, or *common Almond*, which is cultivated more for the beauty of its flowers, than for its fruit. There are two varieties of this, one with ſweet, the other with bitter kernels, which often ariſe from the fruit of the ſame tree.

2. *A. dulcis*, or *Jordan Almond*, the nuts of which are frequently brought to England; they have a tender ſhell, and a large ſweet kernel. The leaves are broader, ſhorter, and grow much cloſer than thoſe of the common ſort, and their edges are crenate. The flowers are very ſmall and of a pale colour, inclining to white. I have ſeveral times raiſed theſe trees from the Almonds which came from abroad, and always found the plants to maintain their difference from the Common Almond.

3. *A. ſativa*: which has narrow ſharp-pointed leaves; the flowers are much ſmaller than thoſe of the Common Almond, and are white: the ſhoots of this tree are ſmaller, and the joints cloſer than thoſe of the common ſort, nor is the tree ſo hardy, therefore it ſhould have the advantage of a warm ſituation, otherwiſe it will not thrive. This ſort flowers early in the ſpring, and rarely produces fruit in England. But from an old tree which grew againſt a wall having a ſouth aſpect, I have ſome years had the fruits ripe, which were well flavoured, but their kernels were ſmall.

[Duhamel gives ſeven ſpecies and varieties of the Almond.

1. Common Almond, with a ſmall fruit.

2. Sweet Almond, with a tender ſhell. *Amandier des Dames*. t. 1.

3. Bitter Almond, with a tender ſhell; only a variety of the foregoing.

4. Almond with a ſmall fruit, and tender kernel. *Amande-Sultane.*—And, with a ſtill ſmaller fruit, *Amande-Piſtache.*

5. Sweet Almond, with a large fruit. t. 2.

6. Bitter Almond, with a large fruit; only a variety of the foregoing.

7. Bitter Almond. Probably a variety of n. 1.

He has alſo another which he calls *Amandier-Pêcher*, (t. 4.); and ſuppoſes to have been produced from the impregnation of the Almond by the farina of the Peach.

Sweet Almonds uſed in food are difficult of digeſtion, and afford very little nouriſhment, unleſs extremely well comminuted. As medicines, they contribute, on account of their ſoft unctuous quality, to blunt acrimonious humours in the firſt paſſages, and thus, ſometimes, give preſent relief in heart-burns.

On expreſſion, they yield near half their weight of oil, which is more agreeable than moſt of the common expreſſed oils, and is therefore employed medicinally for obtunding acrid juices, ſoftening and relaxing the ſolids, in tickling coughs, hoarſeneſs, coſtiveneſs, nephritic pains, *&c.*

On triturating the Almond with water, it unites with the fluid, into an emulſion or milky liquor, which is preſcribed for the ſame purpoſes as the oil itſelf; particularly in heat of urine and ſtranguries; as a diluent in acute diſeaſes; and for ſupplying, in ſome degree, the place of animal milk, with which it has a great analogy.

An ounce of Almonds forms an emulſion of a due conſiſtence with a quart of water. Gum arabic is an uſeful addition in moſt caſes. The pure oil triturated with a thick mucilage of Gum arabic forms a more permanent emulſion: one part of gum, with an equal quantity of water, is ſufficient for four parts of the oil.

They are alſo an uſeful medicine for uniting ſubſtances with water, which of themſelves are not miſcible with it. Camphor, and the purgative and other reſins, triturated with about ſix times their quantity of almonds, diſſolve in water into a milky liquor, and are thus fitted for being taken in a liquid form.

The oil of bittter almonds is not diſtinguiſhable from the other; and therefore the colleges of London and Edinburgh allow them to be uſed indiſcriminately. The matter which remains after the expreſſion of the oil, retains all the bitterneſs.

Bitter almonds, and emulſions made from them, have been recommended as aperients, reſolvents, diuretics, and anthelmintics. The almonds in ſubſtance taken freely occaſion ſickneſs and vomiting: to dogs, and ſome other animals they are poiſonous. A ſimple water, ſtrongly impregnated with their volatile parts by diſtillation, has been found alſo poiſonous to brutes, and there are inſtances of cordial ſpirits flavoured by them being poiſonous to man.

It is probable, that the noxious matter is that in which its bitterneſs and flavour reſide; and that the activity of this matter is increaſed, by its ſeparation from the groſs oil and farinaceous ſubſtance by which it was enveloped in the kernel itſelf. The kernels of other fruits, that have any bitterneſs or particular flavour, appear to be impregnated with a ſubſtance of a ſimilar nature to this poiſonous principle of bitter almonds [*].

3. Branches ſmooth, two or three feet high, dark purple. Leaves lanceolate, petiolate, veined, wrinkled, ſerrulate. Flowers generally two to a bud, ſeſſile: calyx reddiſh: petals emarginate, red, longer than the tube of the calyx: filaments paler: germ and ſtyle pubeſcent at bottom. Stipules linear, very deeply ſerrate. It varies with double flowers. Its native country is Africa [†]. Reichard obſerves that the petals are not emarginate, but acuminate.]

Theſe ſhrubs make a very agreeable variety amongſt low-flowering trees, in ſmall wilderneſs quarters. The ſingle ſort flowers the beginning of april, and the double is commonly three weeks later.—[It was cultivated by Mr. Miller, in 1731 [‡].

4. Leaves ſcattered, ſubpetioled, lanceolate but more attenuated towards the baſe, ſomewhat rigid, ſmooth, the ſerratures very ſharp and even ſomewhat ſpinoſe. Stipules linear, long, ſerrate-toothed, deciduous. Flowers very abundant on the twigs, appearing with the firſt leaves from all the buds, either ſolitary or two together. Calyx ſubſeſſile, reddiſh: ſegments acute, green, very finely ſerrulate. Petals of a fine roſe-colour. Stamens about twenty, the inner ones gradually ſhorter; the filaments bowed a little and converging at the end. Piſtil the length of the calyx, extremely villoſe. Fruit uſually ſolitary ſeſſile, ovate ſomewhat compreſſed, pointed by the ſhrivelled ſtyle, extremely hirſute with a harſh yellowiſh wool, the ſize of a hazel-nut. The coriaceous covering ſplits and falls off when the kernel is ripe; the nut is of a ſharp ovate form, compreſſed, of a yellowiſh gray-colour, grooved at the ſutures; the kernel is like that of the Peach in colour and taſte. The wood of this little tree is hard, of a yellowiſh cheſnut colour, and veined; but the trunk is ſeldom an inch in thickneſs. It varies very much in ſize; the vaſt plains on the banks of the Volga, being annually ſet on fire, it never riſes to any height, but is low and ſhrubby, creeps very much at the root, and impedes the plough. In Cherſon it ſcarcely attains a ſpan in height; whereas in the Ukraine it grows a fathom high, as it does in gardens, where the leaves are ſomewhat broader; theſe are ſometimes five inches in length [§]. It blooms in april, at which time all the young ſhoots are covered with flowers, which are of a peach-bloſſom colour, and make a fine appearance when intermixed with ſhrubs of the ſame growth. [It is a native of the northern parts of Aſia, particularly abundant in Calmuc Tartary, and very frequent on the banks of the Volga. Cultivated 1683, by Mr. James Sutherland [‖].]

5. Bark brown-aſh coloured, rough. Leaves ſcattered, frequent, ſeſſile, lanceolate, narrowing towards the baſe, frequently and ſharply ſerrate, edge a little bent in, furrowed or wrinkled above along the veins, which are very prominent underneath. Stipules briſtly, ſometimes toothed, permanent. Flowers leſs than in the dwarf ſort, ſolitary or twin; ſeſſile at the branches among the leaves, and breaking out with them. Segments of the calyx much leſs than in the *nana*. Petals pale roſe-colour. Stamens about twelve, ſcarcely longer than the tube of the calyx [**]. It may be doubted whether this be any thing more than a variety of Amygdalus nana.]

6. The leaves of the *Eaſtern* or *Silver-leaved Almond* are ſilvery, and very like thoſe of the Sea Purſlane. Theſe continue moſt of the year. The flowers are very ſmall, and have not been ſucceeded by fruit yet in England. It was found growing near Aleppo, from whence the fruit was ſent to the Duke D'Ayen in France, who raiſed ſeveral of the plants in his curious garden at St. Germain's, and was ſo good as to ſend me a ſhare of them (in 1759) which endured the open air in the Chelſea garden, for ſome years againſt a wall, without any covering.

[It is a native of the Levant.

7. This is a large tree, with ſpreading branches. Leaves acuminate, waved, ſhining, alternate. Corolla white. Drupe about half an inch diameter, ovate-ventricoſe, ſharp at the tip, brown. Kernel like the common Almond in form and ſmell. Native of the vaſt woods of Cochinchina [†].]

PROPAGATION AND CULTURE.

Peach and Nectarine.

By Seed.

All the different ſorts of Peaches have been originally obtained from the ſtones; ſo that where perſons have garden enough to allow room for propagating theſe fruits from ſeeds, there is no doubt but many good ſorts may be obtained, which will be better adapted to our climate, than ſuch as are brought from warmer countries; there will be many of them good for nothing, but if we can obtain only two or three valuable ſorts, it is ſufficient to make amends for the trouble of raiſing them; but great regard ſhould be had to the ſorts; and if the fruits were permitted to remain upon the trees until they dropped off, the kernels would be fitter for planting, and more likely to grow. The beſt ſorts for ſowing are thoſe whoſe fleſh is firm, and cleaves to the ſtone; and from amongſt theſe you ſhould chuſe ſuch as ripen pretty early, and have a rich vinous juice.

Theſe ſtones ſhould be planted in autumn, on a bed of light dry earth, about three inches deep, and four inches aſunder; and in the winter the beds ſhould be covered, to protect them from the froſt, which, if permitted to enter deep into the ground, will deſtroy them. In the ſpring, when the plants come up, they ſhould be carefully cleared from the weeds, which ſhould alſo be obſerved throughout the ſummer: and if the ſpring ſhould prove very dry, if you refreſh them now and then with a little water, it will greatly promote their growth. In this bed they ſhould remain until the following ſpring, when they ſhould be carefully taken up, ſo as not to break their tender roots, and tranſplanted into a nurſery in rows three feet aſunder, and one foot diſtant plant from plant in the rows, obſerving to lay a little mulch upon the ſurface of the ground about their roots, to prevent its drying too faſt; and if the ſpring ſhould prove very dry, you ſhould give them a little water once a week, until they have taken root; after which they ſhould be conſtantly kept clear from weeds, and the ground between the rows carefully dug up every ſpring to looſen it, ſo as that the tender fibres may ſtrike out on every ſide.

In this nurſery they may continue one or two years, according to the progreſs they make; after which they ſhould be tranſplanted where they are to remain, to produce fruit.

In removing theſe trees, you ſhould obſerve to prune their downright roots, if they have any, pretty ſhort, and to cut off all bruiſed parts of the roots, as alſo all the ſmall fibres, which generally dry, and when left upon the roots after planting again, grow mouldy and decay, ſo that they are injurious to the new fibres which are ſhot out from the roots, and very often prevent the growth of the trees; but you ſhould by no means prune their heads, for the plants which are produced from ſtones, are generally of a more ſpongy texture; and ſo more liable to decay when cut, than thoſe which are budded upon other ſtocks. Beſides, as theſe trees are deſigned for ſtandards (for it is not proper to plant them againſt walls, until you ſee the produce of the fruit, to ſhew which of them deſerves to be cultivated,) they will never require any other pruning, but only to cut out decayed branches, or ſuch as ſhoot out very irregular from the ſides, for more than this is generally very injurious to them.

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[*] Lewis.
[†] Linneus.
[‡] Hort. kew.
[§] Pallas roſſ.
[‖] Hort. kew.
[**] Pallas roſſ.

[†] Loureiro.

In planting theſe trees, it will be the better way to diſpoſe them ſingly in the quarters of the kitchen-garden, where they will thrive, and produce fruit much better than if they are planted near each other in rows; and as they are thus ſingly diſpoſed, they will not do much injury to the crops which grow under them.

When they have produced fruit, you will ſoon be a judge of their goodneſs, and ſuch of them as you diſlike may be deſtroyed; but thoſe which are good, may be propagated by inoculating them upon other ſtocks, which is the common method now practiſed to propagate theſe fruits, therefore I ſhall now proceed to treat of that more particularly; in the doing of which, I ſhall ſet down the method now commonly practiſed by the nurſery-gardeners, and then propoſe ſome few things of my own as an improvement thereon, for ſuch perſons who are very curious to have good fruit. But firſt,

By Inoculation.

You ſhould be provided with ſtocks of the Muſcle and white Pear Plums, which are generally eſteemed the two beſt ſorts of Plums for ſtocks to inoculate Peaches and Nectarines upon; as alſo ſome Almond and Apricot ſtocks, for ſome tender ſorts of Peaches which will not grow upon Plum ſtocks. Theſe ſhould be all produced from the ſtone (as is directed in the article Nursery,) and not from ſuckers, for the reaſons there laid down. Theſe ſtocks ſhould be tranſplanted, when they have had one year's growth in the ſeed-bed, for the younger they are tranſplanted, the better they will ſucceed, and hereby they will be prevented from ſending tap-roots deep in the ground; for by ſhortening thoſe roots which ſeem ſo diſpoſed, it will cauſe them to put out horizontal roots. Theſe ſtocks ſhould be planted in rows three feet aſunder, and one foot apart in the rows. This is wider than moſt nurſerymen plant them, but I ſhall give my reaſons hereafter for this.

When theſe ſtocks have grown in the nurſery two years, they will be ſtrong enough to bud; the ſeaſon for which is commonly about midſummer, or any time in July, when the rind will eaſily ſeparate from the wood, when you ſhould make choice of ſome good cuttings of the ſorts of fruit you intend to propagate, always obſerving to take them from healthy trees, and ſuch as generally produce a good quantity of well-taſted fruit; for it is very certain, that any ſort of fruit may be ſo far degenerated where this care is wanting, as not to be like the ſame kind. Beſides, whenever a tree is unhealthy, the buds taken from that tree will always retain the diſtemper, in a greater or leſs degree, according as it has imbibed a greater or leſs quantity of the diſtempered juice. Thus, for inſtance, where a Peach or Nectarine-tree has been greatly blighted, ſo as that the ſhoots have grown buſled, and the leaves curled up to a great degree, that diſtemper is ſeldom recovered again by the greateſt art, or at leaſt not under ſeveral years management; for let the ſeaſons prove ever ſo favourable, yet theſe trees will continually ſhew the ſame diſtemper, which many perſons are ſo weak as to ſuppoſe a freſh blight, whereas in reality it is no other but the remains of the former ſickneſs, which are ſpread and intermixed with all the juices of the tree; ſo that whatever buds are taken from ſuch trees, will always retain a part of the diſtemper.

Upon the care which is taken in the choice of the buds, the whole ſucceſs depends; in general no more is regarded by thoſe nurſerymen who are the moſt careful in propagating the ſeveral ſorts of fruit-trees, than their taking their buds or grafts from the true kinds of fruit-trees; but there is ſtill more care required to have ſound healthy trees, eſpecially in Peaches and Nectarines; for if the buds are taken from young plants in the nurſery which have not produced fruit, the ſhoots of which are generally very ſtrong and vigorous, theſe buds will have ſo vicious a habit, as rarely to be corrected and brought into good order; for they will ſhoot more like the Willow than the Peach, the joints being extended to a great diſtance from each other, the ſhoots very groſs, and the wood pithy; therefore where the practice of taking the buds from nurſery-trees is long continued, there can be little hopes of the trees ſo raiſed. I would therefore recommend it to every curious perſon, to procure their buds from ſuch trees as have been long growing, whoſe fruit is well flavoured, and the trees perfectly ſound; as alſo never to make choice of the ſtrongeſt or moſt luxuriant ſhoots of theſe trees, but ſuch ſhoots as are well conditioned, and whoſe buds grow pretty cloſe together. And although theſe do not make ſo ſtrong ſhoots the following years, as thoſe which are taken from luxuriant branches, yet they will be better diſpoſed to bear fruit, and will make much better trees.

The cuttings with which you are thus to be provided, ſhould always be taken from the trees either in a morning or evening, or elſe in a cloudy day; for if they are cut off when the ſun is very hot, the ſhoots will perſpire ſo freely, as to leave the buds deſtitute of moiſture, which is often the cauſe of their miſcarrying; and the ſooner they are put into the ſtocks when cut from the trees, the better they will take. The manner of this operation being fully explained under the article of Inoculation, I ſhall not repeat it in this place. The management of theſe trees, during their remaining time in the nurſery, is likewiſe fully ſet down under that article. I ſhall therefore proceed to give ſome directions for the choice of theſe trees, when they are to be procured from a nurſery.

Choice of trees.

The firſt care ſhould be to find out a perſon of character to deal with, on whoſe integrity you may depend, not only for having the trees of thoſe kinds which you propoſe, but alſo for their buds being taken from bearing trees; and either ſee them taken up, or let ſome perſon you can confide in do it for you; becauſe, as moſt of the nurſerymen have dealings with each other, if the perſon applied to has not the ſort of fruit deſired in his own nurſery, he procures them from another; and if the gardener from whom he gets them, is not as honeſt and careful as himſelf, it is a great chance if the trees prove to be of the right kinds.

The trees ſhould alſo be choſen in the autumn, before others have drawn out the beſt; for thoſe who go firſt to the nurſeries, if they have ſkill, will always draw the fineſt plants. In the choice of the trees, you ſhould obſerve the ſtocks upon which they have been budded, that they are of the right ſort, whether Plum or Apricot; that they are ſound and young, not ſuch as had been budded the preceding year and failed, nor thoſe which have been cut down. If the ſize of the ſtock is near that of a man's finger, it will be better than if they are larger; theſe ſhould be clear of moſs or canker. The buds ſhould be of one year's growth only, and not ſuch as have been cut down in the ſpring, and made a ſecond ſhoot; nor ſhould thoſe trees be choſen whoſe ſhoots are very ſtrong and luxuriant, but ſuch as have clean ſhoots, of a moderate ſize, whoſe joints are not too far aſunder; and thoſe trees which ſtand on the outſide rows, or near the ends of the rows, where they have moſt air, are generally ſuch; for, where they ſtand cloſe in the nurſery, their ſhoots are drawn up in length, their joints are much farther aſunder, and their buds or eyes are flat; for which reaſon, I have before adviſed the planting of the ſtocks at a greater diſtance than the nurſerymen generally allow them; and, if a careful diſcreet nurſeryman would be at the trouble and expence in the raiſing of his Peach-trees according to this method, he would better deſerve three ſhillings per tree, than one in the manner they are uſually raiſed; for every perſon who is at the expence of building walls for fruit, ſhould not think of ſaving a few ſhillings in the purchaſe of their trees; becauſe, if they are bad, or not of the right kinds, there is a great loſs of time and expence to no purpoſe, and the diſappointment will be ſo great, after waiting three or four years, as to diſcourage many from making farther trials, thinking themſelves liable to the ſame ill ſucceſs.

When the trees are choſen in the nurſery, the next care muſt be to have them carefully taken up out of the ground, ſo as not to break or tear their roots, nor injure their bark; for as theſe trees are very apt to gum in thoſe places where they are wounded, there cannot be too much care taken of this. If the trees are to be tranſported to a diſtant place, their roots ſhould be cloſely wrapped either with haybands, ſtraw, or peas-haulm, and mats ſewed over theſe, to prevent the air from drying their roots and branches. If the leaves of the trees are not fallen when they are taken up, they ſhould be carefully ſtripped off, before the trees are packed up; for when there are many of theſe left, they are very apt to heat, if they are long in their paſſage, and often occaſion a mouldineſs very hurtful to the branches.

Soil.

We come next to the preparing of the ground to receive the trees. The beſt earth for Peach-trees is ſuch as is taken from a paſture-ground, that is neither too ſtiff and moiſt, nor over dry, but of a middling nature, ſuch as is termed hazel loam. This ſhould be dug from the ſurface of the ground about ten inches deep, taking the turf with it, and ſhould be laid in heaps eight or ten months at leaſt; but that which is prepared one year or more before it be uſed, is ſtill better, that it may have the winter's froſt, and ſummer's heat to mellow it; during which time it ſhould be often turned, to rot the turf and break the clods, whereby it will be rendered very light and eaſy to work; and about the beginning of ſeptember you ſhould carry it into the garden, and make the borders, which muſt be raiſed in height proportionable to the moiſture of the garden; but if the ground be very wet, it will be adviſeable to lay ſome rubbiſh in the bottom of the border to drain off the moiſture, alſo to prevent the roots of the trees from running downward; and in this caſe it will be proper to make ſome under-ground drains at the bottom of the border, to convey off the ſuperfluous moiſture; which, if detained about the roots of the trees, will greatly prejudice them; then raiſe a border of earth at leaſt a foot, or in very wet land two feet above the level of the ground, ſo that the roots of the trees may always remain dry; but if the ground be pretty dry, the borders ſhould not be raiſed above ſix or eight inches higher than the ſurface, which will be ſufficient to allow for their ſinking.

As to the breadth of theſe borders, that cannot be too great; but ſhould never be leſs than ſix or eight feet, where fruit-trees are planted, for when the borders are made very narrow, the roots of the trees will be ſo confined in four or five years time, that they will ſeldom thrive well afterwards. The depth of theſe borders ſhould not be greater than two feet and a half; for when they are prepared to a great depth, it only entices the roots of the trees downward, which may be the cauſe of their future barrenneſs; for their roots being got down below the influences of the ſun and ſhowers, imbibe a great quantity of crude juices, which only add to the luxuriant growth of the trees, and deſtroy their fruitfulneſs; beſides, whatever fruit are produced from ſuch trees, are not near ſo well taſted as thoſe are which grow upon trees whoſe roots lie near the ſurface, and enjoy the kindly benefit of the ſun's heat, to correct and digeſt whatever crudities there may be in the earth.

Where the natural ſoil of the garden is ſhallow, and either chalk, clay, or gravel lies near the ſurface, theſe ſhould not be dug out to make pits to receive the earth for the border, as is by ſome practiſed, for this will be no better than planting the trees in tubs or caſes, for their roots will be confined to theſe pits; ſo that when they are extended to the ſides, and can get no farther, the trees will blight and decay; and if it is clay on the ſides, the wet will be detained as in a baſon, and the earth of the border will be like mud in very wet ſeaſons, unfit therefore for the roots of theſe trees. Whenever then it ſo happens that the ground is of either of the ſorts before-mentioned, it will be the beſt way to raiſe the borders of a proper thickneſs of good earth over theſe, rather than to ſink down into them; for when the roots of the trees lie near the ſurface of the ground, they will extend to a great diſtance in ſearch of nouriſhment; but if they get below the ſtaple of the land, they can find nothing but ſour crude paſture very unfit for vegetation.

Your borders being thus prepared, ſhould lie about three weeks or a month to ſettle, by which time the ſeaſon for planting will be come, which ſhould be performed as ſoon as the leaves begin to decay, that the trees may put out new roots, before the froſt comes on to prevent them. Your ground being ready, and the trees brought carefully to the place, the next work is to prepare them for planting, which is to be performed in the following manner: you muſt ſhorten all the roots, cut off ſmooth broken or bruiſed roots, and take off all the ſmall fibres; where any of the roots croſs each other, the worſt of them muſt be cut out, that they may not injure the others.

Diſtance.

Having thus prepared your trees, you ſhould meaſure out their diſtance, which ought never to be leſs than twelve feet; but where the ground is very good, they ſhould be planted fourteen feet aſunder. This I doubt not, will be thought too great a diſtance by many perſons, eſpecially ſince it is contrary to the general practice at this time; but I am ſatisfied whoever ſhall try the experiment, will find it no more than is ſufficient for theſe trees where they are rightly managed; for if they take kindly to the ſoil, their branches may be ſo trained as to furniſh all the lower part of the wall in a few years, which is what ſhould be principally regarded, and not, as is too often the practice, run up the ſhoots in height, and leave all the lower part of the tree deſtitute of bearing wood, ſo that in a few years there will not be any fruit but upon the upper part of the trees; which alſo muſt be the caſe where they are planted too cloſe, becauſe there being no room to extend the branches on either ſide, they are obliged to lead them upright, which produces the before-mentioned ill effect.

There may be alſo ſome perſons, who think this diſtance too ſmall for theſe trees, becauſe Plums, Cherries, and moſt other ſorts of fruit-trees require much more room; but Peach and Nectarine-trees produce their fruit only upon the former year's wood, and not upon ſpurs, as Cherries, Plums, and Pears do, ſo that the ſhoots of theſe trees muſt be annually ſhortened in every part of them to obtain bearing wood; the trees therefore may be kept in much leſs compaſs than thoſe of any other ſort of fruit, and thereby every part of the wall may be conſtantly ſupplied with bearing branches; for when the trees are planted at a great diſtance, the branches are often extended to ſuch lengths as to leave the middle of the trees naked, for there are never any good ſhoots produced from the old branches of theſe trees.

And here I cannot help taking notice of another very great error in planting wall-fruit, which is the placing ſtandard or half ſtandard trees between the others, to cover the upper part of the wall, and to produce fruit, until the trees underneath are grown up ſufficient to furniſh the walls, when the ſtandards are to be taken away. This is done, without conſidering that the greater the number of trees which are planted in a ſmall compaſs, the leſs nouriſhment they can receive, and conſequently they muſt be the weaker, for the ſame ſpace of ground cannot nouriſh twenty trees equally as well as it could ten; ſo that whatever ſtrength the ſtandard-trees may have, the dwarfs will be proportionably weaker; and it is a common obſervation, that moſt trees extend their roots as far under ground, as their branches ſpread above ground ; ſo that there ſhould always be the ſame allowance given to the wall-trees, if we would have them ſtrong and vigorous ; therefore the building very high walls for fruit, unleſs for Pears, is to no purpoſe, for a ten or twelve feet wall will be ſufficient for moſt ſorts of fruit. I have ſeen gardens planted with fruit-trees by perſons of great eſteem for their ſkill in this art, where Peach and Nectarine-trees have been placed againſt walls expoſed to the eaſt and weſt, but could never ſee any of the fruit on thoſe trees come to perfection ; for which reaſon I would caution every perſon never to follow ſuch examples, becauſe it is well known, that the beſt aſpected walls barely ripen many of the latter Peaches ſome years ; therefore the only aſpect to which theſe trees ſhould be expoſed, is ſouth, or with a point or two to the eaſt, and ſome ſorts may do well if they are a point or two to the weſt.

In the diſpoſition of the trees, it will not be amiſs to plant thoſe ſorts of Peaches near each other, which ripen about the ſame time ; for by ſo doing, the fruit may be the better guarded from men and inſects, and this will ſave a great deal of trouble in gathering the fruit ; for if a perſon is obliged to go from one part of the garden to the other, or perhaps to look over all the walls of the garden every time the fruit is gathered, it is a great loſs of time, which may be avoided by this firſt care in planting the trees.

Planting.

After you have marked out the places where each tree is to ſtand, you muſt with your ſpade make a hole wide enough to receive the roots of the tree ; then you ſhould place it down, obſerving to turn the bud outwards, that the wounded part of the ſtock may be hid from ſight ; and let the ſtem of the tree be placed about four or five inches from the wall, with its head inclining thereto ; then fill in the earth with your hands, obſerving to break the clods, that the earth may fall in between the roots, ſo as no void ſpaces may be left about them. You ſhould alſo gently ſhake the tree with your hands, to ſettle the earth down the better between the roots ; then with your foot gently preſs down the earth about the ſtem, but do not tread it down too hard, which is many times a very great fault ; for when the ground is inclinable to bind, the treading it cloſe often renders the ground ſo hard, as that the tender fibres of the roots cannot ſtrike into it, whereby the tree remains at a ſtand for ſome time ; and if the earth be not looſened in time, it frequently dies ; ſo that whenever you obſerve the earth of your borders to be bound, either by great rains, or from any other cauſe, you ſhould dig or fork it, to looſen it again, obſerving always to do it in dry weather, if in winter or ſpring ; but in ſummer it ſhould be done in a moiſt ſeaſon.

Although I have here given directions for the choice of trees from the nurſery, after the uſual method of planting theſe trees, which is that of taking ſuch as have made one year's ſhoot, yet I would prefer thoſe which were budded the preceding ſummer, and have made no ſhoot ; for if the bud is ſound and plump, and the bark of the ſtock well cloſed where the bud is inſerted, there will be no danger of its growing ; and when the bud has made a ſhoot the following ſpring the length of five or ſix inches, if it is ſtopped by pinching off the top, it will put out lateral branches, which may be trained to the wall, and this will prevent any cutting off the head, as muſt be done to thoſe trees which have had one year's growth in the nurſery ; for theſe trees do not care for thoſe large amputations, eſpecially ſome of the more tender ſorts ; ſo by this method of planting theſe trees in bud, no time will be loſt, when it is conſidered that the trees which have ſhot muſt be cut down, and there is a hazard of their ſhooting again ; therefore I am convinced from experience, that it is the beſt method.

After you have thus planted your trees, which have made their ſhoots in the nurſery, you ſhould faſten their heads to the wall, to prevent their being ſhaken by the wind, which would diſturb their roots, and break off the tender fibres ſoon after they were produced, to the no ſmall prejudice of the trees ; you ſhould alſo lay ſome mulch upon the ſurface of the ground about their roots, before the froſt ſets in, to prevent it from penetrating the ground, which would injure, if not deſtroy, the ſmall fibres ; but this mulch ſhould not be laid upon the ground too early, leſt it prevent the autumnal rains from penetrating to the roots.

Theſe things being duly obſerved, they will require no farther care till the beginning or middle of march, according as the ſeaſon is earlier or later ; when you muſt cut off the heads of the new planted trees, leaving only four or five eyes above the bud ; in doing of which, you muſt be very careful not to diſturb their roots ; to prevent which, you ſhould place your foot down cloſe to the ſtem of the tree, and take faſt hold of that part of the ſtock below the bud with one hand, to hold it ſteady, while with the other hand you gently ſlope off the head of the tree with a ſharp knife at the intended place, which ſhould always be juſt above a bud ; this ſhould always be done in dry weather, for if there ſhould be much rain ſoon after it is done, there will be ſome danger that the wet will enter the wounded part, and damage the tree ; nor ſhould it be done in froſty weather for the ſame reaſon, for that would enter the wounded part and prevent its healing over. After you have headed the trees, you ſhould gently looſen the earth of the borders, to admit the fibres of the roots ; but you muſt be very careful in doing this, not to cut or bruiſe their new roots, which would alſo damage them ; and if the mulch which was laid about their roots in autumn be rotten, you may dig it into the border at ſome diſtance from the roots of the trees ; and when the dry weather comes on, you ſhould pare off ſome turf from a paſture ground, which ſhould be laid upon the ſurface of the border about the roots of the trees, turning the graſs downward, which will preſerve a gentle moiſture in the earth, better than any ſort of mulch ; and this will not harbour inſects, as moſt ſorts of dung and litter do, to the no ſmall detriment of the trees.

Thoſe trees which are planted in bud, and have not made any ſhoots, ſhould have their ſtocks cut down at this ſeaſon juſt above the bud, for the buds will rarely ſhoot unleſs this is performed ; and the nearer they are cut to the bud, the ſooner will the head of the ſtock be covered by the buds ; for although it may be neceſſary to leave a part of the ſtock above the bud, in thoſe trees which are in the nurſery, to which the ſhoots made by the buds may be faſtened, to prevent their being broken by the wind ; yet as theſe are placed againſt the wall, to which the ſhoots may be faſtened, there will be no want of any part of the ſtock.

In watering theſe new planted trees, which ſhould not be done unleſs the ſpring proves very dry, you ſhould obſerve to do it with a noſſel upon the watering-pot, ſo as to let it out in drops ; for when it is haſtily poured down, it cauſes the ground to bind ; and if you water over the head of the tree, it will be of great ſervice to it. Your waterings ſhould not be repeated too often, nor ſhould they be given in great quantity, both being very injurious to new planted trees.

Training.

In the middle or latter end of may, when theſe trees will have ſeveral ſhoots ſix or eight inches in length, you ſhould nail them to the wall, obſerving to train them horizontally, rubbing off all fore-right ſhoots, or ſuch as are weak, whereby thoſe which are preſerved will be much ſtronger ; but if there are not more than two ſhoots produced, and thoſe very ſtrong, you ſhould at the ſame time nip off their tops, which will cauſe each of them to puſh out two or more ſhoots, whereby the wall will be better ſupplied with branches ; you muſt alſo continue to refreſh them with water in dry weather, during the whole ſeaſon, otherwiſe they will be apt to ſuffer ; for their roots having but little hold of the ground the firſt year after tranſplanting, if the ſeaſon ſhould prove very dry, it will greatly retard their growth, if due care be not taken to water them.

In the beginning of october, when you obſerve the trees have done ſhooting, you ſhould prune them; in doing of which, you muſt ſhorten the branches in proportion to the ſtrength of the tree; which, if ſtrong, may be left eight inches long; but if weak, ſhould be ſhortened to four or five, then you ſhould train them horizontally to the wall (as was before directed,) ſo that the middle of the trees may be void of branches, for that part of the tree will be eaſily furniſhed with wood afterwards; whereas, if the ſhoots are trained perpendicularly to the wall, thoſe which are the ſtrongeſt, will draw the greateſt ſhare of the ſap from the roots, and mount upwards; ſo that the ſide branches will be deprived of their nouriſhment and grow weaker, until they many times decay; and this is the reaſon that we ſee ſo many Peach-trees with one or two upright ſhoots in the middle, and the two ſides wholly unfurniſhed with branches, whereby the middle of each tree cannot produce any fruit, that being filled with large wood, which never produces any bearing ſhoots. Nor can the two ſides of the trees be regularly filled with fruitful branches, when this defect happens to them; therefore this method ſhould be carefully obſerved in the training up young trees, for when they are permitted to run into diſorder at firſt, it will be impoſſible to reduce them into a regular healthful ſtate afterwards, the wood of theſe trees being too ſoft and pithy to admit of being cut down (as may be practiſed on many other hardy fruit trees, which will ſhoot out vigorouſly again;) whereas theſe will gum at the places where they are wounded, and in a few years entirely decay.

The ſummer following, when the trees begin to ſhoot, you ſhould carefully look over them, to rub off all fore-right buds, or ſuch as are ill placed, and train thoſe which are deſigned to remain horizontally to the wall, in their due order as they are produced, for this is the principal ſeaſon when you can beſt order the trees as you would have them; whereas, if they are neglected until Midſummer, as is the common practice, a great part of the nouriſhment will be exhauſted by fore-right ſhoots, and other uſeleſs branches, which muſt afterwards be cut off; and hereby the remaining ſhoots will be rendered very weak, and perhaps ſome part of the wall be entirely unfurniſhed with branches; which might have been eaſily ſupplied in may, by ſtopping ſome of the ſtronger ſhoots in ſuch parts of the tree where there is a neceſſity for more branches, which would cauſe each of them to ſhoot out two or more ſide branches below the ends of the ſhoots, which may be guided into the vacant parts of the tree as they are produced, ſo as that every part may be regularly furniſhed with proper wood, which is the greateſt beauty and excellency of wall-trees; but you ſhould always forbear ſtopping the ſhoots in ſummer, where there is not a neceſſity for branches to fill the wall; for there cannot be a greater fault committed, than that of multiplying the number of ſhoots, ſo as to cauſe a confuſion, whereby the branches will be too weak to produce good fruit; beſides, when they are too cloſe laid in againſt the wall, the air is excluded from the ſhoots by the great number of leaves, ſo that the fruit is never duly ripened; and cannot be ſo well taſted, as that which is produced upon ſuch trees where the ſhoots receive all the advantages of the ſun and air to bring it to maturity.

Pruning.

In the pruning of Peach and Nectarine-trees, (which require the ſame management) the two following rules ſhould be ſtrictly obſerved, *viz.* firſt, That every part of the tree be equally furniſhed with bearing wood; and, ſecondly, That the branches be not laid in too cloſe to each other. As to the firſt, it muſt be obſerved, that Peach and Nectarine-trees produce their fruit upon the young wood, either of the preceding year, or at moſt, the two years ſhoots, after which age they do not bear; therefore the branches ſhould be ſhortened, ſo as to cauſe them to produce new ſhoots annually in every part of the tree; which cannot be done in the ordinary method of pruning, where perſons neglect their trees at the proper ſeaſon when they are moſt capable of management, which is in april, may, and june; at which time the luxuriant growth of branches may be checked by pinching, and new ſhoots produced where they are wanting, by ſtopping the neighbouring branches; which ſhoots, being produced at that ſeaſon, will have time enough to ripen and gain ſtrength before the autumn comes on; whereas all thoſe ſhoots which are produced after the middle of june, will be crude and pithy; and though they may ſometimes produce a few bloſſoms, yet thoſe rarely bring fruit; nor are the future branches good which are produced from ſuch wood, the veſſels being too large to ſtrain the juices, ſo that they eaſily admit of great quantities of crude nouriſhment to paſs through them. Therefore thoſe perſons who only regard their wall trees at two different ſeaſons, *viz.* the winter and midſummer pruning, cannot poſſibly have them in good order; for when all the branches which were produced in the ſpring, are permitted to remain until the middle or latter end of june (as is the common practice) ſome of the moſt vigorous will draw the greateſt part of the nouriſhment from the weaker branches, which, when the ſtrong ones are taken off, will be too weak to produce fair fruit; and hereby the ſtrength of the tree is exhauſted, to nouriſh the uſeleſs branches which are annually cut off; and thus are too many trees managed, and at the ſame time complaints made of their luxuriancy; becauſe two or three ſhoots, by drawing away the greateſt ſhare of the nouriſhment grow very ſtrong and woody, (whereas, if the nouriſhment had been equally diſtributed to a regular quantity of branches, there would be no ſign of their too great ſtrength) until by often cutting off theſe vigorous branches, the trees are either entirely deſtroyed, or at leaſt rendered ſo weak as not to be able to produce fruit; for although by thus weakening the branches, it is often the means to produce a good number of bloſſoms (as may many times be obſerved alſo upon autumnal ſhoots;) yet the utmoſt of their ſtrength is ſpent in expanding the flowers, ſo that they rarely produce fruit; and very often the greateſt part of the branches die ſoon after, which is ſuppoſed to be occaſioned by a blight, when in reality it is nothing leſs than the fault of thoſe who have the management of the trees. It is therefore of the greateſt conſequence to wall-trees, eſpecially of theſe ſorts, to go over them two or three times in the months of april, may, and june, to rub off all irregular ſhoots, and to train in the branches, that are left in due order, to the wall, that each ſhoot may have an equal advantage of ſun and air, both of which are abſolutely neceſſary to ripen and prepare the wood for the next year's bearing; therefore the oftener the trees are looked over, to diveſt them of the uſeleſs branches, from the time they firſt begin to ſhoot in the ſpring till the autumn, the better will the wood be ripened for the ſucceeding year. And by duly obſerving this in ſummer, there will not be occaſion for ſo much cutting as is often practiſed on Peach-trees, to their great injury; for their wood branches are generally ſoft, tender, and pithy, which, when greatly wounded, are not healed over again ſo ſoon as in many other ſorts of trees; and the wet inſinuating into the wounded parts, often cauſes the branches to canker and die; which may be entirely avoided by the gentle eaſy method of pinching and rubbing off the buds in the manner here directed, which makes no wound on the tree; and hereby a vaſt deal of labour is ſaved, for one perſon who is ready at this buſineſs will go over a greater quantity of walling in one day, than three or four can when ſuffered to grow rude; ſo that if the trees are permitted to grow rude all the ſpring, they will require ſix times the labour to reduce them into order. Beſides, it is a great diſadvantage to the fruit, in permitting the branches of the trees to extend from the wall and ſhade them; and when they have grown under the ſhelter of theſe branches and leaves all the ſpring, until midſummer, then by pruning off and ſhortening moſt of theſe ſhoots, and nailing the others cloſe to the wall, the fruit are ſuddenly expoſed to the ſun and air, whereby they receive a very great check, and are not only retarded in their growth, but often rendered ill-taſted, and have tough ſkins.

The diſtance which the branches of theſe trees ſhould be allowed againſt the wall, muſt be proportioned to the ſize of the fruit or the length of the leaves; for if we obſerve how the branches of the trees are naturally diſpoſed to grow, we ſhall always find them placed at a greater or leſs diſtance, as their leaves are larger or ſmaller. And there is no ſurer guide to a curious artiſt than nature, from whence a gardener ſhould always be directed in every part of his profeſſion, ſince his buſineſs is to aid and aſſiſt nature, where ſhe is not capable of bringing her productions to maturity; or where there is room, to make conſiderable improvements by art; which cannot be any otherwiſe effected, than by gently aſſiſting her in her own way.

But to return to pruning theſe trees: the branches being carefully trained in, as before directed, in the ſpring and ſummer ſeaſons, we come now to treat of the winter pruning, which is commonly performed in february or march. But the beſt ſeaſon for this work is in october, when their leaves begin to fall, which will be early enough for their wounds to heal before the froſt comes on, ſo that there will be no danger of their being hurt hereby; and the branches of the trees being proportioned to the ſtrength of the roots at that ſeaſon, all the aſcending ſap in the ſpring will be employed to nouriſh only thoſe uſeful parts of the branches which are left; whereas, if they are left unpruned till february, the ſap in the branches being then in motion, as may be obſerved by the ſwelling of the buds, the greateſt part of it will be drawn up to the extreme parts of the branches, to nouriſh ſuch bloſſoms as muſt be afterwards cut off; and this may be eaſily known by obſerving the ſtrongeſt ſhoots at that ſeaſon, when you will find the extreme buds to ſwell faſter than moſt of the lower ones; for there being no leaves then upon the branches to detain the ſap to nouriſh the lower buds, the upper ones will always draw from thoſe below.

But it is a conſtant practice amongſt gardeners, founded upon long experience, to prune weak trees early in the winter, and luxuriant trees late in the ſpring, in order to check their luxuriancy. Now it is evident, that this check does not proceed from any conſiderable loſs of ſap at the wounds of the pruned tree (excepting a few of the bleeding trees, when cut at that ſeaſon) but muſt ariſe from ſome other cauſe; for by ſeveral experiments made by the Rev. Dr. Hales, in fixing mercurial gages to the ſtems of freſh cut trees, he found thoſe wounds were conſtantly in an imbibing ſtate, except the Vine in the bleeding ſeaſon.

Therefore when a weak tree is pruned early in the beginning of winter, the orifices of the ſap-veſſels are cloſed up long before the ſpring; and conſequently, when in the ſpring and ſummer, the warm weather advancing, the attracting force of the perſpiring leaves is not then weakened by many inlets from freſh wounds, but is wholly exerted in drawing ſap from the root; whereas, on the other hand, when a luxuriant tree is pruned late in the ſpring, the force of its leaves to attract ſap from the root, will be much ſpent and loſt at the ſeveral freſh cut inlets.

Beſides, if it were no advantage to the trees to prune them at this ſeaſon (which I think no one will have reaſon to doubt after making the trial) but that it only ſucceeds as well as the ſpring pruning; yet there is a great advantage in doing it at Michaelmas, for that being a much more leiſure ſeaſon with gardeners than the ſpring, they will have more time to perform it carefully; and then they will not have too many things come together, which may require to be immediately executed; for the ſpring being the principal ſeaſon for cropping their kitchen-gardens and attending their hot-beds, if they are diſengaged from the buſineſs of pruning at that time, it will be of great advantage, eſpecially where there is a great quantity of walling. And here is alſo another benefit in pruning at this ſeaſon, which is, the having the borders at liberty to dig and make clean before the ſpring, ſo that the garden may not appear in a litter at that ſeaſon.

Having ſaid thus much concerning the time of pruning, I ſhall now proceed to give ſome general directions how it is to be performed on Peach and Nectarine-trees, which require a very different management from moſt other ſorts of fruits.

In pruning theſe trees, you ſhould always obſerve where branches are ſhortened, to cut them behind a wood-bud, which may be eaſily diſtinguiſhed from the bloſſom-buds, which are ſhorter, rounder, and more turgid than the wood-buds; for if the ſhoot have not a leading bud where it is cut, it is very apt to die down to the next leading bud; ſo that what fruit may be produced above that, will come to nothing, there being always a neceſſity of a leading bud to attract the nouriſhment; for it is not ſufficient to have a leaf-bud, as ſome have imagined, ſince that will attract but a ſmall quantity of nouriſhment, the great uſe of the leaves being to perſpire away ſuch crude juices as are unfit to enter the fruit. The length you ſhould leave theſe branches, ſhould be proportioned to the ſtrength of the tree, which, in a healthy ſtrong tree, may be left ten or twelve inches, or more; but in a weak one, they ſhould not be more than ſix inches; however, in this you muſt be guided by the poſition of a leading bud; for it is better to leave a ſhoot three or four inches longer, or to cut it two or three inches ſhorter than might be proper to do, provided there be one of theſe buds, it being abſolutely neceſſary for the future welfare of the tree; you ſhould alſo cut out entirely all weak ſhoots, though they may have many bloſſom-buds upon them; for theſe have not ſtrength enough to nouriſh the fruit, but they will weaken the other parts of the tree.

In nailing the ſhoots to the wall, you muſt be careful to place them at as equal diſtances as poſſible, that their leaves, when come out, may have room to grow without ſhading the branches too much; and you ſhould never nail them upright if it can be avoided; for when they are thus trained, they are very ſubject to ſhoot from the uppermoſt eyes, and the lower part of the ſhoots will thereby become naked.

Blights and their cure.

There is not any thing in the buſineſs of gardening, which has more exerciſed the thoughts of the curious, than how to preſerve their tender ſorts of fruit from being blighted in the ſpring of the year, and yet there has been little written upon this ſubject which is worth notice: ſome have propoſed mattraſſes of ſtraw or reeds to be placed before the fruit-trees againſt walls, to prevent their being blaſted; others have directed the fixing horizontal ſhelters in their walls, to prevent the perpendicular dew or rain from falling upon the bloſſoms of the fruit-trees, which they ſuppoſed to be the chief cauſe of their blighting; but both theſe contrivances have been far from anſwering the expectations of thoſe perſons who have put them in practice, therefore it may not be improper to repeat ſome things in this place, which I have elſewhere mentioned in relation to this matter. And

Firſt, I have ſaid, that the blights which are ſo often complained of, do not ſo much proceed from any external cauſe, or inclemency in the ſeaſon, as from a diſtemper or weakneſs in the trees; for if we obſerve the trees at that ſeaſon, where they are the moſt ſubject to what is called a blight, we ſhall find the branches very ſmall, weak, and not half ripened, as alſo trained in very cloſe to each other; theſe branches are, for the moſt part, full of bloſſom-buds, which is chiefly occaſioned by their want of ſtrength. Theſe buds do indeed open, and to perſons not ſkilled in fruit-trees, ſhew a great proſpect of a plentiful crop of fruit; whereas the whole ſtrength of the branches is ſpent in nouriſhing the flowers, and being unable to do any more, the bloſſoms fall off, and the ſmall efforts of the leaf-buds are checked, ſo that many times great part of the branches die away, and this is called a great blight; whereas, at the ſame time, it may be often obſerved, that ſome trees of a different ſort, nay, even ſome of the ſame ſort, were ſtronger and in health, though placed in the ſame ſoil, expoſed to the ſame aſpect, and ſubject to the ſame inclemency of air, have eſcaped very well, when the weak trees have appeared to be almoſt dead; which is a plain indication, that it proceeds from ſome cauſe within the tree, and not from any external blight. All this will therefore be remedied, by obſerving the foregoing directions in the pruning and management of the trees, ſo as never to over-burden them with branches, nor to ſuffer any particular part of the trees to exhauſt the whole nouriſhment from the root, which will cauſe the other parts to be very weak; but to diſtribute the nouriſhment equally to every ſhoot, that there may be none too vigorous, at the ſame time that others are too weak; and by continually rubbing off uſeleſs or fore-right ſhoots as they are produced, the ſtrength of the trees will not be ſpent, to nouriſh ſuch branches as muſt be afterwards cut out, which is too often ſeen in the management of theſe trees. And,

Secondly, It ſometimes happens, that the roots of theſe trees are buried too deep in the ground, which, in a cold or moiſt ſoil, is one of the greateſt diſadvantages that can attend theſe tender fruits; for the ſap which is contained in the branches, being by the warmth of the ſun, put ſtrongly into motion early in the ſpring, is exhauſted in nouriſhing the bloſſoms; and a part of it is perſpired through the wood-branches, ſo that its ſtrength is loſt before the warmth can reach to their roots, to put them into an equal motion in ſearch of freſh nouriſhment, to ſupply the expence of the branches; for want of which, the bloſſoms fall off and decay, and the ſhoots ſeem to be at a ſtand, until the farther advance of the warmth penetrates to the roots, and ſets them in motion; when ſuddenly after, the trees, which before looked weak and decaying, make prodigious progreſs in their ſhoots; and before the ſummer is ſpent, are furniſhed with much ſtronger branches than thoſe trees which have the full advantage of ſun and ſhowers, and are more fruitful and healthy; which muſt certainly be owing to the cauſe here mentioned, as alſo to their drawing in a great quantity of crude moiſture, which, though productive of wood, is yet unkindly for fruit: if therefore this be the caſe, there is no way of helping it, but by raiſing up the trees, if they are young; or if they are too old to remove, it is the better way to root them out and make new borders of freſh earth, and plant down young trees; for it is a great vexation to be at the trouble and expence of pruning and managing theſe trees, without having the pleaſure of reaping any advantage from them, which will always be the caſe where the trees are thus injudiciouſly planted. Or,

Thirdly, This may proceed from the trees wanting nouriſhment, which is many times the caſe, where they are planted in a hard gravelly ſoil, in which it is the common practice to dig borders three or four feet wide, and three feet deep into the rock of gravel, which is filled with good freſh earth, into which the trees are planted, where they will thrive pretty well for two years, until their roots reach the gravel, where they are confined as if planted in a pot; and for want of proper nouriſhment, the branches continually decay every year. This cannot be helped where the trees have been growing ſome years, without taking them entirely up, or by digging away the gravel from their roots, and adding a large quantity of freſh earth, that may afford them a ſupply of nouriſhment a few years longer; but trees ſo planted, cannot by any art be continued long in health.

But if the unfruitfulneſs of the trees does not proceed from any of the before-mentioned cauſes, and is the effect of unkindly ſeaſons, then the beſt method yet known is, in dry weather, when little dew falls, to ſprinkle the branches of the trees gently with water ſoon after the bloſſoming ſeaſon, and while the young-ſet fruit is tender, which ſhould always be done before noon, that the moiſture may evaporate before the night comes on; and if in the night you carefully cover the trees with mats, canvas, or ſome ſuch light covering, it will be of great ſervice to them: however, where the trees are ſtrong and vigorous, they are not ſo liable to ſuffer by a ſmall inclemency, as are thoſe which are weak, ſo that there will be few ſeaſons in which there may not be hopes of a moderate quantity of fruit from them, though there ſhould be no covering uſed; for where theſe coverings are uſed, if it is not performed with great care and diligence, it is much better to have none, but to truſt to the clemency of the ſeaſon; for if the coverings are kept too cloſe, or continued too long, the trees will receive more injury hereby, than from being conſtantly expoſed; or, if after having been covered for ſome time, they be incautiouſly removed, ſo as to expoſe the trees too ſuddenly to the open air, they will ſuffer more thereby than if they had not been covered. However, I muſt repeat in this place, a management generally attended with ſucceſs, which is, the putting up two featheredge deal boards joined together over the top of the trees, ſo as to form a pent-houſe to caſt off perpendicular wet. Theſe ſhould be fixed up when the trees begin to bloſſom, and ſhould remain till the fruit is well ſet, when they ſhould be taken down to admit the dew and rain to the leaves and branches of the trees; and where the wall is long, and expoſed to currents of wind, if at the diſtance of forty feet from each other, ſome croſs reed-hedges be fixed, to project about ten feet from the wall, theſe will break the force of the wind, and prevent its deſtroying the bloſſoms; and theſe may be removed as ſoon as the danger is over. Theſe things have been practiſed with great ſucceſs; and as there will be little trouble in covering and uncovering by this method, after they are fixed up, there is leſs danger of neglect, than where the trouble is great, or to be often repeated.

Thinning.

When your fruit is ſet, and grown to the bigneſs of a ſmall nut, you ſhould look over the trees and thin them, leaving the fruit at leaſt five or ſix inches aſunder; the ſooner this is done, the better it will be for the remaining fruit; and if it ſhould ſometimes happen, that a part of thoſe left ſhould be deſtroyed, yet the remaining ones will be much the larger and better taſted for it, and the trees will gain more ſtrength; the fruit when but few, will be much larger, better taſted, and the trees in a condition to bear well the ſucceeding year; whereas when they are overcharged with fruit, it is always ſmall, ill taſted, and the trees are generally ſo much weakened, as not to be in a condition for bearing well for two or three years after. The quantity of fruit to be left on large full-grown trees, ſhould never be greater than five dozen upon each; but on middling trees, three or four dozen will be enough.

Watering.

If the ſeaſon ſhould prove hot and dry, it will be proper to draw up the earth round the ſtem of each tree, to form a hollow baſon of about ſix feet diameter, and cover the ſurface of the ground in this baſon with mulch; and once in a week or fortnight, according to the heat and drought of the ſeaſon, pour down eight or ten gallons of water to the root of each tree; or where there is an engine which will diſperſe the water in gentle eaſy drops like rain, if the ſame, or a larger quantity of water be ſprinkled all over the branches of the trees; this, ſoaking down to the roots, will keep the fruit conſtantly growing, which will prevent its falling off the trees, as it generally does where this method is not practiſed; and the fruit being thus conſtantly nouriſhed, will be much better taſted, and hereby the trees will be maintained in vigour; ſo that it is what I can from long experience recommend, as one of the moſt neceſſary things to be practiſed by all lovers of good fruit. But this ſhould not be continued longer than while the fruit is growing, for afterward it will be hurtful to the trees and fruit, for a dry autumn ripens both wood and fruit better than a moiſt later ſeaſon.

When the Peach-trees are carefully managed in the ſpring of the year, according to the rules before laid down, all the nouriſhment which the roots can ſupply will be uſefully employed in the ſupport of ſuch ſhoots only as are to be continued, as alſo the quantity of fruit which is proper for each tree, therefore both muſt of conſequence be rendered better; for where there is not this care, the trees ſoon grow ragged, and are not furniſhed properly with branches; and thoſe ſhoots which are produced, are ſome of them very weak, and others very luxuriant, whereby the trees are rendered very unſightly, as alſo unhealthy, and never continue many years fruitful; and by thus training the branches to the wall as they are produced, the fruit will be always expoſed to the ſun and air; which in the common method of managing theſe trees, by letting their branches grow rude all the ſpring, they are deprived of, and by the timely rubbing off uſeleſs and luxuriant ſhoots, it will ſave much trouble, and prevent the uſe of the knife in ſummer, which is very hurtful to theſe trees, for there will be no need to ſhorten any of the ſhoots in ſummer.

When theſe rules are duly executed, there will be no occaſion to pull off the leaves of the trees, to admit the ſun to the fruit, which is often practiſed; for if we conſider, that the leaves are abſolutely neceſſary to cheriſh the bloſſom-buds, which are always formed at the foot-ſtalks of the leaves, the pulling them off before they have performed the office aſſigned them by nature, is doing great injury to the trees, therefore I caution every one againſt that practice.

It is a common opinion which has for ſome years prevailed, even amongſt perſons of good underſtanding, that Peach-trees are not long lived, therefore ſhould be renewed every twenty years; but this is a great miſtake, for I have eaten ſome of the fineſt Peaches of various kinds, which grew on trees which had been planted above fifty years: and I am convinced by experience, that when the trees are budded upon proper ſtocks, and carefully planted and managed, they may be continued fruitful and healthy ſixty years and upward; and the fruit produced on theſe old trees will be much better flavoured, than any of thoſe upon young trees; but I ſuppoſe the foundation of the above opinion was taken from the French, who generally bud their Peaches upon Almond ſtocks, which are of ſhort duration, theſe ſeldom laſting good more than twenty years; but this ſeldom being practiſed in England, the caſe is widely different.

It is a notion among ſome perſons, that laying dung upon borders where fruit trees are growing, will render the fruit ill-taſted. But from long experience I can ſay, that where the beſt fruit grew that I have yet taſted, the ground was conſtantly dunged every other year; therefore it is what I muſt recommend to the practice of every curious perſon, with this caution, always to uſe ſuch dung as is well rotted, and to dig it into the borders in november, that the rain may waſh down the ſalts before the ſpring comes on; and where the ground is very looſe or ſandy, it will be the beſt way to make uſe of neat's dung, which is cooler than that of horſes; but for cold ſtrong land the latter is to be preferred.

If the ground be well trenched every year about the roots, it will be of great ſervice to them; and where the ſoil is ſubject to bind very cloſe, if it is forked two or three times in a year to looſen the ſurface, it will greatly help the trees. The borders ſhould not be crouded with any large growing plants, which will draw away the nouriſhment from the trees; therefore when any ſort of kitchen herbs are planted on theſe borders, they ſhould be only ſuch as are of ſmall growth, and which may be taken off early in the ſpring; and if this be carefully obſerved, the cultivating ſmall things on theſe borders can do no harm, becauſe the ground will be ſtirred the oftener, on account of theſe ſmall crops, than perhaps it would have been, when no uſe was to be made of the borders. Theſe rules which are here laid down, if properly obſerved, will direct any curious perſon how to have plenty of good fruit, as alſo to preſerve the trees in vigour a great number of years.

The culture of the Nectarine differs in nothing from that of the Peach. Only the buds ſhould be taken from bearing trees, and not from young nurſery trees, as is too often practiſed.

2, 3, 4, &c. The common and dwarf Almonds are propagated, by inoculating a bud of theſe trees into a plum, almond or peach ſtock, in the month of july (ſee Inoculation.) The next ſpring, when the buds ſhoot, you may train them up either for ſtandards, or ſuffer them to grow for half ſtandards, according to your own fancy; though the uſual method is to bud them to the height the ſtems are intended to be; and the ſecond year after budding, they may be removed to the places where they are to remain.

[This is the only method by which the ſort can be continued with certainty: but, if a variety of fruit be wanted, or ſtocks for budding, they muſt be raiſed from the fruit. In order to which, having procured a quantity of well-ripened Almonds, either ſow them in october or november, or preſerve them in ſand till february or march. The ſeminary ſhould be in a good light ſoil, and the ſtones ſhould be put in two inches deep, in rows a foot diſtant from each other. When they are two years old, plant them out in the nurſery, in rows three feet wide, and eighteen inches aſunder in the rows. Train them with ſingle ſtems, from five to eight feet in height, by pruning off all the ſide ſhoots; then top them with your knife at the proper height, to force out a ſet of branches in order to give the head its firſt regular form, letting them afterwards branch out in their own way: but if they be intended as ſtocks for budding, they muſt not be headed, but trained ſtraight up till after the budding is performed.]

The beſt ſeaſon for tranſplanting theſe trees, if for dry ground, is in october, as ſoon as the leaves begin to decay; but for a wet ſoil, february is much preferable; and obſerve always to bud upon plum ſtocks for wet ground, and upon thoſe of almonds and peaches for dry.

The third ſort may be budded upon almond ſtocks, or propagated by layers; it will alſo take upon plum ſtocks, but theſe are very apt to canker after they have ſtood four or five years, eſpecially that with double flowers, which is more tender than the other; and this ſends out ſuckers from the roots, whereby it may be propagated in great plenty.

The fourth ſort is common in the nurſeries about London, being cultivated with other flowering ſhrubs. The roots are very apt to put out ſuckers, by which it may be increaſed in plenty; but if theſe be not annually taken away, they will ſtarve the old plants. Theſe ſuckers being very apt to creep at the root, and put out other ſuckers, plants which are propagated by layers are much preferable.

This is frequently confounded with the third, but whoever compares the leaves, ſhoots or flowers, will ſoon be convinced of their difference.

Amygdalus æthiopica. See *Brabeium.*

Amygdalus indica. See *Terminalia.*

[AMYRIS. (From α *intenſive,* and μυρον, *ointment* or *balm.*)

Brown. Lin. gen. n. 473. *Reich.* 516. *Schreb.* 650. *Jacqu. amer.* 107. *Juſſ.* 371.

Claſſ. 8. 1. Octandria Monogynia.

Nat. order of *Terebintaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, four-toothed, acute, erect, ſmall, permanent.

Cor. of four, oblong, concave, ſpreading *Petals.*

Stam. *Filaments* awl-ſhaped, erect. *Anthers* oblong, erect, the length of the corolla.

Pist. *Germ* ſuperior, ovate; *ſtyle* thickiſh, the length of the ſtamens; *ſtigma* four-cornered.

Per. a drupaceous, roundiſh *berry.*

Seed a round, ſhining *nut.*

Obs. A. Protium *differs in ſome parts.*

ESSENTIAL CHARACTER.

Cal. four-toothed. *Pet.* four, oblong. *Stigma* four-cornered. *Berry* drupaceous.

SPECIES.

1. Amyris elemifera. *Gum Elemi tree.*
Lin. ſpec. 495. *ſyſt.* 361. *Reich.* 2. 158. *hort. cliff.* 486. 1. *mat. med.* 101. *Plenck. ic. t.* 297.
Cornus. *Plum. ic.* 100.
Icicariba. *Marcgr. braſ.* 98. *f.* 2.
Frutex trifolius, &c. *Cateſby car.* 2. *t.* 33. *f.* 3.
Leaves ternate, and pinnate with five lobes, downy underneath.

2. Amyris ſylvatica.
Lin. ſyſt. 361. *Reich.* 2. 158. *Jacq. amer.* 107. *& amer. pict. p.* 55. *t.* 108.
Leaves ternate, crenate, acute.

3. Amyris maritima. *Small ſhrubby Sweet-wood.*
Lin. ſpec. 496. *ſyſt.* 361. *Reich.* 2. 158. *Swartz obſ.* 148. *Jacq. amer.* 107. *pict. p.* 55. *Brown. jam.* 209. *Sloan. jam.* 2. 101. *Raii hiſt. ſuppl.* 60.
Leaves ternate, crenulate, obtuſe.

4. Amyris gileadenſis. *Balſam of Gilead tree.*
Lin. ſpec. 361. *mant.* 65. *Reich.* 2. 158. *Amæn. acad.* 7. *p.* 68. *Forſk. ægypt. p.* 78. *Woodv.* 522. *t.* 192. *Bruce's trav. app. p.* 16.
Leaves ternate, quite-entire; peduncles one-flowered, lateral.

5. Amyris Opobalſamum. *Balſam of Mecca tree.*
Lin. ſyſt. 361. *Reich.* 2. 159. *mat. med.* 101. *mant.* 65. *amæn. acad.* 7. *p.* 55, *&c. Forſk. ægypt.* 79.
Balſamum. *Bellon. itin.* 110. *Alp. ægypt. edit.* 1. 20. *t.* 24. *edit.* 2. 48. *t.* 60. *edit.* 3. 26. *t.* 14.
Opobalſamum, ſ. Balſamum judaicum. *Geoffr. mat.* 2. *p.* 473.
Leaves pinnate, leaflets ſeſſile.

6. Amyris toxifera. *Poiſon Aſh.*
Lin. ſpec. 496. *Reich.* 2. 159.
Elemifera. *Lin. hort. cliff.* 486. 2.
Toxicodendron. *Cateſb. car.* 1. *t.* 40. *Mill. dict. n.* 4.
Leaves pinnate; leaflets petiolate, plane.

7. Amyris Protium.
Lin. ſyſt. 361. *Reich.* 2. 159. *mant.* 65.
Protium javanicum. *Burm. ind.* 88.
Tingulong. *Rumph. amb.* 7. *p.* 54. *t.* 23. *f.* 1.
Leaves pinnate, leaflets petiolate, waved.

8. Amyris ambroſiaca.
Lin. ſyſt. 361. *ſuppl. p.* 216. *Lour. cochinch.* 230?
Icica heptaphylla. *Aubl. guian.* 1. 337. *t.* 130.
Leaves pinnate, petiolate, panicles crowded, axillary.

9. Amyris balſamifera. *Sweet Amyris. White Candle wood* or *Roſe wood.*
Lin. ſpec. 496. *Reich.* 2. 159. *Brown. jam.* 208.
Lucinium. *Pluk. alm. t.* 201. *f.* 3.
Leaves two-paired.

DESCRIPTIONS, &c.

1. Height about ſix feet. Leaflets pointed, ſtiff and ſhining; leaves oppoſite on peduncles two inches long. At the ends of the branches grow four or five ſlender ſtalks ſet with many very ſmall white flowers[a]; in a little corymb. Petals inflex at the tip[b].

Marcgraaff deſcribes it as a lofty tree, with a ſmall trunk, covered with a ſmooth gray bark; growing almoſt in the manner of a beech-tree. Leaves ſometimes ternate, ſometimes pinnate with two pairs and a terminating leaflet, and ſometimes with two terminating leaflets; theſe reſemble the leaves of the pear-tree, are three inches long, ſtiff like parchment, bright green, ſhining, acuminate, having one nerve running longitudinally, and ſeveral veins diſpoſed obliquely. The flowers come out very cloſe together at the axils of the leaves. The fruit is the ſize and figure of an olive, and the colour of a pomegranate, having an odoriferous pulp within it.

Gummi Elemi is a reſin from this tree, brought over in oblong roundiſh cakes, generally wrapped up in flag leaves. The beſt ſort is ſoftiſh, ſomewhat tranſparent, of a pale whitiſh yellow colour, inclining a little to greeniſh. This reſin is only uſed as an ingredient in a digeſtive ointment called *Unguentum Elemi,* which is made from one pound of Gum Elemi, ten ounces of Turpentine, two pounds of prepared Mutton Suet, and two ounces of Oil of Olives[c]. Native of Carolina and Brazil.

2. A Shrub erect, leafy, branching but little, from two to fifteen feet high, according to the ſoil and ſituation. The whole abounds in turpentine of a ſtrong diſagreeable ſmell. The ſmall branches are round, leafy to the ends: the leaflets ſhining, finely notched, two inches long, of different ſhapes, ovate, lanceolate, cordate-ovate, or rhombed. Racemes panicled, erect, terminal and axillary, ſuſtaining many ſmall flowers with ſnow-white petals. The drupe is the ſize of a pea, red with red juice: it is permanent, and becomes leathery in drying. Gum Elemi has erroneouſly been ſuppoſed to be yielded by this plant. Found plentifully about Carthagena, in woods near the ſea. Flowering in auguſt[d].

3. A Dwarf Shrub, branching, with a juice like that of the former, but pleaſanter, and ſmelling like Rue. Leaflets ſhining, ovate, finely notched, ſcarce an inch long. Racemes as in the former. Fruits twice as big, black, with a purple juice. Whether a variety of ſoil can have occaſioned theſe differences I know not, but it is always found about the Havannah, on rocks by the ſea-ſide[e].

It is thus deſcribed by Swartz. Stem branched, ſcabrous, aſh-coloured. Leaves petioled, ternate: leaflets petioled, roundiſh-elliptic, with a ſhort point, ſometimes obtuſe, crenate, ſpreading, nerved, ſmooth on both ſides, perforated with pellucid dots. Petioles and petiolules round. Racemes compound, in cymes, with oppoſite, many-flowered branchlets. Flowers crowded, white, very ſweet. Petals ovate, entire, with ſhort claws. Berry the ſize of black Pepper, black when ripe; incloſing a globular brittle nut, in which is a white kernel.

Swartz doubts whether the foregoing be a diſtinct ſpecies from this, which differs according to the ſoil and ſituation in the ſize of all the parts.

It grows in very barren coppices, in a calcareous rocky ſoil, both near the ſea, and on the interior mountains of Jamaica, Hiſpaniola and Cuba; flowering from june to ſeptember[f].

4. The Balſam of Gilead tree is a ſhrub with purpliſh branches, ſtriated a little, having protuberant buds loaded with balſamic reſin. Leaves crowded, petioled, ternate, ſmooth; leaflets ſeſſile, quite entire, lanceolate, ſomewhat acute, that at the end larger than the others, wedge-lanceolate. Flowers from the ſame buds, by threes. Proper peduncles one-flowered, ſhorter than the leaf, ſheathed at bottom. Bracte extremely minute, ſlightly bifid. This therefore is different from the firſt and third ſpecies, which have crenate leaves, whereas in this they are quite entire[g]. But whether it be diſtinct from the next ſpecies, or *A. Opobalſamum,* may be doubted;

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[a] Cateſby.
[b] Lin. cliff.
[c] Lewis and Pharm. Lond.
[d] Jacquin.
[e] Ibid.
[f] Swartz obſ.
[g] Lin. amæn.

for the number of leaflets varies much in the firſt ſpecies; as it does alſo in Alpinus's figure, which Linneus refers to the *Opobalſamum*; and in that of Mr. Bruce.

5. The true Opobalſamum, according to Proſper Alpinus, is at firſt turbid and white, of a very ſtrong pungent ſmell, like that of turpentine; but much ſweeter and more fragrant, like Mint, varying according to its goodneſs[h], and of a bitter, acrid, aſtringent taſte: on being kept it becomes thin, limpid, light, of a greeniſh hue, and then of a gold colour; after which, it grows thick, like turpentine, and loſes much of its fragrance. A curious balſam is ſometimes met with, ſmelling like a mixture of roſemary and ſage flowers, exceedingly fragrant, limpid and thin: dropt on water, it ſpreads itſelf all over the ſurface, imparting to the liquor a conſiderable ſhare of its taſte and ſmell: the groſſer part, that remains on the top of the water, is ſo tenacious, as to be eaſily taken up at once with the point of a needle, which is reckoned a characteriſtic of the true balſam[i]. This ſeems to be the ſame with that which Bergius ſays he has had from England, under the name of Balſam of Gilead.

Gerlach (as quoted by Bergius) relates, that the trees which produce the Opobalſamum or balſam of Mecca, grow near Bederhunin, a village between Mecca and Medina, in a ſandy rocky ſoil, confined to a ſmall tract, about a mile in length. In the beginning of april, the trees drop their juice from gaſhes which are made in the ſmaller branches, into veſſels ſet under them to receive it. A gaſh does not yield above three or four drops in a day, weighing about a drachm; nor will even the beſt trees yield more upon the whole in a ſeaſon than from ten to fifteen drachms. The inhabitants uſe it as a ſudorific, particularly in the rheumatiſm: but it is adulterated upon the ſpot.

Lady Mary Wortley Montague informs us, that the balm of Mecca, of the beſt quality, is not eaſy to be got, even at Conſtantinople: that applying ſome of it to her face, it became ſwelled and red during three days, but that her complexion was much mended by the operation: and that the ladies all uſe it at Conſtantinople, and have the lovelieſt bloom in the world[k].

Its great ſcarcity has prevented its coming into uſe among us: nor are its virtues, probably, ſuperior to thoſe of ſome of the reſinous juices more common in the ſhops; all theſe ſubſtances being in their general qualities alike, though differing in the degree of their gratefulneſs, pungency and warmth[l].

An inferior ſort of Balſam is prepared from boiling the young twigs and leaves gently, in a large quantity of water; the balſamic matter riſes to the ſurface, which is ſkimmed off. After they have thus procured all they can, it is ſaid that they puſh the fire, and a large quantity of thicker balſam like turpentine riſes, which is preſerved by itſelf, and is that principally which we have in Europe. The other can only be obtained by preſents; and that which diſtils naturally from the trees, ſcarcely ſupplying the ſeraglio and great officers, there is none of it ſent out of the country.

Haſſelquiſt deſcribes the true Balſam of Mecca, as being yellow and pellucid, with a moſt fragrant reſinous balſamic ſmell; as being very tenacious, and drawing out into long threads: that it is taken to three grains to ſtrengthen a weak ſtomach, and that it is a moſt excellent remedy for wounds. To know whether it be adulterated, they drop ſome into a glaſs of water; if it remain ſtill on the ſurface, it is of little value; but if it inſtantly extend itſelf over the whole ſurface, and may be taken off the water with a hair, ſilk or thread, it is then of the beſt kind. The drugs uſed to adulterate this balſam, are oil of Seſamum, Cyprus turpentine, and Oſtrich fat.

Mr. Bruce has given two figures of the Balſam tree; one of the whole tree, the other a ſingle branch with the diſſection of the fruit. Theſe he ſays may be depended on, as being carefully drawn, after an exact examination, from two very fine trees brought from Beder Hunein. One of theſe was five feet two inches high from where the red root begins, or which was buried in the earth, to where it divides itſelf firſt into branches. The trunk at thickeſt was about five inches diameter, the wood light and open, and incapable of being poliſhed, covered with a ſmooth bark of bluiſh white, like a ſtandard cherry-tree in good health, which has not above half that diameter; indeed a part of the bark is a reddiſh brown; it flattens at top like trees that are expoſed to ſnow blaſts or ſea air, which gives it a ſtunted appearance. It is remarkable for a penury of leaves. The flowers are like thoſe of the Acacia tree, white and round, only that three hang upon three filaments or ſtalks, where the Acacia has but one. Two of theſe flowers fall off and leave a ſingle fruit; the branches that bear this are the ſhoots of the preſent year; they are of a reddiſh colour, and tougher than the old wood; it is theſe that are cut off and put into little faggots, and ſent to Venice for the Theriaca, when bruiſed or drawn by fire, and formerly theſe made the Xylobalſamum.

The great value ſet upon this drug in the eaſt remounts to very early ages. We know from ſcripture, that the Iſhmaelites, or Arabian carriers and merchants, trafficking with Indian commodities to Egypt, brought with them balm as part of the cargo.

Strabo alone of all the ancients, has given us a true account of the place of its origin. "Near to this, ſays he, is the moſt happy land of the Sabeans, and they are a very great people. Among theſe frankincenſe, myrrh and cinnamon grow, and in the coaſt that is about Saba, the Balſam alſo." Among the myrrh trees behind Azab, all along the coaſt to the ſtraits of Babelmandeb is its native country. It grows to a tree above fourteen feet high, ſpontaneouſly and without culture, like the myrrh, the coffee and frankincenſe tree; they are all equally the wood of the country, and are occaſionally cut down and uſed for fuel. We need not doubt but that it was early tranſplanted into Arabia, that is, into the ſouth part of Arabia Felix, immediately fronting Azab: the high country of Arabia was too cold for it, being all mountainous, and water freezing there. The firſt plantation that ſucceeded ſeems to have been at Petra, the ancient metropolis of Arabia, now called Beder or Beder Hunein.

Afterwards being tranſplanted into Paleſtine, it obtained the name of *Balſamum Judaicum*, and Balm of Gilead, and became an article of commerce there.

Proſper Alpinus ſays, that Meſſoner a eunuch, governor of Cairo in 1519, cauſed to be brought from Arabia forty plants, which he placed in the garden of Mattareah. Bellonius relates, that in his time there were ten plants at Mattareah. There were none exiſting when Mr. Bruce viſited Cairo, but ſome of the Chriſtians then living there, remembered one plant in that garden.

There were three productions from this tree very much eſteemed among the ancients. The firſt was called *Opobalſamum* or juice of the Balſam, which was the fineſt kind, compoſed of that greeniſh liquor found in the kernel of the fruit: the next was *Carpobalſamum*, made by the expreſſion of the fruit when in maturity: the third was *Xylobalſamum*, the worſt of all; it was an expreſſion or decoction of the ſmall new twigs of a reddiſh colour. But the principal quantity of balſam in all times was produced by inciſion, as at this day. The wound is made by an ax, when the juice is in its ſtrongeſt circulation in july, auguſt, and the beginning of ſeptember. It is then received into a ſmall earthen bottle, and every day's produce is poured into a larger, which is kept cloſely corked. The Arabs Harb, a noble family of Beni Koreiſh, are the proprietors of it, and of Beder, where it grows. It is a ſtation of the

Emir

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[h] Bergius. [i] Lewis. [k] Letters 2. 37. [l] Lewis.

[This tree alſo annually tranſudes from five to ten or twelve pounds weight, of a fine ſemitranſparent gum, ſimilar to gum arabic, and not inferior to it in virtue or quality, except that it has a ſlight aſtringency, which perhaps renders it, in ſome reſpects, more valuable[a].

It is native of both Indies, and was cultivated in 1699, by the Dutcheſs of Beaufort[b].

PROPAGATION AND CULTURE.

The Caſhew-tree is eaſily raiſed in its native country from the nut. It is there of very quick growth, bearing fruit in two years after it is planted.] But in England the plants are with great difficulty preſerved; though by their firſt ſhoot from the ſeeds, they appear ſo ſtrong and vigorous, as to promiſe a much greater progreſs than they are ever ſeen to make.

They are eaſily raiſed from the nuts, which are annually brought from America in great plenty; each of theſe ſhould be planted in a ſmall pot filled with light ſandy earth, and plunged into a good hot-bed of tanner's bark, being careful to prevent their having wet, till the plants come up, for the nuts frequently rot with moiſture. The reaſon of my adviſing the nuts to be each put into a ſeparate pot, is, becauſe the plants ſeldom live when they are tranſplanted. If the nuts are freſh, the plants will come up in about a month after planting, and in two months more they will be four or five inches high, with large leaves; from this quick growth, many perſons have been deceived by ſuppoſing them hardy, and that they would continue the like progreſs, whereas they ſeldom advance much farther the ſame year.

The plants muſt be conſtantly kept in the ſtove, for they are too tender to live abroad in England, in the warmeſt ſeaſon of the year, nor will they thrive in a common green-houſe in ſummer. As theſe plants abound with a milky acrid juice, they ſhould have but little water, even in ſummer; and in winter, if they are ſparingly watered once in a fortnight, it will be ſufficient, for their roots are tender and ſoon periſh with moiſture.

When theſe plants are tranſplanted, it will be the beſt method to break the pots, for the roots do not put out many fibres to hold the earth about them, ſo that in ſhaking them out of the pots, moſt of the earth will fall away from their roots, and when this happens the plants ſeldom ſurvive it, therefore in breaking the pots, the ſame caution muſt be had not to diſturb the earth more than can be avoided; then the plant, with the ball of earth to its roots, ſhould be put into a pot one ſize larger than that in which it had before grown, filling up the pot with light ſandy earth, and plunge the pots again into the hot-bed. Theſe plants ſhould not be removed oftener than once a year, nor ſhould they be put into large pots; for unleſs their roots are confined, they will not thrive. With this management I have kept theſe plants ſeveral years, but they are of ſlow growth after the firſt ſeaſon, ſo that I have not raiſed any of them more than two feet and half high, and it is very rare to ſee them in England more than half that height, though I have ſeen two of them in flower; one in the late Sir Charles Wager's garden at Parſon's-green, and the other in Chelſea garden.

ANACARDIUM. See *Avicennia*.

——— officinarum. See *Semecarpus*.

ANACȲCLUS. (*From* 'Ανακυκλόω, *to encircle.*)

Lin. gen. n. 969. *Reich.* 1051. *Schreb.* 1311. *Juſſ.* 185. *Gærtn. t.* 165.
Santolinoides. *Vaillant. mem. acad.* 1719. *Mich. gen.* 31.
Cotula. *Tournef.* 282.
Claſſ. 19. 2. Syngeneſia Polygamia ſuperflua.
Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. common, hemiſpherical, imbricate: with many ovate, flat, ſharp *ſcales*.

COR. compound, radiate: with numerous hermaphrodite corollets in the diſk; from five to ten females in the ray, ſcarcely higher than the diſk. *Hermaphrodites* funnel-ſhaped, with a quinquefid, ſpreading border. *Females* with a flatted tube, and an ovate, entire border.

STAM. in the hermaphrodites: *filaments* five, capillary, very ſhort; *anther* cylindric.

PIST. *Germ* flatted, *ſtigma* bifid, in the hermaphrodites: with a membrane on each ſide; *ſtyle* filiform, the length of the corollet; and two ſlender reflex *ſtigmas* in the floſcules.

PER. none; calyx unchanged.

SEED in the *hermaphrodites*, ſolitary, oblong, compreſſed, naked, or without down—in the *females* with a very broad membranaceous wing on each ſide, and emarginate at top, but without down.

REC. chaffy. *Chaffs* obtuſe, with a point.

ESSENTIAL CHARACTER.

Recept. chaffy. *Down* emarginate. *Seeds* in the ray membranaceous.

SPECIES.

1. Anacyclus creticus. *Trailing Anacyclus.*
Lin. ſpec. 1258. *Reich.* 3. 858.
Cotula cretica, &c. *Tourn. cor.* 37.
Santolinoides annua, &c. *Vaillant. act.* 372.
Leaves decompound, linear; diviſions ſubdivided, flat.

2. Anacyclus orientalis. *Eaſtern Anacyclus.*
Lin. ſpec. 1258. *ſyſt.* 775. *Reich.* 3. 858.
Chamæmelum orientale, &c. *Tournef. cor.* 37. *Boerh. lugdb.* 1. *t.* 110.
Leaves compound, briſtly, acute, ſtraight.

[3. Anacyclus aureus. *Golden-flowered Anacyclus.*
Lin. mant. 287. *ſyſt.* 775. *Reich.* 3. 858.
Chamæmelum luteum capite aphyllo. *Bauh. pin.* 135.
C. aureum, &c. *Bauh. hiſt.* 3. *p.* 119.
Anthemis Chryſanthemum. *Lob. ic.* 771.
Leaves bipinnate, roundiſh, hoary, hollow-dotted.]

4. Anacyclus valentinus. *Fine-leaved Anacyclus.*
Lin. ſpec. 1258. *ſyſt.* 775. *Reich.* 3. 859. *hort. cliff.* 417. *Allion. ped. n.* 604. *Gærtn. fruct.* 2. 397.
Chryſanthemum valentinum. *Cluſ. hiſt.* 1. 332.
Buphthalmum lanuginoſum, foliis millefolii. *Bauh. pin.* 3. 125.
B. tenuifolio ſimile. *Bauh. hiſt.* 3. 125.
Chamæmelum tenuifolium, flore bullato aureo. *Barr. ic.* 1095.
Leaves decompound, linear; diviſions ſubdivided, roundiſh, acute: flowers floſculoſe.

DESCRIPTIONS, &c.

1, 2. The two firſt ſorts grow naturally in the iſlands of the Archipelago, from whence Tournefort ſent their ſeeds to the royal garden at Paris. I have received the ſeeds of both theſe plants from Portugal, ſo that they may alſo grow naturally there, as do many of thoſe plants, which were diſcovered by Tournefort in the Levant. Theſe are low plants, whoſe branches trail on the ground. The firſt ſort has fine-cut leaves, like thoſe of Chamomile; the flowers are ſmall, white, and grow ſingle, with their heads declining; theſe are like thoſe of the common May-weed. The ſecond has leaves like thoſe of the Ox-eye; the flowers are white, and like thoſe of Chamomile.

[3. Stems many, ſeven inches high, nearly erect, ſubſtriated, obſoletely hoary with villoſe hairs. Leaves bipinnate, roundiſh, linear, ſubcaneſcent, with decumbent hairs; pinnules ſpreading, pointed, hollow-dotted; the loweſt embrace the ſtem: the upper leaf ſimply pinnate. Peduncles terminal, ſolitary, length of the ſtem, one-flowered, leafleſs, ſubpubeſcent. Calyx hemiſpherical, pubeſcent, imbricate with ſcales, ſcarioſe and darker at the tip. Diſk of the corolla ſemi-ovate; florets of the diſk quinquefid. Many female florets in the ray, ſmall, without a border. (In *Santolina anthemoides*, which reſembles this, there are no female florets.) Receptacle conical, with lanceolate, concave, yellow chaffs.

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[a] Long's jam. 3. 725, &c.

[b] Hort. kew.

chaffs[a]. Native of the ſouth of Europe, and the Levant. Cultivated here in 1570. The ſynonyms of *Colutea aurea*, perhaps belong rather to this plant[b].]

4. Grows a foot and a half high, ſending out many ſide branches; the leaves are finely divided like thoſe of Chamomile, and are hairy: the flowers grow ſingle at the extremity of the branches, and are of a bright yellow colour, with a ſilvery ſcaly calyx. Theſe are as large as thoſe of the Ox-eye. A native of Spain [and Italy. Cultivated in 1656, by Tradeſcant. It flowers in june and july[c].]

PROPAGATION AND CULTURE.

All theſe plants are annual: the ſeeds ſhould be ſown early in the ſpring in a border of light earth, where they are deſigned to remain, and require no other care but to keep them clean from weeds, and to thin the plants where they are too cloſe. As they have no great beauty, a few plants only may be left for the ſake of variety. They flower in july and auguſt; and their ſeeds ripen in ſeptember.

ANAGALLIDASTRUM. See *Centunculus*.

ANAGALLIS. (Αναγαλλις, *Diſcor. from* αναγελαω, *to laugh: becauſe by curing the Spleen, it diſpoſes perſons to be chearful.*)

Eng. Pimpernel. Fr. Mouron.
Lin. gen. n. 206. *Reich.* 220. *Schreb.* 270. *Juſſ.* 95. *Gærtn. t.* 50.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Rotaceæ*. *Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-parted, ſharp, permanent: *diviſions* keeled.
COR. wheel-ſhaped, *border* five-parted; *diviſions* ovate-orbiculate, with the claws connected.
STAM. *Filaments* erect, ſhorter than the corolla, ſhaggy below: *anthers* ſimple.
PIST. *Germ* globoſe: *ſtyle* filiform, ſlightly bending: *ſtigma* capitate.
PER. a globoſe, one-celled *capſule*, opening tranſverſely.
SEEDS very many, angular.
REC. globoſe, very large. (fungoſe, alveolate, free. *G.*)

ESSENTIAL CHARACTER.

Cor. rotate. *Capſ.* opening horizontally.

SPECIES.

1. Anagallis arvenſis. *Common Pimpernel.*
Lin. ſpec. 211. *Reich.* 422. *Suec. n.* 178. *Gærtn. fruct.* 1. 230. *Thunb. jap.* 83. *Hudſ. angl.* 87. *Relh. cantab.* 85. *With.* 210. *Curtis lond.* 1. 12. *Oeder. dan. t.* 88. *Berg. phyt.* 115. *Blackw. t.* 43. *Plenck. ic. t.* 82. *Mor. hiſt. ſ.* 5. *t.* 26. *row.* 2. *f.* 5. *Pollich. palat. n.* 203. *Scop. carn. n.* 217. *Hall. helv. n.* 625. *Ger.* 494. 1. *emac.* 617. 1. *Park. theat.* 558. 1.
β. flore cœruleo. *Blue-flowered Pimpernel.*
Hall. helv. n. 626. *Allion. ped. n.* 317. *Hudſ. and With.* δ. *Blackw.* 274. *Ger. emac.* 617. 2.
A. foemina. *Mill. dict. n.* 2.
Leaves undivided; ſtem procumbent. Corolla finely notched.

2. Anagallis monelli. *Upright Pimpernel.*
Lin. ſpec. 211. *Reich.* 423. *hort. cliff.* 52. *upſ.* 38. *Cluſ. app. alt.*
Leaves undivided: ſtem erect.

3. Anagallis latifolia. *Broad-leaved Pimpernel.*
Lin. ſpec. 212. *Reich.* 423. *Tournef. inſt.* 143. *Barr. ic.* 584?
Leaves heartſhaped, ſtem-claſping; ſtem compreſſed.

4. Anagallis linifolia. *Flax-leaved Pimpernel.*
Lin. ſpec. 212. *Reich.* 424. *Tournef. inſt.* 143.
Leaves linear; ſtem erect.

5. Anagallis tenella. *Bog Pimpernel, Purple Looſeſtrife,* or *Money-wort.*
Lin. ſyſt. 196. *Reich.* 424. *With.* 211. *Relh.* 86. *Curtis lond.* 3. 15.
Lyſimachia tenella. *Lin. ſpec.* 211. *Hudſ. ang.* 87. *Mill. dict.*
Nummularia minor, &c. *Bauh. pin.* 310. *prodr.* 139. *Mor. hiſt.* 2. *ſ.* 5. *t.* 26. *f.* 2. *Ger. emac.* 630. 3. *Park. theat.* 554. 2.
Leaves ovate, ſharpiſh; ſtem creeping.

[6. Anagallis verticillata. *Verticilled Pimpernel.*
Allion. pedem. n. 318. *t.* 85. *f.* 4. *Griſl. vir. luſ.* 2. *Barr. ic.* 584?
Stem-leaves verticilled: ſtem erect.

7. Anagallis pumila. *Dwarf Pimpernel.*
Swartz prodr. 40.
Stem erect, leaves roundiſh acute ſeſſile.

DESCRIPTIONS, &c.

1. Stem quadrangular. Leaves oppoſite, ſeſſile, ſmooth, underneath dotted with brown. Peduncles oppoſite, axillary, one-flowered, bending downwards after flowering. Corollas ſcarlet, purple at bottom, the edges ſlightly notched and hairy. Hairs of the filaments jointed. Stigma placed without the circle of the ſtamens[a]. Capſule ſmooth, with five coloured lines. Seeds about thirty, three-cornered, ovate, ſomewhat acuminate at each end, ſcabrous with dots, ferruginous brown. Gærtner obſerves, that he could never ſee the hemiſpherical hollow ſeeds which Haller deſcribes[b].

Dr. Withering obſerves, that the leaves, when magnified, appear froſted over with very minute ſhining glands.

It is an annual plant, and flowers from may to auguſt, in ploughed grounds and gardens, particularly in ſandy ſoils. The bloſſoms open about 8 a. m., and cloſe in the afternoon: hence its name of *ſhepherd's* or *poor man's weather-glaſs*. But if rain fall, or there be much moiſture in the air; the flowers either do not open, or cloſe up again. Small birds are very fond of the ſeeds. Schreber ſays that ſheep eat it readily; by the experiments in *Amæn. acad.* it appears, that kine and goats feed on it, but that ſheep refuſe it.

It was formerly celebrated for its medical qualities, and given in maniacal caſes, and even in the hydrophobia, but is now fallen into diſuſe. It appears however, ſays Lewis, that it has ſome claim to the reſolvent and detergent virtues, aſcribed to it by ſome writers.

Plukenet mentions a variety with larger leaves, four together placed croſſwiſe; and Ray (ſyn. 282.) ſays he has found it among corn in England. Bobart found it with a white flower in Cowley field.] There is another variety with a fleſh-coloured flower; but none of theſe are conſtant. There is alſo another with a worn-out purple flower, which has ſeveral years continued the ſame in the Chelſea garden; but there is little difference in the leaves of this and the common ſort.

β. Is ſuppoſed to be only a variety; but from thirty years cultivating it, I can affirm it never alters; and the plants before they ſhow their flowers are ſo different, as to be eaſily diſtinguiſhed. There is a variety of this with the flower of a deeper blue, the ſeeds of which I received from Nice; and this has retained its colour for ſeveral years, during which time I have ſown it in the Chelſea garden.

[Ray, Linneus, and others take the Blue Pimpernel to be only a variety of the red. Haller, following Blair and Boehmer, and followed by Allioni, inclines to think it a diſtinct ſpecies; and ſays, that it is a taller plant, with ſmaller leaves, and larger flowers; that the capſule is more ovate; but eſpecially that the diviſions of the calyx are narrower, and the petals ſerrate about the edge. In the wild plants which I have ſeen, the flowers were rather ſmaller than in the common ſort; and the petals of this are firmly notched about the edge, as well as of that.—Haller mentions finding the blue ſort with three and four leaves together.

Blue Pimpernel grows wild in Sweden, Germany, and Switzerland: with us between Stockwell and Camberwell, and near Mitcham in Surry; near Hiſton in Cambridgeſhire; and Bredon-hill in Worceſterſhire.]

2. A very beautiful, ſmall plant, producing great numbers of fine blue flowers in april and may. [Native of Verona. Cultivated 1648 in the Oxford garden[c].

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[a] Linn. [b] ibid. [c] Hort. kew.

[a] Curtis. [b] Fruct. 1. 231. [c] Hort. kew.

3. Stem from erect ſpreading, brachiate, branching, quadrangular: one pair of oppoſite angles thrice as broad as the other pair, which have an acute edge on each ſide. Leaves have the baſe turned downward, rather obtuſe at the end, nerved, ſmooth, with pale dots underneath. Peduncles axillary, ſolitary, one-flowered, naked, round. Corolla blue, with a purpliſh baſe. Filaments purple: anthers oblong, yellow.—Very nearly allied to the firſt ſpecies; but diſtinguiſhed by its large, broad leaves, and compreſſed ſtem[d].

This was ſent Mr. Miller from Spain (1759) by M. Hortega, intendant of the royal gardens at Madrid. It is a trailing annual plant.

[4. Stem four-cornered, erect, three or four inches high, ſtiffiſh; with alternate erect branches. Leaves oppoſite, ſeſſile, ſharpiſh, poliſhed, longer than the internodes. Peduncles filiform, twice as long as the leaves. Capſules nodding, ſhorter than the calyx.—Wild in Spain and Portugal[e].

5. Root perennial. Stems numerous from two to four inches long; round, ſmooth, creeping, branched; the joints purple. Leaves oppoſite, ſmall, nearly round, entire, ſmooth, on very ſhort petioles. Peduncles axillary, in pairs, or ſingle, to an inch in length, upright, but after flowering hanging down, one-flowered. Calyx dotted with red. Corolla large, pale red with deeper veins. Capſule the ſize of a coriander ſeed. The hairs of the filaments are jointed as in the common ſort. Not uncommon on bogs, flowering from june to auguſt[f].

6. Stem a foot high, quadrangular, branching. Leaves in fours or fives; on the branches only in pairs: ſeſſile, ovate-lanceolate, ſmooth, generally reflex, underneath finely dotted with brown. Branches ſuberect, three or four from a verticil. Flowers proceeding from the verticils with the branches, and alſo upon the branches, both axillary and terminal: they are erect, but the capſules hang down. Corolla bright blue, twice as large as the calyx.—It approaches to Barrelier's plant, which is given as a ſynonym of the third ſpecies; but this is branching, and has the leaves not ſo acute. In the fourth ſpecies, the leaves are long, narrow, and not verticilled[g].

7. Native of Jamaica. Annual[h].]

PROPAGATION AND CULTURE.

The four firſt ſorts, being annual, are propagated from ſeeds, which ſhould be ſown ſoon after they are ripe. The firſt, though a beautiful little plant, being a common weed, is never cultivated, except in botanic gardens. The ſecond, third, and fourth, require to be ſheltered from extreme cold. The fifth being a bog plant, cannot be cultivated in gardens, without a ſituation proper for it; though it will flouriſh well enough in pots of bog earth plunged in water. The ſixth, if it be a diſtinct ſpecies, has not yet been cultivated with us.

ANAGALLIS. See *Centunculus*, *Evolvulus*, *Lyſimachia*, *Pæderota*.

———— aquatica. See *Gratiola*, *Montia*, *Peplis*, *Samolus*, *Veronica*.

———— coerulea. See *Gratiola*.

ANAGŸRIS. (*Plin.* Αναγυρις, *Dioſcor. from the name of a town in Attica.*

Lin. gen. n. 509. *Reich.* 552. *Schreb.* 695. *Tournef.* 647. *Juſſ.* 352.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Papilionaceæ* or *Leguminoſæ*.

GENERIC CHARACTER.

CAL. *Perianth* bell-ſhaped; *mouth* five-toothed, the upper pair of teeth more deeply divided.

COR. papilionaceous. *Standard* obcordate, ſtraight, emarginate, broader than the other petals, twice as long as the calyx; *wings* ovate-oblong, flat, longer than the ſtandard; *keel* ſtraight, very long.

STAM. *Filaments* parallel, diſtinct, riſing: *anthers* ſimple.

PIST. *Germ* oblong: *ſtyle* ſimple, riſing: *ſtigma* villoſe.

PER. an oblong, large, roundiſh, obtuſe *Legume*, a little reflex.

SEEDS ſix or more, kidney-form.

OBS. *The eſſential character conſiſts in the very ſhort, ſtraight ſtandard, and in the great length of the keel.*

ESSENTIAL CHARACTER.

Standard and *wings* ſhorter than the *keel* in a papilionaceous corolla. *Fruit* a legume.

SPECIES.

1. Anagyris fœtida. *Stinking Bean trefoil.*
Lin. ſpec. 534. *Reich.* 2. 244. *Lour. cochinch.* 260. *Haſſelq. itin.* 466. *Cluſ. hiſt.* 1. *p.* 93. *Bauh. pin.* 391. *Raii hiſt.* 1722.
Leaves ovate, flowers axillary.

2. Anagyris cretica.
Mill. dict. n. 2. *Raii hiſt.* 1722. *n.* 5.
Leaves oblong, racemes longer.

[3. Anagyris inodora.
Lour. cochinch. 260.
Leaves pinnate; calyxes inflated, coloured; legumes compreſſed, ſtraight; racemes terminating, oblong.

DESCRIPTIONS, &c.

Theſe are hardy deciduous flowering ſhrubs.]

1. The firſt ſort grows wild in the ſouth of France, in Spain, Italy, and Sicily: alſo about Smyrna. It is a ſhrub which uſually riſes to the height of eight or ten feet, and produces its flowers in april and may, which are of a bright yellow colour, growing in ſpikes, ſomewhat like thoſe of the Laburnum: the ſeeds are never perfected in this country, which is the reaſon of its preſent ſcarcity in England. [Cultivated in 1570, by Mr. Hugh Morgan[a].]

2. Is a native of Candia, and ſome of the iſlands of the Archipelago, and is at preſent very rare in the Engliſh gardens. This ſort has longer leaves than the former, and flowers later in the ſummer, ſo that it never produces ſeeds. [It is probably only a variety.

3. This is an upright ſhrub, equal to a middle-ſized tree: branches hanging down, frequently ſcandent. Leaves unequally pinnate; leaflets oblong, acuminate, ſmooth, without ſmell. Flower white. Native of the woods of Cochinchina[b].

It is doubtful whether Loureiro's *Anagyris foetida*, found wild near Canton in China, be the ſame with our European one.]

PROPAGATION AND CULTURE.

Theſe may be propagated by laying down their tender branches in the ſpring, obſerving to tongue them in the ſame manner as the layers of Carnations, being careful in dry weather to ſupply them with water; which if duly performed, the layers will have taken root by the following ſpring, when they ſhould be cut off from the old plants, a little time before they begin to put out their leaves, and planted in a warm ſituation; for if they are too much expoſed to cold winds, they will be in danger of being deſtroyed in a hard winter. This method of propagating theſe plants, is to ſupply their defect in not producing ripe ſeeds in this country; for the plants which are produced from ſeeds, will be much handſomer, and will riſe to a much greater height.

If you propagate theſe plants from ſeeds, you ſhould ſow them on a moderate hot-bed the beginning of march. [Or in a border of good rich earth, in a well-ſheltered place, ſifting over them about half an inch of fine mould, and covering them with a common frame, to protect them in caſe of ſevere weather.] If the ſeeds are good, the plants will appear in a month after the ſeeds are ſown; when they ſhould be inured by degrees to the open air, into which they ſhould be removed towards the end of may, placing them in a ſheltered ſituation; for this purpoſe the ſeeds may be ſown in pots, and plunged into a hot-bed, becauſe the plants do not bear tranſplanting well till the ſpring following: and as they are impatient of cold while young, the two firſt winters it will be proper to ſhelter them under a common frame, where the glaſſes may be drawn off every day in mild weather, that the plants may enjoy the open air, which will prepare them for planting abroad when they have acquired proper ſtrength: it will be very proper to keep theſe plants in pots three years, in which time they will have advanced to be in proper condition for planting them into the places where they are intended to remain; the beſt time for this is about the beginning of april, juſt before the plants begin to put out new leaves: at which time they ſhould be turned out of the pots, preſerving good balls of earth to their roots, planting ſome of them againſt warm aſpected walls, where they will not be in danger of ſuffering by froſt; and the others may be planted in warm ſituations, where, if they are protected in ſevere winters by covering the ſurface of the ground about their roots with tanner's bark, and ſcreening their heads with mats, they may be preſerved ſeveral years. The fourth year from ſowing, theſe plants will begin to produce their flowers, will continue flowering every year after, and will be very proper to intermix with other flowering ſhrubs of the ſame growth in warm ſituations.

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[d] Linneus. [e] Ibid. [f] Curtis. [g] Allioni. [h] Swartz.

[a] Hort. kew. [b] Loureiro.

Anagyris. See *Cytiſus Laburnum.*

Ananas. See *Bromelia.*

Anandria. See *Tuſſilago.*

Ananthocyclus. See *Cotula.*

Anapodophyllum. See *Podophyllum.*

Anaschouadi. See *Elephantopus.*

Anassa. See *Bromelia.*

ANASTATĬCA. (Αναστατικὸς, *exſuſcitativus; from its quality of reviving in water.*)

Lin. gen. n. 798. *Reich.* 862. *Schreb.* 1074. *Gærtn. t.* 141.

Claſſ. 15. 1. Tetradynamia Siliculoſa.

Nat. order of *Siliquoſæ* or *Cruciformes.* *Cruciferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved, deciduous; *leaflets* ovate-oblong, concave, erect, deciduous.

Cor. tetrapetalous, cruciform: *petals* roundiſh, flat, ſpreading; with *claws* nearly the length of the calyx, but more ſpreading.

Stam. *Filaments* ſix, ſubulate, the length of the calyx, from erect ſpreading: *anthers* roundiſh.

Pist. *Germ* bifid, very ſmall: *ſtyle* ſubulate, the length of the ſtamens, permanent: *ſtigma* capitate.

Per. a very ſhort *ſilicle*: *partition* ending in a ſubulate point, oblique, and longer than the ſilicle itſelf; the *valves* parallel, making a cell of the lower half, but ſtanding out from the upper, rounded, concave, gaping, oblique: hence having the form of a ſheep's-hoof.

Seeds ſolitary, roundiſh.

Obs. *In* A. ſyriaca, *the ſilicle is ovate, and not at all bifid.*

ESSENTIAL CHARACTER.

Silicle retuſe, crowned at the edge with valves, twice as long as the partition. *Style* intermediate, pointed, oblique. *Cells* one-ſeeded.

SPECIES.

1. Anaſtatica hierochuntica. *Common Anaſtatica, or Roſe of Jericho.*

Lin. ſpec. 895. *Reich.* 3. 211. *hort. cliff.* 328. *upſ.* 183. *Jacqu. hort.* 1. *t.* 58. *Gærtn. fruct.* 2. 286.

Thlaſpi Roſa de Hiericho. *Mor. hiſt.* 2. 328. *ſ.* 3. *t.* 25. *f.* 8.

Roſa hierochuntica. *Bauh. pin.* 484. *Cam. hort. t.* 41. *Beſl. eyſt. aut.* 4. *fol.* 1. *f.* 1. 3. *Raii hiſt.* 1711.

Leaves obtuſe; ſpikes axillary, very ſhort; ſilicles hoofed, thorny.

[2. Anaſtatica ſyriaca. *Syrian Anaſtatica.*

Lin. ſpec. 895. *ſyſt.* 584. *Reich.* 3. 211. *mant.* 424. *Jacq. auſtr.* 1. *t.* 6. *Crantz. auſtr. p.* 7. *Gron. orient.* 78.

Bunias ſyriaca. *Gærtn. fruct.* 2. 290.

Myagrum roſtratum. *Scop. carn. n.* 797. *t.* 35. *Zan. hiſt.* 142. 168. *t.* 126.—rigidum. *Pallas it.* 3. 741. *t. Ll. f.* 1.

Thlaſpi, &c. *Bocc. muſ.* 135. *t.* 98.

Roſa hiericontea ſylveſtris. *Bauh. pin.* 484.—alia *Cam. hort. t.* 42.

Leaves acute, ſpikes longer than the leaf, ſilicles ovate, beaked.]

DESCRIPTIONS, &c.

1. This plant grows naturally on the coaſts of the Red Sea; in Paleſtine and near Cairo, in ſandy places. The ſtalks are ligneous though the plant is annual; it riſes five or ſix inches high, dividing into many irregular branches; leaves fleſhy and glaucous. The flowers, which are ſmall and white, are diſpoſed in ſhort ſpikes at the wings of the ſtalks, and have little beauty; theſe are ſucceeded by ſhort prickly pods, having two cells, in each of which are two ſeeds. It is preſerved in botanic gardens for the variety, and in ſome curious gardens for the oddneſs of the plant, which, if taken up before it is withered, and kept entire in a dry room, may be long preſerved; and after being many years in this ſituation, if the root is placed in a glaſs of water a few hours, the buds of flowers will ſwell, open, and appear as if newly taken out of the ground. [Cultivated in 1656, by Tradeſcant[a].

2. Petals diſtant, linear, emarginate, the length of the calyx. Silicles ſeſſile, ſubovate, roughiſh, with an unjointed point[b]. Stem hard, a foot high, dichotomous from the bottom, branches ſpreading. Leaves rough with tubercles bearing hairs, which are ſimple, bifid or trifid; one or two ſeſſile flowers in the axils, and others running out into long looſe ſpikes. Calyxes villoſe, ſcarcely half a line in length, rather erect. Petals white, one or two ſeeds in each cell: the valves tough, ſo as not to be torn without difficulty[c]. It has a ſmall, ſub-globular, drupaceous ſilicle, ending in a ſubulate ſtyle; below which it is divided by a deep longitudinal furrow, and tranſverſely ſtriated, ſpherically gibboſe at the ſides, and rough with tubercles, or hiſpid with briſtles. Skin ſcarcely any. Shell bony, two-celled. Seeds ſolitary, ovate, plano-convex, pale-coloured[d].—Gærtner remarks that the pods which he gathered in the Ukraine, and which he has procured from botanic gardens, were all bald. It is a native of Auſtria, Stiria, Carniola, Syria, and Sumatra; and was introduced in 1788, by M. Thouin[e]. Flowers in may and june.]

PROPAGATION AND CULTURE.

Theſe plants being annual can only be propagated by ſeeds, which rarely ripen in England, unleſs they be ſown on a hot-bed in the ſpring, and the plants afterward put into pots, which ſhould be plunged into another hot-bed to bring them forward; for although the ſeeds will come up in the full ground where the ſoil is dry, yet the plants rarely riſe to any ſize, nor do they perfect ſeeds unleſs the ſummer is very hot, and dry: but if the plants are kept in a frame, giving them free air in warm weather, they will flower in june, and the ſeeds will ripen in ſeptember.

Anblatum. See *Lathræa.*

Anchovy Pear. See *Grias.*

ANCHŪSA. (Ἄγχουσα, παρὰ τὸ ἄγχειν; *from its ſuppoſed conſtringent quality; or as others ſay, becauſe it ſtrangles ſerpents.*)

Lin. gen. n. 182. *Reich.* 194. *Schreb.* 242. *Juſſ.* 131.

Bugloſſum. *Tournef. t.* 53. *Gærtn.* 67.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aſperifoliæ.* *Borragineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, oblong, round, acute, permanent.

Cor. monopetalous, funnel-ſhaped; *tube* cylindrical, the length of the calyx: *limb* ſemiquinquefid, from erect expanding, obtuſe: *throat* cloſed with five ſmall ſcales; convex, prominent, oblong, converging.

Stam. *Filaments* very ſhort, in the throat of the corolla; *anthers* oblong, incumbent, covered.

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[a] Hort. kew. [b] Linn. [c] Scop. [d] Gærtn. [e] Hort. kew.

Pist. *Germs* four: *ſtyle* filiform, the length of the ſtamens: *ſtigma* obtuſe, emarginate.

Per. none; but the calyx enlarged, and erect, contains the ſeeds in its boſom.

Seeds four, oblongiſh, obtuſe, gibboſe.

ESSENTIAL CHARACTER.

Cor. funnel-ſhaped, the throat cloſed with an arch of ſcales. *Seeds* engraved at the baſe.

SPECIES.

1. Anchuſa officinalis. *Officinal* or *Garden Alkanet* or *Bugloſs*.
Lin. ſpec. 191. *Reich.* 387. *ſucc.* 161. *Oeder dan. t.* 572. *Mill. fig. t.* 72. *Blackw. t.* 500. *Plenck. ic. t.* 79. *Pollich palat. n.* 186. *Scop. carn. n.* 189. *Lour. cochinch.* 103. *Beſl. eyſt. æſt. ord.* 8. *fol.* 6.
Leaves lanceolate, ſpikes imbricate, pointing one way.

2. Anchuſa anguſtifolia. *Narrow-leaved Alkanet.*
Lin. ſpec. 191. *Reich.* 388. *Pollich pal. n.* 187. *Raii hiſt.* 496.
Borago. *Zan. hiſt.* 49. *t.* 20.
Bugloſſum anguſtifolium. *Allion. fl. pedem. n.* 163. *Mor. hiſt. ſ.* 11. *t.* 26. *f.* 4.
Bugloſſum foliis linguiformibus aſperis, ſpicis ſupremis gemellis. *Hall. helv. n.* 599.
Echii facie Bugloſſum. *Lob. ic.* 536.
Racemes almoſt naked in pairs.

[3. Anchuſa italica. *Italian Alkanet.*
Retz. obſ. 1. 12. *n.* 15.
Bugloſſum. *Hall. helv. n.* 599. *Raii hiſt.* 493. *Beſl. eyſt. æſt. ord.* 8. *fol.* 5. *Bauh. hiſt.* 3. 578.
Leaves lucid, ſtrigoſe; racemes two-parted, two-leaved, flowers ſomewhat unequal, bearded at the throat.]

4. Anchuſa undulata. *Waved Alkanet.*
Lin. ſpec. 191. *Reich.* 388. *Mill. fig. t.* 29. *Bocc. muſ. t.* 77. *Barr. ic.* 578. *Gmel. it. t.* 37.
Strigoſe, leaves linear toothed, pedicels leſs than the bracte, fruit-bearing calyxes inflated.

5. Anchuſa tinctoria. *Dyer's Alkanet.*
Lin. ſpec. 192. *Reich.* 388. *mat. med. p.* 55. *Bauh. pin.* 255. *Bauh. hiſt.* 3. 584. *Raii hiſt.* 496. 2. *Woodv. med. bot.* 251. *t.* 92. *Plenck. ic. t.* 80.
Bugloſſum tinctorium. *Allion. pedem. n.* 165.
Downy, leaves lanceolate, obtuſe, ſtamens ſhorter than the corollas.

6. Anchuſa virginica. *Virginian Alkanet.*
Lin. ſpec. 191. *n.* 5. *Reich.* 389. *Gron. virg.* 19. *Pluk. alm.* 30.
Lithoſpermum virginianum. *Moriſ. hiſt. ſ.* 11. *t.* 28. *f.* 4. *Raii ſuppl.* 273.
Flowers ſcattered, ſtem ſmooth.

[7. Anchuſa lanata. *Woolly Alkanet.*
Lin. ſpec. 192. *ſyſt.* 186.
Leaves villoſe, calyxes ſhaggy, ſtamens longer than the corollas.]

8. Anchuſa ſempervirens. *Evergreen Alkanet.*
Lin. ſpec. 192. *ſyſt.* 186. *Reich.* 389. *Hudſ. angl.* 80. *With.* 191. *Sowerby engl. bot. t.* 43.
Bugloſſum latifolium ſempervirens. *Mor. hiſt. ſ.* 11. *t.* 26. *f.* 2. *Raii hiſt.* 494. 4. *ſyn.* 227. *Ger.* 653. 3. *emac.* 797. 3.
Leaves ovate, peduncles two-leaved, racemed.

[9. Anchuſa Barrelieri. *Barrelier's Alkanet.*
Bugloſſum Barrelieri. *Allion. ped. n.* 164.
B. ſylveſtre minus, ~~flore~~ azureo, radice perenni, italicum. *Barr. ic.* 333.
Leaves ovate-lanceolate; ſtem erect, peduncles racemed, pointing one way.

10. Anchuſa paniculata. *Panicled Alkanet* or *Bugloſs.*
Ait. hort. kew. 1. 177.
Leaves lanceolate ſtrigoſe quite entire, panicle dichotomous divaricate, flowers peduncled, calyxes five-parted, with ſubulate ſegments.

DESCRIPTIONS, &c.

Theſe are hardy perennials, or biennials.

1. Stems from a foot to eighteen inches in height, and more, the thickneſs of a finger, ſlightly angular, hairy and rough. Leaves ſlightly decurrent, ſeven inches long, above an inch broad, hairy and rough. Spikes conjugate, terminating the ſtem; the flowers ſeſſile, in a double row. Calyx hirſute. Corollas purple, near half an inch in diameter[a]. At firſt opening they are red, but afterwards become purple[b]. Sometimes they are white. This plant flowers in june, july, and auguſt; and the ſeeds ripen in a month. It grows wild in Italy, Spain, France, Germany, Sweden, Denmark, and Siberia; by road ſides, and in corn fields. It was cultivated in 1748, by Mr. Miller[c]. When tender in the ſpring, it is eaten boiled, in Upland[d]. The tube of the corolla is melliferous, and the bees are very fond of it[e]. This is not the *Anchuſa*, but the *Bugloſs* of the officinal writers. It appears to be nearly ſimilar to Borage; the leaves being leſs juicy, and the roots more mucilaginous; theſe with the leaves and flowers, are ranked among the articles of the materia medica, but they are very ſeldom made uſe of[f]. In China, this plant is in great eſteem, for gently promoting the eruption in the ſmall-pox[g].]

2. Grows to the height of two feet when cultivated in gardens, but in the places where it grows wild, is rarely more than a foot. The leaves are narrow, and leſs hairy than thoſe of the firſt; the ſpikes of flowers come out double, and have no leaves about them; the flowers are ſmall and of a red colour. The roots will continue three or four years in poor land. [Haller thinks that this is not a diſtinct ſpecies from the firſt, Linneus acknowledges that they are very much alike; but obſerves that the ſtem-leaves of this are ſlightly toothed on the edge; that they are rough with ſmall ſpines, and attenuated to the baſe: neither are they ovate-lanceolate, as thoſe of the firſt ſpecies are. But according to Retzius, moſt authors have miſtaken the three firſt ſpecies. It is found wild in Italy, Germany, Switzerland; flowering in july and auguſt, by way ſides, and the borders of ploughed fields. Cultivated in 1759, by Mr. Miller[h]. Boerhaave recommended the juice in the pleuriſy and in maniacal caſes.

3. Root biennial. Stem erect, angular, branched, ſtrigoſe, four feet high and more. Root-leaves and lower leaves on the ſtem two feet long, lanceolate; ending in the petioles; thoſe on the middle of the ſtem a foot long and lanceolate; the upper ones half a foot in length, cordate, acuminate, ſeſſile; all quite entire. Peduncles terminating and axillary, with two cordate ſeſſile leaflets, ending in a conjugate, reflex ſpike, in which the flowers are all directed the ſame way. Pedicels erect, the length of the calyx.—It differs from the firſt ſpecies in ſize; in that the flowers are equal and funnel-ſhaped; in this they are ſalver-ſhaped; they are much more imbricate in that, the ſegments of the calyx broader and ſhorter; thoſe of the corolla ovate; with the ſcales of the throat only ſlightly tomentoſe[i].]

4. Height three feet, with many ſtrong lateral branches, produced from the main ſtem near the ground. Leaves ſtiff, rough, ſix or ſeven inches long, and about half an inch broad at the top, cloſely embracing the branches at the baſe, where they are two inches broad; indented and waved on their edges; the upper ſurface beſet with hairs, and very rough to the touch. Spikes of flowers axillary, a foot or more in length, reflex. Corollas fine blue. The root commonly decays after the ſeeds are perfected; though ſometimes, when it grows upon gravel, or in the joints of ſtone walls, it will live three or four years. Such plants are ſeldom more than a foot high, and have ſmall narrow leaves; ſo that they appear like a different ſpecies. It is a native of Spain and Portugal[k]. [Gmelin alſo found it in Siberia. Cultivated in 1739, by Mr. Miller[l].]

5. Riſes near as high as the firſt, to which it bears great reſemblance in its leaves and branches, only that they are more woolly; the ſtamens alſo are ſhorter than the corolla. The root is red. [It much reſembles the ſeventh ſpecies, and is entirely cloathed

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[a] Pollich.
[b] Linn.
[c] Hort. kew.
[d] Linn.
[e] Scop.
[f] Lewis.
[g] Loureiro.
[h] Hort. kew.
[i] Retz. obſ.
[k] Mill. fig.
[l] Hort. kew.

with a white down. The chaffs of the ſtamens are as long as the corolla. It grows about Montpellier, in Sileſia[m], Spain, and Italy. Cultivated here in 1683, by Mr. James Sutherland[n]. This plant is cultivated in the ſouth of France, for the deep purpliſh red colour of the roots. It imparts a fine deep red to oils, wax, and all unctuous ſubſtances, as well as to ſpirit of wine. The ſpirituous tincture, on being inſpiſſated, changes to a dark brown. Its chief uſe is for colouring plaſters, lip-ſalves, *&c.*[o] Roots of Bugloſs boiled in Brazil wood are ſubſtituted for thoſe of Alkanet; but theſe will not dye oils red[p].]

6. Seldom riſes a foot high in good ground, but not above half that height, where the ſoil is poor. The flowers grow in looſe ſpikes, upon a ſmooth ſtalk. It is perennial, and a native of North America, where it grows in the woods; and being an early plant, generally flowers before the trees are in leaf; ſo that where it abounds, the earth ſeems covered with bright yellow flowers. It is known in that country by the name of Puccoon.

[7. Stem ſingle, a foot high. Leaves alternate, villoſe, rather obtuſe. Racemes from the upper axils; leafy, recurved, very villoſe. Calyxes five-parted, woolly, whitiſh-yellow. Corolla blue; nectary of five, very ſhort ſcales. Stamens rather longer than the corolla, with incumbent anthers. Styles very long[q]. Found by Brander near Algiers; and very like the fifth.

8. Stems at the ſides of the crown of the root, hiſpid. Leaves ovate, marked with lines, petiolate, remote. Peduncles axillary; with two bractes, oppoſite, ſeſſile, lanceolate-ovate, many-flowered. Corollas blue, with a ſhort tube[r], rather ſalver-ſhaped than funnel-ſhaped[s]. Calyx thick ſet with long, white, briſtly hairs; ſegments rather longer than the tube of the corolla. Germs imbedded in a hollow, glandular receptacle, one or two generally abortive. Seeds rough, of a bony hardneſs[t]. In habit and character this plant approaches to *Myoſotis*[u]. It is found wild in Spain, and Italy. With us it has crept out of gardens, and has been remarked growing ſpontaneouſly near Rocheſter, Hadiſcoe in Suffolk, Cambridge, Birmingham, Worceſter, and London; by road-ſides, among rubbiſh, and from the joints of old walls. It flowers from may through a great part of the ſummer, and is perennial. Kine, horſes, ſheep, and goats, are ſaid to eat it: and it has the ſame qualities with the firſt and ſecond ſpecies.

9. Root pale red. Root-leaves many, ſubdecurrent, obſcurely toothletted: petiole broad, channelled. Stem-leaves half-embracing, erect, crowded, more lanceolate. Stem angular, ſtriated, branching from almoſt every axil to the top, and ſometimes ſubdivided; erect or aſcending: the branches are flower-bearing, and have no leaves but the floral ones. Peduncles longer than the bractes. Corolla azure, ſcarcely larger than the calyx. Seeds ſubtriquetrous, rough. The root-leaves are hiſpid-warted; the hairs are gradually ſofter on the ſtem and upper leaves: the peduncles and upper branches are hoary. Found in Piedmont by Bellardi[x].

10. This is eaſily diſtinguiſhed by the calyxes being five-parted to the very baſe, and becauſe it is more ſtrigoſe than the other ſpecies. It is biennial; flowers in may and june; is a native of Madeira, where it was found by Mr. Francis Maſſon; and was introduced in 1777[y].]

PROPAGATION AND CULTURE.

1. The roots of this, and ſome of the other ſorts, ſeldom continue longer than two years, except when they grow in rubbiſh, or out of a wall. They may all eaſily be propagated by ſeeds, ſown in the autumn, upon a bed of light ſandy earth; and in the ſpring, when the plants are ſtrong enough to remove, they ſhould be planted in beds, at two feet diſtance; obſerving, if the ſeaſon prove dry, to water them till they have taken root, after which they will require no farther care, but to keep them clear from weeds. If the ſeeds of the common ſorts be permitted to ſcatter, the plants will riſe in plenty.

Anchusa. See *Barleria, Borago, Lithoſpermum, Myoſotis, Onoſma, Pulmonaria.*

[**ANCISTRUM.** (*from* Αγκιςρον, *a hook.*)

Forſt. gen. n. 2. *Linn. ſuppl. p.* 10. *ſyſt.* 1354. *Schreb.* 56. *Gærtn.* 32. *Juſſ.* 336.

Claſſ. 2. 1. Diandria Monogynia.

Nat. order of *Roſaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, (four-leaved, *H. K.*) turbinate, truncate, four-toothed: *teeth* cylindric-awned, erect, terminating in four reverſed hooks.

Cor. (none, *H. K.*) ſuperior, one-petalled, funnel-ſhaped with a very ſhort tube, and a ſpreading quadrifid border. The *diviſions* nearly equal, obtuſe, the length of the tube.

Stam. *Filaments* faſtened to the baſe of the tube, longer than the corolla, capillary: *anthers* roundiſh.

Pist. *Germ* oblong; *ſtyle* filiform, the length of the corolla; *ſtigma* pencil-ſhaped.

Per. none, but the calyx; in the bottom of which is the fruit. (A Drupe, dry, hiſpid, one-celled, *H. K.*)

Seed ſingle, oblong.

ESSENTIAL CHARACTER.

Cal. four-leaved.

Cor. none. *Stigma* many-parted. *Drupe* dry, hiſpid, one-celled.

SPECIES.

1. Anciſtrum decumbens.
   Gærtn. fruct. 1. 163.
   A. anſerinæfolium. *Forſt. gen. n.* 2.
   A. diandrum. *Forſt. fl. auſtr. n.* 52.
   A. ſanguiſorbæ. *Lin. ſuppl.* 89. *ſyſt.* 73.
   Stems decumbent, peduncle ſcape-form ſolitary, flowers in a globular head, leaflets wedge-form deeply ſerrate hoary beneath, ſeed covered with the thickened calyx.
2. Anciſtrum lucidum. *Shining Anciſtrum.*
   Ait. hort. kew. 1. 15.
   Stems ſubdemerged, peduncles ſcape-form, ſpikes ovate, leaflets oblong quite entire acute ſubfaſcicled.
3. Anciſtrum latebroſum. *Hairy Anciſtrum.*
   Ait. hort. kew. 1. 16. *Gærtn. fruct.* 1. 164.
   Agrimonia decumbens. *Linn. ſuppl.* 251.
   Stems demerged, peduncles ſcape-form, ſpikes elongate, leaflets oblong gaſhed villoſe, fruits armed on every ſide.

DESCRIPTIONS, *&c.*

1. It reſembles Burnet in the herb, and manner of flowering. Stalk hairy. Leaves alternate, pinnate with an odd leaflet; leaflets wedge-ſhaped, deeply ſerrate, hoary beneath. Stipules deeply cut. Peduncle terminal, ſolitary, long. Head globoſe, with aggregate flowers. Calyx and corolla hirſute on the outſide. Remarkable for the yellow awns to the calyx, reſembling fox's nails. A native of New Zealand[a].

2. Stems very ſhort, decumbent. Leaves very many, ſubradical, approximating, unequally pinnate, patulous, two or three inches in length: leaflets uſually eight pairs, ſeſſile, ſhining above, whitiſh beneath, the keel and tip hairy. Petioles widening at the baſe, ſheathing, ciliate. Common peduncles generally ſolitary, the length of the leaves, round, villoſe, having ſometimes one or two leaves on them. Spike many-flowered, ſcarcely half an inch long. Bractes the length of the germs; the lower cleft, the upper quite entire. Leaflets of the calyx hairy on the outſide and at the tip, green, ſcarcely a line in length. Stamens the length of the calyx, very dark red. The germ has four obſcure toothlets above the middle, and is hairy. Stigmas faſcicled, and of a dark blood-red colour. The drupe is unequally horned at top. Native of Falkland Iſlands. Introduced in 1777, by John Fothergill, M.D. It flowers in may and june[b].

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[m] Linn. [n] Hort. kew. [o] Lewis. [p] Bergius. [q] Linn. [r] Ibid. [s] Sowerby. [t] With. [u] Sowerby. [x] Allioni. [y] Hort. kew.

[a] Lin. ſuppl. [b] Hort. kew.

3. Root-leaves reſembling thoſe of *Potentilla anſerina*, pinnate with about twenty leaflets. Stems a foot long, procumbent, with ſcarcely any leaves on them, quite ſimple, ending in a raceme [c]. Leaflets of the calyx ſomewhat villoſe on the outſide, two lines in length. Filaments a little ſhorter than the calyx: anthers bifid. Germ villoſe, barbed all round. Stigma many-parted, the little parts ſubulate, ſhort, and ſpreading very much. Drupe four lines in length, tomentoſe, armed all round with pedicelled barbs. Nut full of outward cavities, protruding the barbs through the ſhell of the drupe [d].——It is thus deſcribed by the accurate Gærtner. The calyx cloſes as the ſeed ripens, and thickens into an ovate-globoſe, ſuberoſe, white-tomentoſe bark, armed every way with ſhort briſtles, thickening outwardly, and having four reverſed barbed little prickles. Seed ſingle, ovate-globoſe, produced at top into a boſs, ſmooth and pale; covered with a thin, membranaceous ſkin, and on the outſide of that with a coriaceous, hard, thick integument, reſembling a ſhell.

The ſtructure of the fruit in this ſpecies is ſomewhat different from that in the firſt, and may be referred to the drupes along with *Pimpinella* or Burnet; but the difference is not conſiderable, and the ſtructure of the other parts is nearly the ſame in both.]

ANDRACHNE. (Ἀνδράχνη, *the name of a plant in Hippocrates, Theophraſtus, and Dioſcorides, from* Αχνα, *glume or chaff.*)

Lin. gen. n. 1095. *Reich.* 1196. *Schreb.* 1483. *Juſſ.* 387. *Gærtn. t.* 108.

Telephoides. *Tournef.* 365. *Dill elth.* 282.

Claſſ. 21. 11. Monoecia Gynandria.

Nat. order of *Tricoccæ*. *Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

CAL. *Perianth* five-leaved, equal, marceſcent.

COR. *Petals* five, emarginate, ſlender, ſhorter than the calyx. *Nectary*, leaflets five, ſemibifid, herbaceous, one within each petal, and leſs than it.

STAM. *Filaments* five, ſmall, inſerted into the rudiment of each ſtyle, *anthers* ſimple.

* *Female.*

CAL. *Perianth* five-leaved, equal, permanent.

COR. *Petals* none. *Nectary* as in the male.

PIST. *Germ* ſuperior, globoſe; *ſtyles* three, filiform, two-parted: *ſtigmas* globoſe.

PER. *Capſule* globoſe-trilobate, three-celled; cells bivalved, the ſize of the calyx; (tricoccous elaſtic. *G.*)

SEEDS in pairs, rounded on one ſide, triangular and obtuſe on the other.

OBS. *It is related to* Clutia.

ESSENTIAL CHARACTER.

MALE. *Cal.* five-leaved. *Cor.* five-petalled. *Stam.* five, inſerted into the rudiment of the ſtyle.

FEMALE. *Cal.* five-leaved. *Cor.* none. *Styles* three. *Capſ.* three-celled. *Seeds* two.

SPECIES.

1. Andrachne Telephoides.
Lin. ſpec. 1439. *ſyſt.* 871. *Reich.* 4. 210. *hort. cliff.* 443. *upſ.* 285. *Mill. illuſtr. ic.* *Gærtn. fruct.* 2. 124.
Telephoides. *Dill. elth. t.* 282. *f.* 364. *Buxb. cent.* 2. *t.* 12. *f.* 2.
Glaux. *Bocc. muſ.* 2. *t.* 119.
Procumbent and herbaceous.

2. Andrachne fruticoſa.
Lin. ſpec. 1440. *Reich.* 4. 211. *Oſb. it.* 228.
β. Clutia androgyna. *Linn. mant.* 128. *ſyſt.* 871. *Reich.* 4. 211.
Erect, ſhrubby.

3. Andrachne arborea.
Mill. dict.
Stem arboreſcent; leaves ovate, obtuſe, hoary underneath.

DESCRIPTION, &c.

1. The firſt ſort is a low plant, whoſe branches trail on the ground. The leaves are ſmall, of an oval ſhape, ſmooth, and of a ſea-green colour. It is found wild in ſome parts of Italy, and in the Archipelago, from whence Tournefort ſent the ſeeds to the royal garden at Paris: but being a plant of no great beauty, it is ſeldom cultivated, except in botanic gardens for variety. [It was cultivated in 1732, by James Sherard, M.D. [e]]

2. The ſecond ſort riſes twelve or fourteen feet high, the branches have ſpear-ſhaped, pointed, ſmooth leaves, under which the peduncles are produced: theſe are pretty long, and hang downward: the flowers are ſmall, of an herbaceous white colour, ſome of which are male, and others female, but when the latter are ſituated at too great diſtance from the former, there are rarely any ſeeds within their covers; though they ſeem very fair to ſight; whereby ſeveral perſons have been deceived, who have ſown them, without raiſing a ſingle plant. [Linneus deſcribes it as having the branches ſmooth, flexile. Leaves oval-oblong, with ſhort petioles, not fragile. Flowers pedunculate, two from a minute ſtrobiliform bud. Some flowers male, with a one-leafed round flat obtuſe calyx, a little quinquefid; others on the ſame plant female, five-parted [f]. Native of the Eaſt Indies,] China; alſo of La Vera Cruz in New Spain.

3. Has a ſtrong, woody ſtem, which riſes more than twenty feet high, ſending out branches on every ſide, which have oval blunt leaves, hoary on their under ſide, and having pretty deep furrows on their upper, placed alternately on the branches: the flowers I have not ſeen, for the plant which roſe from the ſeeds in the phyſic garden did not produce any, though it grew upwards of fourteen feet high; nor were there any flowers upon the trees at Campeachy at the time Dr. Houſtoun was there; the ſeeds being then ripe; of theſe he ſent many to Europe which appeared very fair, but on being opened, no kernels were found within them, ſo that but one plant was raiſed from all the ſeeds. It was diſcovered by the late Dr. William Houſtoun growing naturally at Campeachy.

There is alſo another ſort which I have raiſed from ſeeds, ſent me from Jamaica; the whole form of the ſeeds agrees with thoſe of the third ſort, as do alſo the plants, but the leaves are ſomewhat like thoſe of the Laurel, only much larger; this has not as yet flowered in Europe.

PROPAGATION AND CULTURE.

1. If the ſeeds of this plant are ſown on a moderate hot-bed in march, they will ariſe in about a month after, when they may be tranſplanted each into a ſmall pot, and plunged into another very moderate hot-bed to bring the plants forward, but in mild weather they ſhould have plenty of air admitted to them, and be often refreſhed with water: in june they will produce flowers, and the ſeeds will ripen in auguſt and ſeptember, ſoon after which the plants will decay.

2. 3. Theſe two ſorts are very tender plants, ſo that when good ſeeds can be obtained, they ſhould be ſown in pots, plunging them in a hot-bed of tanner's-bark, obſerving to water them as the earth becomes dry in the pots, and when the plants come up, and are fit to remove, they ſhould each be planted in a ſmall pot, plunged into a tan-bed, ſhading them until they have taken freſh root, after which they ſhould have free air admitted to them in warm weather, but muſt be conſtantly kept in the bark ſtove.

ANDRACHNE. See *Arbutus.*

ANDROMĔDA. (*named from the daughter of Cepheus, and Caſſiope, reſcued from the ſea-monſter by Perſeus.*)

Lin. gen. n. 549. *Reich.* 593. *Schreb.* 747. *Gærtn.* 63. 178. *Juſſ.* 160.

Ledum. *Mich.* 106. Chamædaphne. *Buxb.* Poliifolia. *Buxb.* Erica. *Tournef.* 373. B.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Bicornes*. *Ericæ* Juſſ.

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[c] Lin. ſuppl.

[d] Hort. kew.

[e] Hort. kew.

[f] Linn. mant.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, acute, very ſmall, coloured, permanent.

Cor. monopetalous, campanulate, quinquefid ; clefts reflex.

Stam. *Filaments* ſubulate, ſhorter than the corolla, and ſcarcely fixed to it : *anthers* two-horned, nodding.

Pist. *Germ* roundiſh : *ſtyle* cylindric, longer than the ſtamens, permanent : *ſtigma* obtuſe.

Per. *Capſule* roundiſh, five-cornered, five-celled, five-valved, opening at the corners : *partitions* contrary.

Seeds very many, roundiſh, ſhining.

Obs. *It differs from* Erica *in number. In ſome ſpecies the corolla is ovate, in others perfectly campanulate. The anthers in ſome are awned, in others awnleſs.*

A. Daboecia (*formerly an* Erica) *wants one-fifth in the parts of fructification: and ought perhaps, with* droſeroides *and* cœrulea, *to be removed to that genus.*

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* ovate (or campanulate) quinquefid at the edge. *Capſ.* ſuperior, five-celled, with the partitions from the middle of the valves.

SPECIES.

[1. Andromeda tetragona.
Lin. ſpec. 563. *Reich.* 2. 292. *ſuec.* 356. *lapp.* 166. *t.* 1. *f.* 4.
Peduncles ſolitary, lateral ; corollas bell-ſhaped ; leaves oppoſite, imbricate, obtuſe, revolute.

2. Andromeda hypnoides.
Lin. ſpec. 563. *ſyſt.* 406. *Reich.* 2. 292. *ſuec.* 355. *lapp.* 165. *t.* 1. *f.* 3. *Oeder. dan. t.* 10.
Peduncles ſolitary, terminal ; corollas bell-ſhaped ; leaves crowded, awl-ſhaped.

3. Andromeda cerea.
Linn. ſuppl. p. 238. *ſyſt.* 406.
Peduncles axillary, two-leaved, one-flowered ; leaves alternate, ovate, ſerrate.

4. Andromeda cœrulea.
Lin. ſpec. 563. *ſyſt.* 406. *Reich.* 2. 292. *ſuec.* 354. *lapp.* 165. *t.* 1. *f.* 5. *Oeder. dan. t.* 57.
Erica folio abietis, flore arbuti. *Buxb. cent.* 4. *t.* 43.
Peduncles aggregate ; corollas ovate ; leaves ſcattered, linear, obtuſe, flat.]

5. Andromeda mariana. *Maryland Andromeda.*
Lin. ſpec. 564. *ſyſt.* 406. *Reich.* 2. 293. *Gron. virg.* 49: 66. *Pluk. mant: t:* 448. *f.* 6. *Ait. hort. kew.* 2. 67.
α. *Oval-leaved Andromeda.*
β. *Oblong-leaved Andromeda.*
Peduncles aggregate, branched ; corollas ovate-cylindrical ; leaves oblong-ovate, quite entire, deciduous.

[6. Andromeda ferruginea. *Ruſty Andromeda.*
Ait. hort. kew. 2. 67.
Peduncles aggregate axillary ; corolla ſubgloboſe ; leaves elliptic, quite entire, beneath ſcaly-ſcarioſe.]

7. Andromeda polifolia. *Marſh Andromeda.*
Lin. ſpec. 564. *ſyſt.* 406. *Reich.* 2. 293. *ſuec.* 353. *lapp.* 161. *t.* 1. *f.* 3. *Oeder. dan. t.* 54. *Hudſ. angl.* 176. *Wither. arr.* 425. *Lightf. ſcot.* 214. *Hall. helv. n.* 1017. *Pollich palat. n.* 394. *Plenck. ic. t.* 338.
Polifolia. *Buxb. cent.* 5. *t.* 55. *f.* 1.
Erica humilis, &c. *Pluk. alm. t.* 175. *f.* 1.
Rhododendron polifolium. *Scop. carn. n.* 482.
α. A. pol. latifolia. *Broad-leaved Marſh Andromeda.*
L'Herit. ſtirp. nov. tom. 2. *tab.* 11.
Leaves oblong ; corollas ovate, fleſh-coloured ; ſegments of the calyx ſpreading, ovate, white ; ſometimes red at the tip.
β. A. pol. media. *Common Marſh Andromeda, or wild Roſemary.*
Leaves lanceolate ; corollas oblong-ovate, red ; ſegments of the calyx more erect.
γ. A. pol. anguſtifolia. *Narrow-leaved Marſh Andromeda.*
Leaves lanceolate-linear, ſegments of the calyx oblong, red.
Ait. hort. kew. 2. 68.

Peduncles aggregate, corollas ovate, leaves alternate, lanceolate, revolute.

[8. Andromeda Bryantha.
Lin. ſyſt. 406. *Reich.* 2. 293. *mant.* 238.
Bryanthus. *Gmel. ſib.* 4. *t.* 57. *f.* 3.
Flowers corymbed, leaves elliptic, ſtem proſtrate.

9. Andromeda Daboecia. *Iriſh Whorts, or Cantabrian Heath,* or *trailing Andromeda.*
Lin. ſyſt. 406. *Reich.* 3. 294. *Wither. arr.* 425.
Erica Daboecii. *Lin. ſpec.* 599. *Hudſ. angl.* 166. *Raii hiſt.* 3. 98. *ſyn.* 472.
E. hibernica, &c. *Raii hiſt.* 3. *lapp.* 244. *Pet. gaz.* 27. *f.* 4.
Racemes pointing one way, flowers quadrifid ovate, leaves alternate, lanceolate, revolute.

10. Andromeda droſeroides. *Clammy Andromeda.*
Lin. ſyſt. 406. *Reich.* 2. 294. *mant.* 239.
Erica glutinoſa. *Berg. cap.* 98.
Chamæciſtus roris ſolis foliis. *Pet. muſ.* 22. *t.* 161.
Racemes pointing one way ; leaves linear, hairy, viſcid.]

11. Andromeda paniculata. *Panicled Andromeda.*
Lin. ſpec. 564. *ſyſt.* 406. *Reich.* 2. 295. *hort. cliff.* 162. *L'Herit. ſtirp. nov.* 2. *t.* 12.
Racemes terminal, panicled : corollas roundiſh ; leaves ovate rather entire.

[12. Andromeda japonica.
Lin. ſyſt. 407. *Thunb. jap. p.* 181. *t.* 22. *Gærtn. fruct.* 2. 481.
Racemes panicled, cylindric, bracted ; leaves elliptic, reflex, ſerrate at the tip.]

13. Andromeda arborea. *Tree Andromeda or Sorrel-tree.*
Lin. ſpec. 565. *Reich.* 2. 295. *Gron. virg.* 48. 67. *Cateſb. car.* 1. *t.* 71. *L'Herit. ſtirp. nov. tom.* 2.
Panicles terminal, corollas rather downy, leaves elliptic, pointed, toothletted.

[14. Andromeda racemoſa. *Branching or Penſylvania Andromeda.*
Lin. ſpec. 564. *Reich.* 3. 295. *L'Herit. ſtirp. nov. tom.* 2. *tab.* 13.
Racemes terminal, ſimple, bracted ; corollas cylindric ; leaves oblong-lanceolate, ſerrate.

15. Andromeda axillaris. *Notch-leaved Andromeda.*
Ait. hort. kew. 2. 69. *L'Herit. ſtirp. nov. tom.* 2. *tab.* 14.
Racemes axillary, ſimple ; corollas oblong ; leaves ovate, acute, ſerrulate.

16. Andromeda coriacea. *Thick-leaved Andromeda.*
Ait. hort. kew. 2. 70. *L'Herit. ſtirp. nov. tom.* 2. *tab.* 15.
Racemes axillary, ſimple ; leaves ovate, very entire, very ſhining ; branchlets three-cornered.

17. Andromeda acuminata. *Acute-leaved Andromeda.*
Ait. hort. kew. 2. 70. *L'Herit. ſtirp. nov. tom.* 2. *tab.* 16.
A. lucida. *Jacqu. collect.* 1. *p.* 95.
Racemes axillary, ſimple ; leaves ovate-lanceolate, acuminate, ſerrate.]

18. Andromeda calyculata. *Calycled Andromeda.*
Lin. ſpec. 565. *ſyſt.* 407. *Reich.* 2. 295. *ſuec.* 357. *Gærtn. fruct.* 1. 304. *Gort. ingr.* 64. *Gron. virg.* 21? *Gmel. ſib.* 4. *p.* 119. *n.* 4.
α. A. cal. ventricoſa. *Globe-flowered calycled Andromeda.*
Chamædaphne. *Buxb. act. petrop.* 1. *p.* 241. *t.* 8. *f.* 1.
Corollas globoſe, leaves oblong-lanceolate.
β. A. cal. latifolia. *Broad-leaved calycled Andromeda.*
Corollas oblong-cylindric ; leaves oblong-oval, obtuſe.
γ. A. cal. anguſtifolia. *Narrow-leaved calycled Andromeda.*
Corollas oblong-oval ; leaves oblong-lanceolate.
Peduncles ſolitary, axillary, pointing one way ; bractes two ; leaves oval, ſcaly-dotted, obſoletely ſerrulate.

[19. Andromeda anaſtomozans.
Lin. ſyſt. 407. *ſuppl. p.* 237.
Racemes crowded, leafy ; leaves ovate ſlightly ſerrate, anaſtomozing underneath and dotted.

20. Andromeda rupeſtris.
Lin. ſyſt. 407. *ſuppl. p.* 237. *Forſt. flor. n.* 195.

Leaves oblong, alternate, ſerrulate.

21. Andromeda ſalicifolia. *Willow-leaved Andromeda.*
Smith ic. ined. t. 58. *Lamarck encycl.* 159.
Racemes pointing one way, naked; corollas ſubcylindrical; leaves lanceolate, acute, quite entire.

22. Andromeda buxifolia. *Box-leaved Andromeda.*
Smith ic. ined. t. 59. *Lamarck encycl.* 159.
Racemes pointing one way, naked; corollas ſubcylindrical; leaves cordate-ovate, quite entire, with a little dagger point.

23. Andromeda faſciculata.
Swartz prodr. 73.
Peduncles aggregate, leaves alternate ovate-lanceolate obtuſe ſlightly crenulate coriaceous.

24. Andromeda jamaicenſis.
Swartz prodr. 73.
Peduncles aggregate, corollas ovate tranſparent, leaves alternate broad-lanceolate obtuſe entire, beneath aſh-coloured membranaceous.

25. Andromeda octandra.
Swartz prodr. 73.
Peduncles aggregate, corollas cylindric quadrifid, leaves alternate ovate-lanceolate entire membranaceous.

DESCRIPTIONS, &c.

1. This is like the *Paſſerina filiformis*, but the flowers are very different, reſembling thoſe of the Lily of the Valley. The leaves are generally fourfold; whence it has the ſquare appearance which acquired it the name of *tetragona*[a]. Linneus firſt obſerved it growing very ſparingly in Lapland, in the year 1732. Gmelin alſo found it on the mountains of Siberia.

2. This little plant has the appearance of a moſs, ſpreads over great tracts of ground in the Lapland Alps, and adorns them with its beautiful red flowers. The anthers are awned[b]. It is found alſo in Denmark and Siberia.

3. Reſembles the fourteenth ſpecies, but is ſmooth. The leaves are on ſhort petioles; the corolla is bell-ſhaped; the anthers oblong, yellow, two-horned at the back[c]. This is from the iſland of Otaheite.

4. The anthers are without awns. It grows wild on the mountains of Lapland; but more plentifully on thoſe of Dalecarlia and Jemtia[d], and is found alſo in Denmark and Siberia.

5. Corolla rather cylindric-bell-ſhaped: anthers without awns[e]. A native of North America. Introduced in 1736, by Peter Collinſon, Eſq.[f] Of this there are two varieties.

1. With oval leaves.
2. With oblong leaves.

The corollas are ſhaped like thoſe of the *Arbutus*, and are of a herbaceous colour. They appear in june and july, and ſometimes are ſucceeded by fruit, which ſeldom ripens in England.

[6. This is alſo a native of North America. It was cultivated in 1776, by Mr. James Gordon; and flowers in july and auguſt[g].

7. This elegant little ſhrub is from ſix or eight inches to a foot in height, erect and branched. Leaves ſeſſile, rigid, elliptical, their edges turned back; the under ſurface glaucous. Peduncles long, of a bright red colour, ariſing from the ſummits of the branches, each ſupporting one oval, nodding flower. The calyx is red, and the corolla is of a pink colour. Anthers awned; ſtyle white with a purple ſtigma[h].

Native of America, and the northern countries of Europe, on turf bogs. In Ruſſia, Sweden, Denmark, Germany, Switzerland, and in Britain, on the moſſes of Cheſhire, Lancaſhire, Weſtmoreland, Cumberland, Yorkſhire, and Scotland, as on Brigſteer moſs near Kendal, Middleton moſs by Lancaſter, on Blackſtone Edge between Hallifax and Rochdale, upon Solway moſs abundantly, and not unfrequent in peat-bogs in the Lowlands of Scotland. It flowers about the end of may; and is called *Mars Chiſtus, Wild Roſemary, Poley Mountain, Moorwort*, and *Marſh Holy Roſe*.

There is ſome difference between the varieties of this ſpecies, as found in North America (α), in Europe (β), and in Newfoundland and Labradore (γ), as ſpecified above.

8. The anthers adhere perpendicularly to the back of the filaments. Peduncles many-flowered. It comes up in thick clumps, like wild Thyme, on the rocks of Kamtſchatka.

9. The flowers are borne on a ſingle terminal raceme, on alternate undivided ſubviſcid pedicels, with a linear bracte under each. Calyx four-leaved, awl-ſhaped, erect, purpliſh, one-fourth of the length of the corolla, and deciduous. Corolla purple, cylindric-oval, twice as large as that of the ſeventh ſpecies; the mouth quadrifid and a little contracted: the diviſions bent back. Stamens eight, with white filaments: anthers the length of the filaments, ſcarcely ſhorter than the corolla, brown, ſagittate, awnleſs, truncate at top, with two holes. Style filiform, the length of the corolla: ſtigma obtuſe, ſubquadrifid. This ſpecies has the habit or air of an *Andromeda*, but the character of an *Erica*. The ſeed veſſel is a four-celled four-valved capſule[i]. It has been obſerved to grow only in the Iriſh bogs, and flowers in june and july.

10. This has leaves reſembling *Droſera ciſtiflora*. In the number of the parts of fructification it is ſometimes nearer the *Erica* genus than this. The anthers are awned[k]. Stem underſhrubby, branching. Leaves alternate, ſubſeſſile, obtuſe, channelled, almoſt erect, on the outſide beſet with ſcattered hairs, ciliate with little briſtles, having viſcid glandules at their tips. Racemes terminal, ſolitary. Peduncles purpliſh. Flowers nodding. Calyx ſcarioſe, ovate, concave, ſmall. Corolla ovate, violet, with a dark purple neck: border minute, white, obtuſe. Anthers ſtanding out, with two briſtly awns at the baſe. Number of parts of fructification varies from four or eight, to five or ten. It is ſiſter to n. 9. and has all the habit of Andromeda[l]. A native of the Cape of Good Hope.]

11. Stem about four feet high: the flowers grow in looſe ſpikes from the ends of the branches; they are ſhaped like thoſe of the *Arbutus*, but are a little longer, and appear in july; but do not produce ſeeds in this country. [Anthers awned[m]. A native of Virginia; and was cultivated in 1748, by Archibald Duke of Argyle[n].

12. This is a tree. Branches coming out by threes or more in a ſort of umbel, ſtriated and angular, ſmooth, purpliſh, erect, knobbed from the fall of the leaves, and ſubdivided. Leaves frequent on the twigs, alternate, obovate-lanceolate, acute, attenuated at bottom into the petioles, crenate from the middle to the tip, ſpreading very much or reflex, nerved, ſmooth, two inches in length. Petioles ſemicylindrical, grooved, red, a line in length. Racemes alternate, lax, red, a finger's length, at the ends of the twigs. Peduncles angular, ſmooth. Pedicels round, thickened, erect, a line long. Bractes ſubulate, ſcattered both below and on the pedicels. Perianth, before flowering-time, five-cornered, acute, ſmooth, red on one ſide green on the other, five-parted almoſt to the baſe, ſegments lanceolate, ſcarcely a line in length. Corolla ſubcylindrical, white, ſhorter than the calyx, marked with five ſtreaks. Filaments inſerted into the receptacle, linear, one third only of the length of the calyx. Anthers ovate, erect, gibbous on the inſide, purpliſh. Germ ſuperior, marked with five ſtreaks, convex, ſmooth. Style filiform, green, very ſhort. Stigma ſimple, greeniſh-purple. Capſule ovate-globoſe, five-flowered with obtuſe angles, ſmooth. Seeds minute. Native of Japan, near Nagaſaki; flowering in december[o].]

13. In Virginia it is a ſhrub growing ten or twelve feet high, but in Carolina it riſes twenty feet. The branches are very ſlender, bending downward. The flowers grow in long, naked ſpikes from the ſides of

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[a] Linn. [b] Ibid. [c] Linn. ſuppl. [d] Linn. [e] Ibid. [f] Hort. kew. [g] Ibid. [h] Haller, Lightf. Linn. With.

[i] Linn. [k] Ibid. [l] Linn. mant. [m] Linn. [n] Hort. kew. [o] Thunberg.

the branches: they are of a herbaceous colour, and ranged on one ſide of the ſtalk. [Cultivated in 1752, by Mr. Miller[p].

14. Differs from the eleventh, in the racemes being leſs panicled; in having a linear, lanceolate, ſtiff, green, deciduous, bracte, under each flower, longer than it; in the capſules retaining the ſtyle; and in the leaves being more ſerrate. This was found in Penſylvania, by Kalm[q]. Introduced by P. Collinſon in 1736. It flowers in july[r].

15. Native of Carolina, where it was found by Mr. John Cree. It was introduced in 1765; and flowers from may to auguſt[s].

16. Found by the ſame perſon in North America, and introduced the ſame year. It flowers in july and auguſt[t].

17. This is a ſhrub about four feet in height, upright, and the whole of it ſmooth, with round branches, which are leafy to a conſiderable extent. Leaves alternate, petioled, two inches long, either quite entire, or very obſcurely and unequally crenulate, coriaceous, ſomewhat rigid, very ſmooth beneath, almoſt lucid on the upper ſurface, reticulate with ſmall veins when looked at through a magnifying-glaſs. Racemes axillary, ſolitary; there are alſo others which come out from the branches themſelves without any leaf; they are many-flowered, much ſhorter than the leaves, and ſpread out horizontally. Pedicels ſlender, pendulous. The flowers ſmell like honey. Perianth green. Corolla ſnow-white, almoſt cylindric, with a flat baſe, and a ſmall, obtuſe, five-toothed, revolute border. It flowers in july and auguſt[u]. It is a native of North America, and was introduced in 1765[x].]

18. It is a low ſhrub: the leaves ſhaped like thoſe of the Box-tree, and of the ſame conſiſtence; with ſmall punctures on them. The flowers grow in ſhort ſpikes from the extremities of the branches: they are produced ſingle, between two leaves, and are white. [The leaflets are oval on the racemes, and from the axil of each proceeds a ſolitary pedicelled flower: the calyx is covered at the baſe with two ovate leaflets: the anthers are oblong, bifid, and awnleſs[y]. It grows in Sweden, Ingria, Siberia, and alſo in North America; on moſſy land. Cultivated in 1748, by Archibald Duke of Argyle[z]. There is ſome difference in the varieties from Ruſſia (α), Newfoundland (β), and North America and Siberia (γ).

19. A ſhrub with hairy branches; leaves alternate, crowded, ſub-petiolate, acute, ſhining, ſcarce apparently ſerrate. Corollas ovate. Anthers two-awned, and each of the awns ſubdivided. Capſules obtuſe, gaping at the angles[a]. Found by Mutis, in New Granada.

20. Racemes quite ſimple, bracted: corollas bell-ſhaped. A native of New Zealand[b].

21. Stem arboreous, with vimineous, ſubflexuoſe, round, ſmooth, leafy branches, flower-bearing at the end. Leaves perennial, alternate, petioled, from erect ſpreading, with the edges a little rolled back; the upper ſurface ſmooth, with two longitudinal veſſels parallel to the nerve, giving it the appearance of being three-nerved; the lower whitiſh, with a ſtout reddiſh nerve, reticulately veined. Petioles channelled, ſmooth. Racemes ſubpanicled terminating. Pedicels all directed the ſame way, alternate, ſimple, ſhort, angular, without bractes, when flower-bearing they nod, but when in fruit they are from erect ſpreading. Calyx five-cleft beyond the middle, wrinkled, fleſhy, ſmooth, ſometimes ciliate; the clefts deltoid, bluntiſh, ſlightly keeled. Corolla thrice the length of the calyx, ovate-cylindrical; clefts ſmall, roundiſh, blunt, a little turned back. Filaments bent, villoſe, dilated at the baſe: anthers upright, oblong, awnleſs, two-celled, opening at the top in two pores, gibbous at the baſe. Germ obſcurely five-lobed, ſmooth. Style almoſt the length of the corolla, ſtraight, ſubquinquangular. Stigma blunt, with five papilloſe glands. Capſule woody, ſmooth, oblong; valves concave outwardly, inwardly bearing a partition from the middle. Seeds numerous, ſmall, oblong. It was found by Commerſon, in the iſland of Mauritius[c].

22. Stem ſhrubby; with round, ſmooth, leafy branches, flower-bearing at top. Leaves perennial, ſcattered, ſpreading, blunt, a little rolled back at the edge, bright green and ſmooth above; beneath whitiſh, reticulately-veined, with a ſtout midrib. Petioles ſhort, channelled, wrinkled. Racemes towards the top of the twigs, axillary, ſcarcely terminating, ſtraight, ſimple, angular, ſlightly pubeſcent, without bractes, when in flower nodding a little, when in fruit from erect ſpreading. Flowers in every reſpect ſimilar to thoſe of the former, except that the calyxes are more ciliate, and the ſegments of the corollas erect. The unripe fruit is ſlightly pubeſcent, but the ſtructure is the ſame as in *A. ſalicifolia*. Theſe two handſome ſpecies of Andromeda, differ ſcarcely at all in their fructification: the ſtructure of their leaves alſo is the ſame, and they can be diſtinguiſhed only by the form of their leaves. This however has none of thoſe lines parallel to the midrib, which are ſo conſpicuous in the other ſpecies. It is a native of the iſle of Bourbon, where it was found by Commerſon[d].

23. 24. 25. Natives of Jamaica[e].]

PROPAGATION AND CULTURE.

Moſt of the ſorts are hardy deciduous ſhrubs, delighting in moiſt ground. They may be increaſed by their creeping roots, which put up ſuckers at a diſtance, which may be taken off with roots, and tranſplanted where they are deſigned to remain; for they do not bear to be often removed. [Such alſo as are imported from America by the ſeedſmen, may be propagated by ſeed, which muſt be ſown in the ſpring, in a bed of moiſt earth. They may alſo be increaſed by layers, in autumn.]

The 13th ſort requires to be ſheltered from hard froſt in winter, but in the ſummer ſhould be frequently watered. It is a difficult plant to keep in gardens, as it grows naturally on boggy places, and requires a greater heat than that of this climate.

[ANDROPOGON. (Greek, ſignifying *Man's-beard.*) *Lin. gen. n.* 1145. *Schreb.* 1566. *Roy. lugdb.* 52. *Juſſ.* 30.

Claſſ. 23. 1. Polygamia Monoecia.
Nat. order of *Gramina* or Graſſes.

GENERIC CHARACTER.

* *Hermaphrodite flowers ſeſſile.*

Cal. a glume, one-flowered, two-valved, oblong, obtuſe, cartilaginous, awnleſs; the *outer valve* concave, flattiſh at the back, embracing the *inner*, which is narrower, with its edges.

Cor. a two-valved glume, leſs and more ſlender than the calyx: *outer valve* ſmaller, frequently very ſmall, within the inner valve of the calyx, ſharp or bifid at the end, in moſt of the ſpecies awned: *awn* terminating, or from the cleft of the glume, long, with a bent joint, and twiſted at bottom: the *inner valve* lanceolate, doubled at the edges. *Nectary* two-leaved: leaflets thickiſh, diaphanous.

Stam. *Filaments* three, capillary, very tender: *anthers* oblong, forked at both ends, incumbent.

Piſt. *Germ* oblong: *ſtyles* two, capillary: *ſtigmas* oblong, feathered.

Per. none, glumes of the corolla and calyx involving and incloſing the ſeed.

Seed. ſolitary, oblong, covered; armed with the awn of the corolla, which eaſily falls off.

* *Male flowers peduncled, ſingle, or in pairs to each hermaphrodite.*

Calyx, Corolla, and **Stamens** as in the others, only that the corolla has no awn.

ESSENTIAL CHARACTER.

Herm. *Cal.* glume one-flowered. *Cor.* glume awned at the baſe. *Stam.* three. *Styles* two. *Seed* one.

Male. *Cal.* and *Cor.* the ſame. *Stam.* three.

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[p] Hort. kew. [q] Linn. [r] Hort. kew. [s] Ibid. [t] Ibid. [u] Jacquin. [x] Hort. kew. [y] Linn. [z] Hort. kew. [a] Linn. [b] Forſt.

[c] Smith ic. ined. [d] Ibid. [e] Swartz prodr.

SPECIES.

1. Andropogon caricoſum.

Lin. ſpec. 1480. *Reich.* 4. 299. *Thunb. jap.* 39.

Gramen caricoſum. *Rumph. amb.* 6. *t.* 7. *f.* 2. A.

Spike ſolitary, imbricate; ſeeds ſhaggy; awns naked, contorted.

2. Andropogon contortum.

Lin. ſpec. 1480. *ſyſt.* 903. *Reich.* 4. 299. *ſuppl.* 432. *Allion. ped. t.* 91. *f.* 4. *Retz. obſ.* 3. 43. *n.* 94.

Ægilops maderaſpatana, &c. *Scheuch. gram.* 92.

Gram. ſecalinum indicum, &c. *Pluk. alm. t.* 191. *f.* 5. *Mor. hiſt. ſ.* 8. *t.* 4. *f. ult.*

Spike ſolitary: male flowers awnleſs on the back of the ſpike; female flowers on the belly of it, twice as long as the males, with twiſted approximating awns, longer than the whole ſpike.

3. Andropogon crinitum.

Lin. ſyſt. 903. *Thunb. jap.* 40. *t.* 7.

Spike ſolitary, ſhaggy: awns naked, jointed, very long.

4. Andropogon divaricatum.

Lin. ſpec. 1480. *ſyſt.* 903. *Reich.* 4. 299. *Gron. virg. ed.* 2. 159.

Lagurus humilior, &c. *Gron. virg.* 135.

Spike oblong; flowers woolly; remote, divaricate: awn flexuoſe, naked.

5. Andropogon Gryllus.

Lin. ſpec. 1480. *ſyſt.* 903. *Reich.* 4. 299. *Amæn.* 4. *p.* 332. *Hall. helv. n.* 1412. (Phoenix). *Gouan monſp.* 513. *Scop. carn. n.* 1235. *Villars dauph.* 2. 68.

Ægilops bromoides ſpica purpuraſcente. *Scheuch. gram.* 267. *t.* 6. *f.* 1.

Gram. ſparteum feſtuceum, &c. *Barr. ic.* 18. *f.* 2.

Gram. avenaceum, &c. *Monti p.* 57. *ic.* 67.

Peduncles of the panicle entirely ſimple, three-flowered; the hermaphrodite floſcule ſeſſile, awned, ciliate, bearded at the baſe.

6. Andropogon ſaccharoides.

Swartz prodr. 26.

Branches of the panicle ſimple, florets in pairs, hermaphrodite awned ſeſſile, the other awnleſs pedicelled withering, pedicel and rachis woolly.

7. Andropogon nutans.

Lin. ſpec. 1480. *ſyſt.* 903. *Reich.* 4. 320. *Gron. virg.* 133. 158.

Panicle nodding: awns twiſted, poliſhed; glumes of the calyx ſhaggy.

8. Andropogon ciliatum.

Lin. ſyſt. 903. *Thunb. jap.* 40.

Panicle nodding; outer calyx many-flowered, ciliate; awns contorted, hairy.

9. Andropogon ſerratum.

Lin. ſyſt. 903. *Thunb. jap.* 41.

Panicle looſe: one floſcule ſeſſile, villoſe at the baſe; the other pedicelled, with the pedicel villoſe, and ſhorter than the calyx.

10. Andropogon cotuliferum.

Lin. ſyſt. 903. *Thunb. jap.* 41.

Panicle ſpreading, villoſe: awn twiſted, naked: pedicels clubbed or ſwelling at top, and hollowed like a ſaucer or diſh.

11. Andropogon cymbarium.

Lin. ſyſt. 903. *mant.* 303. *Reich.* 301.

Panicle ſcattered; bractes boat-form; flowers tranſverſe, awned, three-fold.

12. Andropogon ſquarroſum.

Lin. ſyſt. 904. *ſuppl.* 433.

A. muricatum. *Retz. obſ.* 3. 43. *n.* 95. & 5. *n.* 49.

Panicle crowded, glumes awl-ſhaped, rugged.

13. Andropogon proſtratum.

Lin. ſyſt. 904. *Reich.* 4. 301. *mant.* 304.

Peduncles in five-flowered umbels without calycles, the hermaphrodite floſcule awned.

14. Andropogon faſtigiatum.

Swartz prodr. 26.

Spikes of the panicle ſolitary, peduncles elongate ſubfaſtigiate, rachis woolly, floſcules awned, male fertile.

15. Andropogon alopecuroides.

Lin. ſpec. 1481. *ſyſt.* 904. *Reich.* 4. 302. *Gron. virg.* 133. 158.

Gram. Dactylon, &c. *Sloan. jam.* 1. *t.* 14. *t.* 70. *f.* 1.

Panicle looſe, rachis woolly, a twiſted awn to each floſcule.

16. Andropogon diſtachyum.

Lin. ſpec. 1481. *ſyſt.* 904. *Reich.* 4. 302.

Spikes two, terminal: culm undivided.

17. Andropogon Schænanthus. *Sweet Ruſh* or *Camel's-hay.*

Lin. ſpec. 1481. *ſyſt.* 904. *Reich.* 4. 302. *mat. med.* 219. *Rumph. amb.* 5. 181. *t.* 72. *f.* 2. *Lour. cochinch.* 646. *Reliqu. Rudb. t.* 21. *f.* 3.

Lagurus. *Fl. zeyl.* 465.

Gram. ad junceum accedens aromaticum majus ſyriacum. *Mor. hiſt. ſ.* 8. *t.* 9. *f.* 25.

Gram. dactylon aromaticum, &c. *Pluk. alm. t.* 190. *f.* 1.

Schænanthus. *Bauh. hiſt.* 2. 515. *Raii hiſt.* 1310.

Spike of the panicle conjugate, ovate-oblong; rachis pubeſcent, floſcules ſeſſile with a twiſted awn.

18. Andropogon virginicum.

Lin. ſpec. 1482. *Reich.* 4. 303. *Roy. lugdb.* 53. 2. *Gron. virg.* 132. 159. *Brown. jam.* 365. *n.* 3.

Gram. dactylon bicorne tomentoſum minus. *Sloan. jam.* 1. *t.* 68. *f.* 2.

Spikes of the panicle conjugate, peduncles ſimple, rachis woolly, floſcules awnleſs, the male one waſting.

19. Andropogon bicorne.

Lin. ſpec. 1482. *Reich.* 4. 303. *Brown. jam.* 365. *n.* 4. *Swartz obſ.* 382. *Gron. virg. ed.* 2. 159.

Lagurus, &c. *Lin. hort. cliff.* 25. 2. *Gron. virg.* 135.

Gram. dactylon bicorne tomentoſum maximum, ſpicis numeroſis. *Sloan. jam.* 1. *t.* 15.

Spikes of the panicle conjugate, peduncles branching very much, rachis woolly, awn caducous, male floſcule wanting.

20. Andropogon hirtum.

Lin. ſpec. 1482. *ſyſt.* 904. *Reich.* 4. 303. *Roy. lugdb.* 53. 1. *Gron. virg.* 133. 159. *Reliqu. Rudb. t.* 7. *f.* 3. & *t.* 15. *f.* 1.

Gram. dactylon ſpica gemina. *Scheuch. gram.* 95.

Gram. dactylon ſiculum, &c. *Pluk. alm. t.* 92. *f.* 1.

Spikes of the panicle conjugate, calyxes ſhaggy.

21. Andropogon inſulare.

Lin. ſpec. 1480. *Reich.* 4. 303. *Amæn.* 5. 412. *Brown. jam.* 365. *n.* 2. *Swartz obſ.* 383.

Gram. avenaceum, &c. *Sloan. jam.* 1. *t.* 14. *f.* 2.

Panicle looſe, ſmooth; floſcules double, awnleſs; one pedicel ſhorter, calyxes woolly.

22. Andropogon barbatum.

Lin. ſyſt. 904. *Reich.* 4. 304. *mant.* 302. *Retz. obſ.* 3. 43. *n.* 96.

Spikes digitate, calyxes permanent, corollas ciliate.

23. Andropogon pubeſcens.

Ait. hort. kew. 3. 423.

Chloris ciliata. *Swartz prodr.* 25.

Spikes digitate, calyxes ſubtriflorous, outer petals awned; keel and edge of the hermaphrodite flower ciliate.

24. Andropogon Nardus.

Lin. ſpec. 1482. *Reich.* 4. 304. *mat. med.* 219.

Lagurus. *Fl. zeyl. n.* 45.

Branches of the panicle ſuperdecompound, proliferous.

25. Andropogon muticum.

Lin. ſpec. 1482. *Reich.* 4. 305.

Spikes digitate, moſtly three: floſcules alternate, ſeſſile, awnleſs.

26. Andropogon Iſchæmum.

Lin. ſpec. 1483. *ſyſt.* 904. *Reich.* 4. 305. *mant.* 500. *Gouan. hort.* 513. *Jacqu. auſtr.* 4. *t.* 384. *Schreb. gram.* 2. *p.* 66. *t.* 33. *Scop. carn. n.* 1237. *Neck. gallob.* 414. *Pollich palat. n.* 935. *Hall. helv. n.* 1414. *Villars dauph.* 2. 68.

Gram. dactylon, &c. *Scheuch. gram.* 94. *t.* 11. *f.* 11. A. B. *Barr. ic.* 753. *f.* 2.

Many digitate ſpikes, floſcules ſeſſile, awned and awnleſs, pedicels woolly.

27. Andropogon faſciculatum. *Many-ſpiked Andropogon.*

Lin. ſpec. 1483. *Reich.* 4. 305. *Ait. hort. kew.* 3. 424. *Brown. jam.* 365. *n.* 6?

Chloris radiata. *Swartz prodr.* 26. *obſ.* 383.

Gram. dactylon, &c. *Mor. hiſt. ſ.* 8. *t.* 3. *f.* 15.
Sloan. jam. 1. *t.* 69. *f.* 2 ?
Spikes faſcicled, very many, ſmooth; calyxes two-flowered; valves acute, ſmooth and even, the outer like petals and awned, the inner floſcule barren.

28. Andropogon polydactylon.
Lin. ſpec. 1483. *Reich.* 4. 306. *Amæn.* 5. 412.
Brown. jam. 364.
Chloris polydactyla. *Swartz prodr.* 26.
Gram. dactylon elatrus, &c. *Sloan. jam.* 1. *t.* 65. *f.* 2.
Spikes faſcicled, outer petals awned, thoſe of the lower floſcule ciliate-bearded.

29. Andropogon glaucum.
Retz. obſ. 5. 20. *n.* 46.
Panicle leafy, involucels and calyxes two-flowered, calyxes of the ſeſſile flowers three-valved, of the peduncled ones two-valved.

30. Andropogon ſerratum.
Retz. obſ. 5. 21. *n.* 47.
Spike ſimple imbricate with two rows of awned ſeſſile flowers, and two of awnleſs pedicelled ones, calyxes one-valved.

31. Andropogon incurvatum.
Retz. obſ. 5. 21. *n.* 48.
Spikes filiform ſubdigitate, flowers twin, the female pedicelled and awned, the male ſeſſile and awnleſs, calyxes one-valved.

32. Andropogon binatum.
Retz. obſ. 5. 21. *n.* 50.
Spikes twin, woolly, one valve of the calyxes acuminate, the other truncate three-toothed, the larger petal awned.

33. Andropogon acioulatum.
Retz. obſ. 5. 22. *n.* 51. *Rumph. amb.* 6. *p.* 14. *t.* 5. *f.* 1.
Panicle contracted upright, peduncles three-flowered, male flowers two pedicelled acuminate, female ſeſſile awned.

34. Andropogon Bladhii.
Retz. obſ. 2. 27. *n.* 96.
Spikes about eight, hermaphrodite floſcule ſeſſile awned, neuter peduncled ciliate awnleſs.

35. Andropogon provinciale.
Retz. obſ. 3. 43. *n.* 97.
Spikes faſcicled ſmooth, floſcules alternate ſubſeſſile, directed one way, awned.

DESCRIPTIONS, *&c.*

Moſt of theſe Graſſes are natives of the Eaſt Indies, America, or the Weſt India iſlands. Only the ſecond, fifth, ſixteenth, twentieth, twenty-ſixth, and thirty-fourth, are found wild in Europe.

1. Culm ſingle or branching, round, jointed, ſmooth, two feet high or more. Leaves alternate, ſheathing, ſheaths ſhaggy at top, ſword-ſhaped, entire, hairy; ſpikes terminating, ſhaggy; ſeeds wholly covered with a ferruginous ſhag; awn ſpreading, longer than the flower[a]. A native of Amboina and Japan.

2. Culms many, filiform, weak, poliſhed, reddiſh: from three to five joints, ſickle-ſhaped. Leaves ſeven inches long, poliſhed, ſubciliate at the baſe and throat. Spike peduncled, two inches long, narrow, poliſhed, imbricate, with male and female flowers. The males ſubpedicelled, preſſed, alternate; the calyx one-valved, the corolla two-valved, with the valves awnleſs, ſublanceolate, poliſhed, and a few hairs ſtanding out; anthers yellow. The females cylindric, gray, preſſed; calyx one-valved, the awn taking the place of the other valve; piſtils hairy, blood-red[b]. A native of the Eaſt Indies. Introduced in 1779, by Anthony Chamier, Eſq.[c]

3. Roots filiform, faſcicled. Culms many, ſingle and branched, filiform below, capillary above, jointed, erect, ſmooth, from ſeven inches to a foot high: branches alternate, like the culm, ſometimes branching again. Leaves alternate, villoſe at the joints, ſmooth, entire. Spikes ſolitary, ſometimes double, linear, an inch long. The rachis at the inſertion of each flower villoſe, with ſhort, white, ſtellate hairs. Glumes of the calyx ſmooth, awn with a reddiſh joint at the baſe, thence capillary, very ſlender, ſpreading horizontally, naked, many times longer than the flower[d]. A native of Japan. Found by Thunberg.

4. Spike conical, lax, nodding. Glumes brown, hard, ſhining, beſet with a few ſhort villoſe hairs. Awn very long, brown, lucid. Native of Virginia[e].

5. Culm three feet high. Leaves a line and upwards in breadth, ſhaggy. On the top a looſe ſpike. Peduncles three or four-flowered: the loweſt flower ſeſſile, with a pointed, elliptic, ſhortly hirſute, channelled, hard glume, oppoſite to which is a tender ſhaggyiſh one. The ſtamens are incloſed in the furrow of the glume, and a ſmall two-horned ſeed in the furrow of the ſcape: the two ſide flowers are petiolate, ſimilar and equal, with very ſtrong petioles, the two glumes of the calyx unequal, hard, pointed, ending in a tender awn. The two glumes of the corolla tender, feathered, violet-coloured, incloſing the ſtamens, and a very ſmall ſeed: the fourth flower with a jointed awn, flat below, ſhaggy above, has a channelled hard glume, emitting a flexuoſe weak awn: to this is oppoſed another awn, far greater and bent; then a glume much leſs, and tender; ſtamens are interpoſed between them, and a very ſmall ſeed[f]. It has a very ſhort wool at the baſe of the hermaphrodite flower[g]. The two ſide male flowers are diandrous[h]. A native of Piedmont, Verona, Montpellier, Carniola, the Griſons, and Switzerland.

6. Native of Jamaica[i].

7. Peduncles naked; pedicels two-flowered; both flowers awned, one ſeſſile: a ſhort down in the glumes themſelves[k]. A native of Virginia and Jamaica.

8. Culm round, jointed, ſimple, erect, two feet high. Leaves ſheathing, with long ſcattered hairs, eſpecially near the joints, ſtreaked and of the length of the culm. The outer calyx or involucre of the flower convolute, ciliate at the baſe, ſmooth, ſharp-pointed, twice as long as the flowers: the proper calyx two-glumed, equal, awnleſs; the glumes lanceolate, and villoſe: a ferruginous down on the outſide of the proper calyx, ſhorter than the calyx. Corolla bivalve, with one valve rather leſs than the calyx; the other evaneſcent, but in its place a villoſe twiſted ſpreading awn, the length of the involucre. Filaments very ſhort; anthers linear. Piſtils in the barren flowers, which are numerous, filiform, the length of the calyx[l]. Found by Thunberg on the mountains of Nagaſaki in Japan; flowering in ſeptember.

9. Culm ſimple, round, erect, three feet high. Leaves veined, ſmooth, the edge of the ſheaths ſhaggy, ſerrate and ciliate. Panicle ferruginous, about ſeven inches long. Peduncles capillary, flexuoſe, erect, ſmooth. Floſcules two, in the teeth of the peduncles: the calyxes, at bottom black and hairy; above ſmooth: awn contorted, ſmooth, four times as long as the flower, and deciduous[m]. A native of Japan.

10. Culm round, ſtreaked, ſmooth, ſimple, jointed; a finger in thickneſs, and two feet in height. Leaves ſheathing, villoſe at the opening of the ſheath, linear, nerved, edged, with the edge very ſlenderly ſerrate, ſmooth, a foot long. Panicle ſuperdecompound, with the floſcules deciduous: peduncles capillary, flexuoſe; pedicels very ſhort; rachis flexuoſe, with the denticles villoſe. Glume of the calyx lanceolate, acuminate, ſtreaked, villoſe, rugged. Awn jointed ſpreading, twice as long as the calyx. This graſs is ſingular in having all the pedicels hollow at top to receive the flower[n]. A native of Japan.

11. Culms a fathom high, poliſhed, full, erect, almoſt covered with ſheaths, ſize of a quill. Leaves rather large, a foot long, ſtreaked, rough on the

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[a] Thunberg.
[b] Lin. ſuppl.
[c] Hort. kew.
[d] Thunberg.
[e] Gron. virg.
[f] Haller.
[g] Linneus.
[h] Scop.
[i] Swartz.
[k] Linneus.
[l] Thunberg.
[m] Thunberg.
[n] Ibid.

edge, ſheaths ſmooth. Panicle a foot long, on capillary pedicels. Bracte like the calyx in a compound flower, boat-ſhaped or ovate, acuminate, concave, membranaceous, purpliſh, placed tranſverſely, containing three flowers, placed alſo tranſverſely on a ſhort hairy pedicel, ariſing from the boſom of the bracte. Three flowers (beſides the acceſſory ones,) ſeſſile on a common pedicel (within the bracte;) with a common two-leaved calyx, the leaflets equal, lateral, lanceolate, the length of the florets, diſtant. Hermaphrodite floſcules three, ſeſſile-ſubulate, with a long twiſted, terminal awn. Male floſcules two, equal, narrower, awnleſs. Hermaphrodite floſcules on the proper pedicels, except a middle hermaphrodite floſcule, to which one male floſcule is adjacent[o]. A native of the Eaſt Indies.

12. Culms ſmooth. Leaves ſomewhat rugged. Hermaphrodite flower ſeſſile, males pedicelled: glumes narrow, one-flowered, ending in a very long cuſp, eſpecially the outer glume of the calyx, ſmooth upwards but rough downwards, with cuſps turned up: corollas ciliate. In the panicle and glumes it reſembles an *Agroſtis*[p]. Koenig obſerved it in Ceylon, ſwimming on deep pools. It is uſed by the natives for its pleaſant ſmell: they alſo make fans of it.

13. Culms many, a foot long, very branching, jointed, ſmooth, proſtrate, rooting. Leaves many, alternate, ſmooth, with a rough edge, ſcarce longer than their ſheaths, which are compreſſed and broader than the leaf. Peduncle filiform, from the laſt axils of the leaves, and tops of the branches, terminated by a ſmall five-flowered umbel. No common calyx, but a ſhort beard. One central floret hermaphrodite: glume bivalve oblong, with a twiſted, long awn. Two male florets very like the other, but awnleſs, pedicelled, ſitting on the baſe of the hermaphrodite floret, with pedicels the length of it. Side florets of the umbel four, equal, pedicelled, awnleſs, male[q]. A native of the Eaſt Indies.

14. Native of Jamaica[r].

15. The down longer than the flowers, even in the very glume[s]. A native of Jamaica and Virginia.

16. Above a foot high. Leaves flat. The two ſpikes equal, oblong, erectiſh, each having twenty florets at leaſt. Pedicels cloſe, very ſhort, flattiſh, hairy at the baſe, broader above. Flowers ſolitary: calyxes one-flowered, the outer valve ſmooth, ſubtruncate, ſcarioſe, and pubeſcent at top, with a long, jointed, ſpreading awn; the inner valve very ſmall[t]. Linneus ſays, from Burſer, that it grows wild in Switzerland. Scheucher had it from Smyrna. Haller thinks this graſs to be the ſame with the *Feſtuca* figured by Boccone in Muſ. t. 8. f. 1. Linneus gives Caſpar Bauhin's name, which Boccone adopted, to the twentieth ſpecies.

17. Perennial, with a creeping root. Culm ſhort, erect, ſolid, forming tufts. Leaves three feet long, reclining, ſtrigoſe, flat, ſtriated, ſcabrous, bright green, ſweet. Panicle ſomewhat declining, ſlender, half a foot in length[u]. Calyxes ſmooth. Native of Arabia and India[w]. Cultivated in the gardens of China and Cochinchina, where the inhabitants uſe it to ſeaſon their meat[x].

This is brought over from Turkey in bundles, about a foot long. When in perfection, it has an agreeable ſmell, with a warm, bitteriſh, not unpleaſant taſte. It was formerly employed as a warm ſtomachic and deobſtruent, but in this country, more common aromatic vegetables have now ſuperſeded its uſe. Being kept in the ſhops only as an ingredient in Mithridate, and Theriaca, and theſe compoſitions being no longer found in the Pharmacopoeias; the *Schoenanthus*, or *Juncus odoratus*, is left out of our Materia medica[y].

18. This plant is the height of a man, declining: culm ſlender, ſmooth, joints hardiſh. Leaves enſiform, and ventricoſe, ſtriated; outwardly ſmooth and green, inwardly gray; from each axil proceed two branches, beſides the aſcending culm, one greater than the other. On each branch is a leaflet, from the axil of which grow two, equal, filiform peduncles, covered with white wool at the end, and terminated by a ſtill ſmaller leaflet, tubulous below the middle, but expanding above: this leaflet incloſes two very looſe, long ſpikes; the flowers are diſtant, on long hairy peduncles; they are ſurrounded at the baſe with white hairs longer than the flowers, whence the whole ſpike has a white villoſe appearance[z]. A native of America.

19. Culm from three to ſix feet high, upright, ſimple, round, ſmooth. Leaves ſerrate. Panicle faſtigiate, a foot long, looſe but not diffuſed. Peduncles numerous, from the terminating ſheaths of the culm, upright, branched, ſubdivided. Pedicels filiform, long, upright. Spicules ſmall, terminating, hairy, whitiſh, ſolitary or twin. Floſcules awnleſs, concealed by villoſe hairs: hermaphrodite, ſubſeſſile, with one or two males by the ſide of it; theſe are pedicelled and much ſmaller. Native of the Eaſt Indies, on dry hills, and there called by the Engliſh *Fox-tail Graſs*[a].

20. Peduncles roughly hairy, as are alſo the rachis and glumes, the hairs of the latter not longer than the flower[b]. A native of Portugal, Italy, Sicily and Smyrna. Compare this with the ſixteenth ſpecies.

21. This has a thin, contracted panicle; a three-glumed calyx, and the wool of the calyx preſſed cloſe. A native of Jamaica. See *Panicum lanatum*. Rottboel act. Hafn. for 1778. p. 269. t. 1. f. 2. The conformity of the valves, and the abſence of the awn, remove this ſpecies from the Andropogons. The male flowers alſo are frequently wanting[c].

22. Culm jointed, ſmooth, erect, ſimple, a foot high, frequently branched. Leaves three, alternate, remote, narrow, with rough edges: ſheaths ſometimes ſmooth, but more frequently bearded and ciliate; they are often the length of the leaf. Spikes digitate, ten, linear, equal, all pointing outwards, erect, ſeſſile. Calyxes permanent, even after the fructification is dropped. Calyx two-valved, two-flowered, ſeſſile, valves lanceolate, acute; the outer the length of the corolla, the inner ſhorter; florets two, the female below the male. The female floret has the outer petal ovate, concave, ciliate; awn terminal, ſtraight, long; inner petal leſs, ſmooth, awnleſs. The male floret has the outer petal obcordate, arched, very obtuſe, ſwelling, with a ſtraight terminal awn; inner petal roundiſh, arched, very obtuſe, with a ſtraight terminal awn alſo[d]. A native of the Eaſt Indies. Introduced in 1777, by Daniel Charles Solander, LL.D[e].

23. This is a native of Jamaica, from whence it was ſent by Mr. Gilbert Alexander. It was introduced at Kew, in 1779; and flowers from july to ſeptember. It is perennial[f]. Swartz has placed this, with ſeveral other ſpecies of this genus, and of *Agroſtis*, under a new genus, which he has entitled *Chloris*.

24. The ſize of Reed. From the axils of the upper leaves, and the flat ſide of the culm, from a ſheath, proceed two peduncles, the ſhorter of which produces ſhort peduncles, which are again proliferous; but the longer peduncle is generally proliferous: hence the panicle is mixed with leaflets reſembling calyxes[g]. Indian Nard or Spikenard, as brought to us, is a congeries of ſmall tough, reddiſh-brown fibres, forming a bunch about the ſize of a finger. It was kept in the ſhops only as an article in Mithridate, and Theriaca; and is ſaid to be uſed among the orientals as a ſpice. It is moderately warm and pungent, accompanied with a flavour not diſagreeable[h].

There is an account of the true *Nardus indica* in the Philoſophical Tranſactions[i] by Dr. Blane. It was diſcovered in India by his brother in december 1786, after croſſing the river Rapty, about twenty miles from the foot of the northern mountains; where perceiving the air to be perfumed by an aromatic ſmell, and aſking the cauſe, he was told that it proceeded from the roots of the graſs trodden out of the ground by the elephants and horſes. The country was wild and uncultivated, and this was the common graſs which covered the ſurface of it, growing in large tufts cloſe to each other, very rank, and in general from three to four feet in length. Tranſplanted into a garden at Lucknow it throve exceedingly, and in the rainy ſeaſon ſhot up ſpikes about ſix feet high. The whole plant has a ſtrong aromatic odour; but both the ſmell and the virtues reſide principally in the huſky roots, or lower parts of the ſtalks, which in chewing have a bitter, warm, pungent taſte, accompanied with ſome degree of that kind of glow in the mouth which cardamoms occaſion.

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[o] Lin. mant.
[p] Lin. ſuppl.
[q] Lin. mant.
[r] Swartz.
[s] Linneus.
[t] Ibid.
[u] Loureiro.
[w] Linneus.
[x] Loureiro.
[y] Lewis.

[z] Royen.
[a] Swartz.
[b] Linneus.
[c] Swartz.
[d] Lin. mant.
[e] Hort. kew.
[f] Ibid.
[g] Lin. zeyl.
[h] Lewis.
[i] Vol. 80. part. 2. for 1790. p. 284, &c.

It is remarkable that the circumſtance of the diſcovery, correſponds, in a ſtriking manner, with an occurrence related by Arrian[k]: that during the march of Alexander the Great through the deſarts of Gadroſia, the air was perfumed by the Spikenard, which was trampled under foot by the army; and that the Phœnicians collected large quantities of it, as well as of myrrh, in order to carry them into their own country, as articles of merchandiſe. Gadroſia or Gedroſia anſwers to the modern Mackran or Kedge-Mackran, a maritime province of Perſia, ſituated between Kerman (the ancient Carmania) and the river Indus, being of courſe the frontier of Perſia towards India; and this deſart lies in the middle of the tract of country between the river Indus and the Perſian gulph, and within a few days march of the Arabian or Erythræan ſea; which is the northern part of the Ethiopic ocean, and not the Red Sea. It ſhould ſeem that the Nard was found towards the eaſtern part of it; for Alexander was then directing his route to the weſtward, and the length of march through the deſart afterwards was very great.

Garcias ab Horto, a Portugueſe, who reſided many years at Goa, in the ſixteenth century, has given a figure of the roots, or rather the lower part of the ſtalks, which correſponds with Dr. Blane's ſpecimens; he ſays, that there is but one ſpecies of *Nardus* known in India, either for the conſumption of the natives, or for exportation to Perſia and Arabia. It is remarkable, that he is perhaps the only author who ſpeaks of it in its recent ſtate from his own obſervation. Rumphius mentions having ſeen a dried ſpecimen, of which the leaves were almoſt five feet long; and that Mackran was one of the countries from whence it was brought.

It is probable that the *Nardus* of Pliny, and great part of what is now imported from the Levant, and found under that name in the ſhops, is a plant growing in the countries on the Euphrates, or in Syria, where the great emporiums of the eaſtern and weſtern commerce were ſituated. There is a *Nardus Aſſyria* mentioned by Horace; and Dioſcorides ſpeaks of the *Nardus Syriaca* as different from the *Indica*, which certainly was brought from ſome of the remote parts of India; for both Dioſcorides and Galen, by way of fixing more preciſely the country from whence it comes, call it alſo *Nardus Gangites*.

It is called by the natives *Terankus*, which means literally, in the Hindoo language, Fever-reſtrainer, from the virtues they attribute to it in that diſeaſe. They infuſe about a drachm of it in half a pint of hot water, with a ſmall quantity of black pepper. This infuſion ſerves for one doſe, and is repeated three times a day. It is eſteemed a powerful medicine in all kinds of fevers, whether continued or intermittent.

It was highly valued anciently as an article of luxury as well as medicine. The favourite perfume which was uſed at the ancient baths and feaſts was the *unguentum nardinum*; and it appears, from a paſſage in Horace, that it was ſo valuable, that as much of it as could be contained in a ſmall box of precious ſtone, was conſidered as a ſort of equivalent for a large veſſel of wine, and a handſome quota for a gueſt to contribute at an entertainment, according to the cuſtom of antiquity:

——*Nardo vinum merebere,*
Nardi parvus onyx eliciet cadum.

It may here be remarked, that as its ſenſible qualities do not depend on a principle ſo volatile as eſſential oil, like moſt other aromatic vegetables, this would be a great recommendation to the ancients, as its virtues would thereby be more durable; and they were not acquainted with the method of collecting eſſential oils, being ignorant of the art of diſtillation. The fragrance and aromatic warmth of the *Nardus*, depends on a fixed principle like that of Cardamoms, Ginger, and ſome other ſpices. I tried, ſays Dr. Blane, to extract the virtues of the *Nardus* by boiling water, by maceration in wine, and proof ſpirits, but it yielded them ſparingly and with difficulty to all theſe menſtrua.

It had a high character among the ancients as a remedy both external and internal. It is one in the liſt of ingredients in all the antidotes, from thoſe of Hippocrates, as given on the authority of Myrepſus, and Nicolaus Alexandrinus, to the officinals which have kept their ground till modern times, under the name of Mithridate and Venice Treacle. It is recommended by Galen and Alexander Trallian in the dropſy and gravel. Celſus and Galen recommend it both externally and internally in pains of the ſtomach and bowels. The firſt occaſion on which the latter was called to attend Marcus Aurelius was, when that emperor was ſeverely afflicted with an acute complaint in the bowels, anſwering by the deſcription to that we now call the *Cholera morbus*; and the firſt remedy he applied was warm *Oleum nardinum* on wool to the ſtomach. He was ſo ſucceſsful in the treatment of this illneſs, that he ever afterwards enjoyed the higheſt favour and confidence of the Emperor.

It appears that the natives of India conſider it as an efficacious remedy in fevers, and its ſenſible qualities promiſe virtues ſimilar to thoſe of other ſimples now in uſe among us in ſuch caſes. Beſides a ſtrong aromatic flavour, it poſſeſſes a pungency to the taſte little inferior to the *Serpentaria*, and much more conſiderable than the *Contrayerva*. It is mentioned in a work attributed to Galen, that a medicine compoſed of this and ſome other aromatics, was found uſeful in long protracted fevers, which are the caſes in which medicines of this claſs are employed in modern practice.

25. Culms ſeven inches high, many, ſlightly hairy, as are alſo the ſheaths and leaves; the latter of which are convolute-awl-ſhaped. Spikes linear, jointed, pointing one way. Calyxes two-valved, acute, gaping at the ſides, green: petals contrary to the calyx, coloured, tender[l]. A native of the Cape of Good Hope.

26. This has two floſcules cloſe together, in each tooth of the ſpike; one hermaphrodite, the calyx hirſute, the inner petal awned; the other, which is the male, awnleſs, the pedicel hirſute[m]. The male floſcule pedicelled; the other ſeſſile: the awn from the receptacle. It has the appearance of *Panicum Dactylon*. The ſpikes oppoſite, and alternate, as in *P. ſanguinale*, but pedicelled[n]. During the time of flowering, the ſpikelets recede from the ſcape, and ſtand in a vertical direction: when the germ is impregnated, they again approach the ſcape[o]. A native of the ſouthern parts of Europe, growing on mountains, hills, and other dry ſituations. Introduced in 1778, by Mr. Thomas Blackie[p].

27. A native of Jamaica. Found by Mr. Gilbert Alexander. Introduced in 1779. It flowers from july to ſeptember[q].

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[k] Book 6. chap. 22.

[l] Linneus.

[m] Ibid.

[n] Scop.

[o] Pollich.

[p] Hort. kew.

[q] Ibid.

28. Swartz ſays, that on inſpecting the Linnean herbarium, he found this to be the ſame with *Agroſtis radiata* of Linneus, which, together with ſome other ſpecies, on account of the peculiar diſpoſition of the parts of the flower, he unites in a new genus, under the name of *Chloris*. He informs us that the ſynonym from Browne, is a different graſs; and that Sloane's is *Paſpalum virgatum*. Spikes from ſeven to eleven, riſing from the top of the ſtalk: they are all ſlender, and flowered underneath[r]. A native of Jamaica.

29. Culms filiform, a foot high, leafy. Leaves linear, flat, glaucous. Panicle ſparſe. Peduncles ſhort, from the ſheath of a leaf, ſolitary or ſeveral. Involucre ſhort, boat-ſhaped, terminated by a ſhort, broadiſh awn; hence proceed two ſhort pedicels, each of which is furniſhed with an involucel like the involucre, and containing two flowers, one ſeſſile, the other peduncled. The ſeſſile floret has a three-glumed, cartilaginous calyx; the two ſide valves ſomewhat ſickle-ſhaped, flat; the third longer, convolute, ſtraight, acuminate; corolla hermaphrodite or female, one valve boat-ſhaped and larger, the other flat and lanceolate, both hyaline. The peduncled floret has a pedicel the length of the flower, ſeſſile, thick, rigid; calyx bivalve, acute, longer; this is two-flowered as well as the other; corollas bivalve, linear-lanceolate, hyaline, one female, the other neuter; ſtigmas feathered. Native of the Eaſt Indies; whence it was ſent by Koenig, who ſuppoſed it to be a ſpecies of Anthiſtiria[s].

30. Culms filiform, a foot high, branched, leafy; the joints bearded. Leaves linear, ſmooth. Peduncle elongate, almoſt capillary. Spike ſolitary, an inch and half long. Flowers preſſed cloſe to the rachis, in four rows: calyxes one-valved, valve ovate blunt green-ſtriated ciliate, corollas two-valved, valves hyaline lanceolate, the inner keeled; anthers, in the male, three linear; germ, in the female, ovate, ſharp at both ends, compreſſed, ſtyles two, awn long brown twiſted, inſerted at the ſide of the germ. Native of Bengal. Found there by Koenig[t].

31. Culms filiform, two feet high, leafy, branched. Leaves linear, many at the root, few on the culm. Peduncle elongate. Spikes ſeveral, filiform, green tinged with brown. Flowers rough with hairs, bearded at the baſe. Calyxes linear, one-valved, blunt, rough with hairs, browniſh-green. Corollas two-valved, lanceolate, hyaline. Awn of the female flower long, twiſted, brown to the joint, then whitiſh, inſerted near the baſe of the germ, which is long and cylindrical. Anthers three, ſmall[u]. Found by Koenig in Tranquebar, near rivers.

32. Culms filiform, a foot or a foot and half in height. Peduncles one to three, long, filiform. Spikes an inch long. There is a yellow faſcicled lanugo at the teeth of the rachis. The flowers are ſeſſile and beſet with the ſame lanugo. Calyx ſtriated, the larger valve acuminate, the ſmaller truncate and three-toothed. Outer valve of the corolla linear, with a jointed awn; inner ſhorter, awnleſs. Stigmas villoſe, brown. Obſerved in the Eaſt Indies by Koenig[x].

33. Culms radicant at the baſe, aſcending, from a foot to two feet in height, quite ſimple. Leaves lanceolate, ſerrulate-ciliate, the upper ones ſheathing. Panicle browniſh-purple, ſtiff, contracted, an inch in length. Receptacle of the ſeſſile flower hairy, and hence two hairy lines run along the peduncle. Seſſile flower female, the calyx ciliate with minute prickles, the inner petal acuminate, with a ſcabrous awn. Calyxes of the male pedicelled flowers ſubulate, acuminate, angular: corolla none: ſtamens two: the rudiment of a germ. Native of the Eaſt Indies, in barren places[y].

34. Culm ſimple, round, ſparingly leafed, the joints bearded. The leaves have white ſcattered hairs, eſpecially at the edges of the ſheaths, which are naked and ſtriated. Spikes peduncled, terminating, linear, upright, unequal, undivided; the rachis jointed, and hairy, as are alſo the pedicels. Floſcules alternate, geminate, ſurrounded with white hairs at the baſe. Awn of the hermaphrodite floſcule, long and twiſted; ſtigmas long, black, thickened, ſhortly hirſute, on ſhort capillary ſtyles. Native of China, and ſent from thence by Bladh[z].

35. Root annual. Culms a foot high, leafy, branched at the baſe. Leaves ciliate on both ſides, but not at the edges. Spikes terminating, fifteen or ſixteen, by no means umbelled, patulous; flowers on a flat linear rachis. Valves of the calyx ſubulate, unequal, ſhorter than the flower, awnleſs. The hermaphrodite flower has the outer valve longer, embracing, awned; the inner ſmaller, ciliate. The neuter flower is ſmall, pedicelled, and has a ſhort awn. This ſpecies has the appearance of *Andr. barbatum*. Native of the ſouth of France; from whence the ſeeds were ſent by Dahl[a].

PROPAGATION AND CULTURE.

Few of theſe Graſſes have been cultivated in European gardens. The greater part of them would require the protection of a ſtove, ſince they are natives of the Eaſt or Weſt Indies.]

Andropogon. See *Saccharum* and *Stipa*.

ANDROSĂCE. (Ανδροσάκες, *Dioſc.* Ανδρος σακος, *The ſhield of a man; ſo called from the form of the calyx, in the common ſpecies.* Ανηρ, *in compoſition, is put for great.*)

Lin. gen. n. 196. *Reich.* 209. *Schreb.* 257. *Gærtn.* 50. *Tournef. t.* 46. *Juſſ.* 96.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Preciæ*. *Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Involucre* many-leaved, many-flowered, very ſmall. *Perianth* one-leafed, five-cornered, ſemi-quinquefid, acute, erect, permanent.

Cor. monopetalous, ſalver-ſhaped: *tube* ovate, involved in the calyx: *border* flat, five-parted: *diviſions* ovate-oblong, obtuſe, entire: *throat* beſet with glands.

Stam. *Filaments* very ſhort, within the tube: *anthers* oblong, erect, included.

Pist. *Germ* globoſe: *ſtyle* filiform, very ſhort: *ſtigma* globoſe, included.

Per. *Capſule* globoſe, ſitting on a flat calyx, one-celled, opening into five parts at the top.

Seeds very many, roundiſh, gibbous on one ſide, flat on the other.

Rec. erect, free.

Obs. A. maxima *differs in very large expanding perianths.*

ESSENTIAL CHARACTER.

An *Involucre* to the umbel. *Tube* of the *corolla* ovate, with a glandulous mouth. *Capſ.* one-celled, globoſe.

SPECIES.

1. Androſace maxima. *Oval-leaved Androſace.*
Lin. ſpec. 203. *Reich.* 409. *Jacq. auſtr.* 4. *t.* 331. *Hall. helv. n.* 624. *Mill. fig. t.* 30. *f.* 1. *Scop. carn. n.* 201. *Pollich palat. n.* 194.
Perianths of the fruit very large.

[2. Androſace elongata. *Cluſter-flowered Androſace.*
Lin. ſyſt. 192. *Reich.* 409. *Retz. obſ.* 2. 10. *n.* 14. *Jacq. auſtr.* 4. *t.* 330. *obſ.* 1. 31. *t.* 19.
Leaves lanceolate-toothed, fruiting umbel elongate, corollas ſhorter than the angular calyx.]

3. Androſace ſeptentrionalis. *Tooth-leaved Androſace.*
Lin. ſpec. 203. *Reich.* 409. *ſuec.* 70. *lapp.* 78. *Gærtn. fruct.* 1. 232. *Fl. dan. t.* 7. *Mill. fig. t.* 30. *f.* 2. *Buxb. act. petrop.* 2. 369. *t.* 23. *f.* 2.
Aretia. *Hall. helv. n.* 621.
Leaves lanceolate, toothed, ſmooth; perianths angular, ſhorter than the corollas.

4. Androſace villoſa. *Hairy Androſace.*
Lin. ſpec. 203. *Reich.* 410. *Jacqu. auſtr.* 4. *t.* 332. *Scop. carn. n.* 202.

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[r] Browne. [s] Retz. obſ. [t] Ibid. [u] Ibid. [x] Ibid. [y] Ibid.

[z] Retz. obſ. [a] Ibid.

Aretia. *Hall. helv. n.* 620. Sedum. *Cluſ. hiſt.* 62. *f.* 1. Chamæjaſme Alpina. *Bauh. hiſt.* 3. 853.
Leaves hairy, perianths ſhaggy.

5. Androſace lactea. *Graſs-leaved Androſace.*
Lin. ſpec. 204. *Reich.* 410. *Jacq. auſtr.* 4. *t.* 333. *Scop. carn. n.* 203.
A. obtuſifolia. *Allion. pedem. p.* 90. *t.* 46. *f.* 1 ?
Aretia. *Hall. helv. n.* 622.
Sedum alpinum, &c. *Bauh. pin.* 284. *Raii hiſt.* 1042.
Leaves lanceolate, ſmooth; umbel many times larger than the involucres.

6. Androſace carnea. *Awl-leaved Androſace.*
Lin. ſpec. 204. *Reich.* 410. *Allion. pedem. p.* 90. *t.* 5. *f.* 2.
Aretia. *Hall. helv. n.* 619. *t.* 17.
Sedum alpinum. *Col. ecphr.* 2. *t.* 65. *f.* 2.
Leaves awl-ſhaped, ſmooth; umbel equalling the involucres.

[7. Androſace filiformis.
Retz. obſ. 2. 10. *n.* 15. *Gmel. ſib.* 4. 81. *t.* 44. *f.* 4.
Leaves ovate-toothed-petioled, rays of the umbel capillary, corollas exceeding the bell-ſhaped calyx.

DESCRIPTIONS, *&c.*

1. Root annual, ſlender. Leaves ſpreading on the ground, ovate, acute, ſeſſile, commonly toothed, eſpecially above the middle, thickiſh, ſmooth, pale green, ſometimes reddiſh about the edge. Scapes ſeveral, ſimple, round, from two to ſix inches in height, uſually red and ſomewhat villoſe, thickened a little at top. Each is terminated by a ſimple umbel of ſeven flowers at moſt, ſtanding ſingle on peduncles about half an inch long. Under the umbel is a large involucre, conſiſting of as many ovate leaflets as there are peduncles. Calyx twice as large as the corolla, which is white with ſometimes a tinge of purple, and the tube yellowiſh. The tube of the calyx is more villoſe, and of a pale colour, but the ſegments are green, ovate, acute and ſerrulate; they enlarge much as the fruit ripens, and become of a rufous colour. There are ſix or more ſeeds in a capſule; they are dark brown or blackiſh, and ſlightly pubeſcent[a].] The flowers appear in april or the beginning of may; the ſeeds ripen in june, and the plants ſoon after periſh. It grows naturally among corn, in Auſtria, Bohemia, [and other parts of Germany, in the Valais, Piedmont, Carniola, and Hungary. It was cultivated here in 1596, by Gerard[b].

2. Root annual, ſlender, branched. Leaves many, ſpreading on the ground, acute, ſharply toothed, eſpecially above the middle, but ſometimes quite entire. Scapes numerous, as many as forty, two or three inches high, filiform, round; the middle one upright, the reſt ſpreading very much. Umbels ſimple, containing from eight to ſixteen flowers, on very ſlender pedicels, of unequal lengths, lengthening ſo much after flowering time, as to equal the height of the ſcape. The involucre conſiſts of nearly as many leaflets as there are peduncles; they are lanceolate, acute, uſually quite entire, and twice the ſize of thoſe in the third ſpecies. Calyx angular, green except that the tips of the teeth are red, twice as large as the corolla, not much increaſed after the flowers are paſt. Corolla white, except the tube, which is yellow; the ſegments are ſlightly emarginate. It has the capſules and ſeeds as in *A. ſeptentrionalis*, which it much reſembles: it differs however from it, in the ſcapes being more numerous and lower, in the relative ſize of the calyx, in having leſs hoary leaves, with more and longer teeth, the involucres larger, and a more tender habit[c]. Native of Auſtria, near Vienna, up to the very ſuburbs. It flowers in april, and perfects its ſeeds in june[d]. Introduced in 1776, by M. Thouin[e].

3. Root annual (according to Miller biennial). The leaves grow cloſe to the ground, are ſmooth, and ſometimes ſlightly indented on the edges; but for the moſt part they are entire. From their centre ariſe three or four ſcapes, about four inches high, each ſupporting a looſe umbel of flowers, on long ſlender peduncles: the corollas are white[f]. Native of Lapland, Sweden, Denmark, Switzerland, Germany, Ruſſia, in mountainous ſituations. Cultivated by Mr. Miller, in 1755[g].

4. Root perennial. Leaves in little roſes, oblong-ovate or lanceolate, quite entire, pale green, ciliate with ſoft villoſe hairs, in other reſpects ſmooth. Scape uſually ſingle, ſomewhat hirſute, from an inch to two inches in height, upright, ſupporting a kind of umbel of flowers, rather large in proportion to the plant, and from two to ſeven or eight in number. Involucre of about five leaves, reſembling the others. Calyx hirſute erect. Tube of the corolla yellow; ſpreading into a white border which at length becomes purple; ſegments obovate, either quite entire or ſlightly emarginate, ſometimes ſix in number: the throat is yellow, with five glands; and there is a ſtar of five folds in the middle of the ſegments. Capſule ſmooth, ſhining, roundiſh, flatted at top[h]. Common in the Swiſs alps, Jura, *&c.* in the mountains of Auſtria and Carniola; in the Pyrenees, *&c.* Introduced in 1768, by Profeſſor de Sauſſure[i].

5. Root perennial. Leaves in a roſe cloſe to the ground, linear, acute, thickiſh, flat, ſhining, quite entire, very obſcurely ciliate when viewed with a glaſs. Scapes ſlender, one or more, green, ſmooth, upright, three inches long, ending in few flowers, and ſometimes in a ſingle one. Peduncles an inch in length. When there are ſeveral flowers, the leaflets of the involucre equal them in number; when only one, there is a pair of leaflets, or none. Calyxes yellowiſh green and half-five-cleft; tube five-cornered and bell-ſhaped; ſegments acute, angular at the back. Tube of the corolla yellow, with yellow glands at the throat; ſegments obcordate, large, emarginate, ſnow-white. Capſule round, ſhining, the ſize of the calyx, containing from four to ſix ſeeds[k]. Native of the mountains of Switzerland, Auſtria, and Carniola. Flowering, as does the foregoing, in july and auguſt.

Allioni ſays, that his *Androſace obtuſifolia* (n. 326.) is the ſame with *Aretia* of Haller, n. 621. Scopoli and Jacquin make *Aretia*, Hall. n. 622. to be the ſame with this ſpecies. It was introduced here in 1768, by Profeſſor de Sauſſure[l].

6. From each crown of the root proceeds a tuft of linear-lanceolate, dark green leaves, with a very few fine hairs. Scapes three inches high, hirſute. Umbel compact, with from three to ſeven flowers; ſometimes only one. Peduncles ſhorter than in the foregoing. Corollas fleſh-coloured; five yellow glands in the throat; ſegments not emarginate[m]. Native of the Alps and Pyrenees. Introduced in 1768, by Profeſſor de Sauſſure[n].

7. Root ſhort. Bottom leaves toothletted, glaucous. Scapes from two to four, cylindric, ſtriated, filiform. Involucre many-leaved; leaflets filiform, very ſhort. Umbel ſimple, containing from ſix to ſixteen flowers, with unequal capillaceous rays. Calyx campanulate, five-cornered, very ſhort. Corolla white, ſmall, longer than the calyx; ſegments quite entire. Gmelin took it for a variety of *A. ſeptentrionalis*. Linneus referred it to *A. elongata*; but it is a very different plant from both[o]. It is a native of Siberia.]

PROPAGATION AND CULTURE.

Theſe, being low plants, with ſmall flowers, making no great appearance, are only preſerved in botanic gardens.

All the ſorts, except the firſt, require a ſhady ſituation. The ſeeds ſhould be ſown ſoon after they are ripe; otherwiſe they ſeldom grow the ſame year. If permitted to ſcatter, they will come up of themſelves, and often ſucceed better than thoſe which are ſown. The annual ſorts periſh as ſoon as the ſeeds are ripe; but the others will live in an open border for ſeveral years, and require no other care, but to keep them clean from weeds.

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[a] Jacquin & Pollich.
[b] Hort. kew.
[c] Retz & Jacquin.
[d] Jacquin.
[e] Hort. kew.
[f] Miller's figures.
[g] Hort. kew.
[h] Jacquin & Haller.
[i] Hort. kew.
[k] Jacquin & Scopoli.
[l] Hort. kew.
[m] Haller & Allioni.
[n] Hort. kew.
[o] Retzius.

Androsace. See *Aretia*.

Androsæmum. See *Hypericum*.

ANDRYĂLA. (Ανδρος ἀλὴ, *viri erratio, anxietas animi.*

Lin. gen. n. 915. *Reich.* 994. *Schreb.* 1240. *Gærtn. t.* 158. *Juſſ.* 171.

Eriophorus. *Vaill. mem. acad.* 1721. 20.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Semifloſculoſæ. Cichoraceæ* Juſſ.

GENERIC CHARACTER.

Cal. *common*, many-parted, ſhort, rounded, villoſe: ſcales very many, ſubequal, ſubulate. (in a double row. *G.*)

Cor. *compound* imbricate, uniform: *Corollules* hermaphrodite, numerous, equal. *Each* ligulate, linear, truncate, five-toothed.

Stam. *Filaments* five, capillary, very ſhort. *Anther* cylindrical, tubuloſe.

Pist. *Germ* ovate. *Style* filiform, the length of the ſtamens. *Stigmas* two, reflex.

Per. none. Calyx converging, globoſe.

Seeds ſolitary, ovate. *Down* capillary, the length of the calyx, (ſeſſile. *G.*)

Rec. villoſe, flattiſh; (alveolate, hairy. *G.*)

ESSENTIAL CHARACTER.

Rec. villoſe. *Cal.* many-parted, ſubequal, rounded. *Down* ſimple, ſeſſile.

SPECIES.

1. Andryala integrifolia. *Hoary Andryala.*
Lin. ſpec. 1136. *ſyſt.* 720. *Reich.* 3. 655. *hort. upſ.* 240. *Gærtn. fruct.* 2. 361.
Sonchus lanatus. *Dalech. hiſt.* 1116. *Bauh. hiſt.* 2. 1026. *f.* 2.
S. villoſus lutens major. *Bauh. pin.* 124. 1. *Park. theat.* 809. *f.* 1.
Hieracium villoſum. *Raii hiſt.* 231. 3.
β. A. ſinuata.
Lin. ſpec. 1137. *hort. cliff.* 387.
Sonchus villoſus luteus minor. *Bauh. pin.* 124. 2. *prodr.* 6. *Park. theat.* 809. 2. *Raii hiſt.* 231. 4.
Lower leaves runcinate; upper ovate-oblong, tomentoſe.

[2. Andryala cheiranthifolia. *Various-leaved Andryala.*
L'Heritier ſtirp. nov. p. 35. *t.* 18.
A. glanduloſa. *Lamarck encycl.* 1. *p.* 154.
A. tomentoſa. *Scop. inſubr.* 2. *p.* 12. *t.* 6.
Leaves runcinate; upper ones lanceolate, entire; down glanduliferous.

3. Andryala pinnatifida. *Pinnatifid-leaved Andryala.*
Ait. hort. kew. 3. 129.
α. *Tooth-leaved Andryala.*
Leaves pinnatifid; pinnas diſtant, toothed.
β. *Wing-leaved Andryala.*
Leaves deeply pinnatifid; pinnas ſhort, entire.
Leaves tomentoſe, pinnatifid: calyxes tomentoſe, hairy: hairs rather ſtiff.

4. Andryala crithmifolia. *Sampire-leaved Andryala.*
Ait. hort. kew. 3. 129.
Leaves pinnate, linear, tomentoſe.]

5. Andryala raguſina. *Downy Andryala.*
Lin. ſpec. 1136. *Reich.* 3. 656. *Mill. fig. t.* 146. *f.* 2. *Herm. lugdb. t.* 673.
Leaves lanceolate, undivided, denticulate, acute, tomentoſe, flowers ſolitary.

6. Andryala lanata. *Woolly Andryala.*
Lin. ſpec. 1137. *Reich.* 3. 656. *amæn.* 4. 288.
Hieracium montanum tomentoſum. *Dill. elth. t.* 150. *f.* 180. *Haller helv. n.* 37. *Mill. fig. t.* 146. *f.* 1.
Leaves oblong-ovate, ſlightly toothed, woolly: peduncles branching.

DESCRIPTIONS, &c.

1. Near a foot and half in height, with woolly branching ſtems, having leaves ſcatteringly ſet on them, which are oblong and downy. The flowers are produced in ſmall cluſters at the top of the ſtalks, are yellow, and like thoſe of Sow-thiſtle. It flowers in july, and the ſeeds ripen in ſeptember.

β. The lower leaves are indented and woolly, but thoſe upon the ſtem are entire: this ſeldom riſes more than a foot high, ſupporting a few yellow flowers at the top.

Theſe are annual plants growing naturally in the ſouth of France, Spain, Italy and Sicily. [Cultivated in 1711, in the Chelſea garden[a].

2. Perennial, three feet high, full of milk: with the air of *Cheiranthus incanus.* Stem erect, herbaceous, ſimple, branch-panicled, at top round, ſize of the finger, ſhaggy, marked with the ſcars of the leaves. Branches alternate, looſe, they and the whole plant covered with a down, glanduliferous at the tips: glands tawny, ſomewhat viſcid. Leaves alternate, cloſe, ſeſſile or half ſtem-claſping; the upper ones lanceolate, entire, gradually leſs. Panicle terminal, branching, leafy, very looſe. Flowers yellow, ſcarce nodding. Peduncles ſtiff, one-flowered, round, longer than the oppoſite leaf. Bracte linear or ſubulate, ſeſſile, deciduous, with other leafy bractes permanent[b]. Native of the iſland of Madeira. Obſerved there by Mr. Francis Maſſon, and introduced in 1777[c].

3. α. A native of Madeira, β. of the Canary iſlands. Found there by Mr. Francis Maſſon. It flowers in july and auguſt. Introduced in 1778.

4. Native of Madeira. Found by Mr. Francis Maſſon. Flowers from june to auguſt. Introduced in 1778.

Both theſe ſpecies are biennials[d].]

5. Lower leaves about four inches long, little more than half an inch broad, very hoary. Stems weak, nine inches high, dividing towards the top into two or three ſmaller branches, and at each joint a ſmall leaf almoſt entire; one yellow flower terminates every branch in june and july. This plant being very hoary makes a pretty appearance, intermixed with others whoſe leaves are green. It will not live abroad, except in a dry ſoil and warm ſituation. Robert More, Eſq. ſent it from Spain; it has alſo been received from the Cape, and Algiers[e]. [Linneus ſays it is a native of the iſlands of the Archipelago. Leaves ſtiffer, more acute, and more acutely toothed than the other ſpecies.]

6. Root thick, fibrous. Leaves broader, longer, and more downy. Flower-ſtems near two feet high, with a ſingle leaf at each joint, whence ariſe peduncles, each ſuſtaining one large yellow flower. This is biennial, flowers in june, and the ſeeds ripen in auguſt[f]. [According to others it is perennial. The whole plant is white: receptacle generally not villoſe[g]. Native of the ſouth of Europe. Cultivated in 1732, by James Sherard, M. D.[h]]

PROPAGATION AND CULTURE.

All theſe plants may be propagated from ſeeds; thoſe of the hardy ſorts ſhould be ſown in the ſpring, in the place where the plants are to remain. They require no other culture, but to thin them when they are too cloſe, and to keep them clean from weeds.

2. &c. The ſecond, third, fourth, and fifth, require the protection of a green-houſe, where they flower all the ſummer, till late in the autumn, frequently perfecting their ſeeds, by which they may be propagated. The perennial ſorts may alſo be propagated by their creeping roots.

Andryala. See *Leontodon.*

ANEMŌNE. (Ἀνεμωνη, *Hippocr. Theoph.* and *Dioſc. from* Ἄνεμος, *the wind: becauſe the flower is ſuppoſed not to open, except the wind blows: or rather, becauſe it grows in ſituations much expoſed to the wind.)*

Lin. gen. n. 694. *Reich.* 752. *Schreb.* 948. *Gærtn.* 74. *Juſſ.* 232.

Anemone *and* Pulſatilla. *Tournef.* 147, 148.

Anemonoides, Anemone-Ranunculus, Hepatica. *Dill. gen.* 4, 5.

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[a] Hort. kew. [b] L'Heritier. [c] Hort. kew. [d] Ibid.
[e] Mill. fig. [f] Ibid. [g] Gmel. [h] Hort. kew.

Anemonoides. *Vaill. mem. acad.* 1719.
Engl. *Wind-flower*, or *Anemone*. Fr. *Anemone*.
Claſſ. 13. 7. Polyandria Polygynia.
Nat. order of *Multiſiliquæ*. *Ranunculaceæ* Juſſ.

GENERIC CHARACTER.

Cal. none.
Cor. *Petals* in two or three rows, three in a row, ſomewhat oblong.
Stam. *Filaments* numerous, capillary, half the length of the corolla: *anthers* twin, erect.
Pist. *Germs* numerous, in a head: *ſtyles* acuminate: *ſtigmas* obtuſe.
Per. none. *Receptacle* globular or oblong, hollowed and dotted.
Seeds very many, acuminate, retaining the ſtyle.
Obs. Hepatica *Dill. has a three-leaved perianth, remote from the flower: an involucre.*
Pulſatilla *Tourn. has a leafy, multifid involucre, with the ſeeds tailed, hairy.*
Anemonoides *and* Hepatica *Dill. have naked ſeeds without a feathered tail.*

ESSENTIAL CHARACTER.

Cal. none. *Petals* ſix or nine. *Seeds* many.

SPECIES.

* Hepatica *with a ſubcalyculate flower.*

1. Anemone Hepatica. *Hepatica.*
Lin. ſpec. 758. *Reich.* 2. 631. *ſuec.* 480. *mat. med.* 140. *Hall. helv.* 1156. *Fl. dan. t.* 610. *Curtis mag. t.* 10. *Scop. carn. n.* 658. *Pollich pal. n.* 615. *Blackw. t.* 207. *Ger.* 1032. *emac.* 1203. *Park.* 1368. *Raii hiſt.* 580.
Hepatica. *Mill. dict.*
Leaves three-lobed, quite entire.

** Pulſatillas *with the peduncle involucred, and the ſeeds tailed.*

2. Anemone patens. *Woolly-leaved Anemone.*
Lin. ſpec. 759. *Reich.* 2. 631.
Pulſatilla polyanthes violacea, anemones folio. *Breyn. cent.* 132. *Helw. pulſ.* 52. *t.* 2. 3.
Pulſatilla patens. *Mill. dict. Amman. ruth.* 104.
Peduncles involucred, leaves digitate, multifid.

[3. Anemone ſulphurea.
Lin. mant. 78. *ſyſt.* 509. *Reich.* 2. 632. *Hall. helv. n.* 1148.
Peduncle involucred; leaves triply-pinnate, hairy, flat, acutely-gaſhed, ſeeds tailed.

4. Anemone baldenſis.
Lin. mant. 78. *ſyſt.* 509. *Reich.* 2. 632. *Allion. pedem. n.* 1928. *t.* 44. *f.* 3. & *t.* 67. *f.* 2. *Hall. helv. n.* 1151. *Scop. carn. n.* 662. *t.* 26.
Leaves biternate, ſhaggy.]

5. Anemone vernalis.
Lin. ſpec. 759. *ſyſt.* 509. *Reich.* 2. 632. *ſuec.* 483. *lapp.* 223. *Hall. helv.* 1147. *t.* 21. *Fl. dan. t.* 29. *Pollich pal. n.* 516. *Helw. pulſ.* 63. *t.* 9. *Raii hiſt.* 635. 9.
Pulſatilla vernalis. *Mill. dict.*
Peduncle involucred, leaves pinnate, flowers erect.

[6. Anemone cernua.
Lin. ſyſt. 510. *Thunb. jap.* 238.
Peduncle involucred, leaves pinnate, flowers nodding.]

7. Anemone Pulſatilla. *Paſque-flower.*
Lin. ſpec. 759. *Reich.* 2. 633. *ſuec.* 481. *mat. med.* 141. *Hudſ. angl.* 237. *With.* 565. *Relh. cantab. n.* 395. *ic. Sowerby engl. bot. t.* 51. *Hall. helv. n.* 1146. *Pollich palat. n.* 517. *Scop. carn. n.* 665. *Fl. dan. t.* 153.
Pulſatilla folio craſſiore, et majore flore. *Bauh. pin.* 177. *Park. theat.* 341. 2. *Mor. hiſt. ſ.* 4. *t.* 26. *f.* 1. *Ger.* 308. 1, 2. & 309. *emac.* 385. 1. *Helw. pulſ.* 62. *t.* 8. *Camer. epit.* 392. *Bauh. hiſt.* 3. 409. 2 & 3. *Raii ſyn.* 260. *hiſt.* 633.
Pulſatilla vulgaris. *Mill. dict.*
Peduncle involucred, petals ſtraight, leaves bipinnate.

8. Anemone pratenſis. *Meadow Anemone.*
Lin. ſpec. 760. *ſyſt.* 510. *Reich.* 2. 633. *ſuec.* 482. *Fl. dan. t.* 611. *Woodv.* 400. *t.* 148.
Pulſatilla pratenſis. *Mill. dict. Helw. pulſ.* 66. *t.* 12. & 65. *t.* 11.
Peduncle involucred, petals reflex at the tip, leaves bipinnate.

9. Anemone alpina. *Alpine Anemone.*
Lin. ſpec. 760. *Reich.* 2. 634. *mant.* 406. *ſyſt.* 510. *Jacqu. auſtr.* 1. 53. *t.* 85. *Hall. helv. n.* 1149. *Scop. carn. n.* 664. *Crantz auſtr.* 105. 8. *t.* 3. *f.* 2. *Cluſ. hiſt.* 244. *Lob. ic.* 282. (Pulſatilla.)
Stem-leaves ternate, connate, ſuperdecompound, multifid; ſeeds ſhaggy tailed.

[10. Anemone apiifolia.
Lin. ſyſt. 510. *Jacqu. Miſc. v.* 2. *p.* 47. *t.* 4. *Scop. carn. n.* 663? *Hall. helv. n.* 1149. β. *Cluſ. hiſt.* 1. 245. (A. ſylv. 3.) *Camer. epit.* 393. *Bauh. hiſt.* 3. 411.
Stem-leaves ternate, connate, ſuperdecompound, multifid, very ſlender, extremely hairy underneath.]

*** Anemones *with a leafy ſtem and tailed ſeeds.*

11. Anemone coronaria. *Narrow-leaved Garden Anemone.*
Lin ſpec. 760. *Reich.* 2. 634. *Mill. fig. t.* 31. *Ger. herb.* 302. *Park. parad.* 208—212. *Raii hiſt.* 629—633.
Radical leaves ternate-decompound, involucre leafy.

12. Anemone hortenſis. *Broad-leaved Garden Anemone.*
Lin. ſpec. 761. *Reich.* 2. 634. *Ger. prov.* 380. 5. *Hall. helv. n.* 1152. *Curt. mag. t.* 123. *Park. parad.* 204. *Dod. pempt.* 434. 1. *Ger. herb.* 303. *f.* 5. *Raii hiſt.* 626.
Leaves digitate, ſeeds woolly.

[13. Anemone palmata.
Lin. ſpec. 758. *Reich.* 2. 635. *ſyſt.* 510. *Mor. hiſt.* 2. *ſ.* 4. *t.* 25. *f.* 3.
Leaves heart-ſhaped, ſublobate; calyx ſix-leaved, coloured.

**** Anemonoides *with a naked flower, and tailleſs ſeeds.*

14. Anemone ſibirica.
Lin. ſpec. 763. *Reich.* 2. 635. *ſyſt.* 510. *Gmel. ſib.* 4. *p.* 199. *n.* 41.
Stem one-flowered, involucre leafy, obtuſe.]

15. Anemone ſylveſtris. *Large white-flowered Wood Anemone.*
Lin. ſpec. 761. *Reich.* 2. 635. *ſuec.* 484. *Curt. mag. t.* 54. *Gmel. ſib.* 4. *p.* 176. *Crantz. auſtr.* 123. *n.* 5. *Pollich pal. n.* 515. *Hall. helv. n.* 1150. *Park. parad.* 202.
Peduncle naked; ſeeds roundiſh, ſhaggy, awnleſs.

[16. Anemone fragifera.
Lin. ſyſt. 510. *Jacqu. Miſc. v.* 2. *p.* 55. *icon. rar. t.* 103. *Hall. helv. n.* 1151. *Bauh. pin.* 176. *prodr.* 94.
Peduncle naked; ſeeds roundiſh, woolly, awnleſs, gaſhes of the leaves acute, lanceolate.]

17. Anemone virginiana. *Virginian Anemone.*
Lin. ſpec. 761. *Reich.* 2. 636. *Gærtn. fruct.* 1. 357. *Herm. lugdb.* 645. *parad. t.* 18.
Peduncles alternate, very long; fruit cylindric; ſeeds ſhaggy, awnleſs.

[18. Anemone decapetala. *Ten-petalled Anemone.*
Lin. mant. 79. *ſyſt.* 510. *Reich.* 2. 636. *Ard. ſpec.* 2. *p.* 27. *t.* 12.
Stem one-flowered, flower ten-petalled, leaves ternate, lobate, radical.

19. Anemone penſylvanica. *Penſylvanian Anemone.*
Lin. mant. 247. *ſyſt.* 510. *Reich.* 2. 637.
Stem dichotomous, leaves ſeſſile ſtem-claſping, the loweſt ternate, trifid, gaſhed.]

20. Anemone dichotoma.
Lin. ſpec. 762. *Reich.* 2. 637. *mant.* 406. *ſyſt.* 511. *dec. t.* 15. *amæn.* 1. *p.* 155. *Gmel. ſib.* 4. *p.* 197.
Stem dichotomous; leaves ſeſſile, all oppoſite, ſtem-claſping, trifid, gaſhed.

[21. Anemone trifolia.
Lin. ſpec. 762. *Reich.* 2. 637. *Dalib. par.* 161. *Gmel. ſibir.* 4. 199. *n.* 39. *Scop. carn. n.* 659.
Leaves ternate, ovate, entire, ſerrate; ſtem one-flowered.

22. Anemone quinquefolia.
Lin. ſpec. 762. *Reich.* 2. 637. *Pluk. alm. t.* 106. *f.* 3.
Leaves quinate, oval, ſerrate; ſtem one-flowered.]

23. Anemone nemoroſa. *Wood Anemone.*
Lin. ſpec. 762. *Reich.* 2. 637. *ſuec.* 485. *Hudſ. angl.* 236. *With.* 566. *Relh. cantab. n.* 396. *Hall. helv. n.* 1154. *Curt. lond.* 2. 138. *Fl. dan.* 549. *Petiv. t.* 40. *f.* 9. *Ger.* 306. 2. *emac.* 383. 2. *Park.* 325. 1. *Mor. hiſt. ſ.* 4. *t.* 28. *f.* 10. *Bauh. hiſt.* 3. 412. 2. *Raii hiſt.* 624. *ſyn.* 259. 1.
Seeds acute, leaflets gaſhed, ſtem one-flowered.

24. Anemone apennina. *Mountain Wood Anemone.*
Lin. ſpec. 762. *Reich.* 2. 638. *Hudſ. angl.* 237. *With.* 567. *Curt. lond. n.* 65.
Ranunculus nemoroſus flore purpureo-cæruleo. *Park. theat.* 325. *Raii ſyn.* 259. *Mentz. pug. t.* 8. *Cluſ. hiſt.* 1. 254. 2.
Seeds acute, leaflets gaſhed, petals lanceolate, numerous.

[25. Anemone ranunculoides. *Yellow Wood Anemone.*
Lin. ſpec. 762. *Reich.* 2. 638. *ſuec. n.* 486. *Hudſ. angl.* 237. *With.* 567. *Fl. dan. t.* 140. *Hall. helv. n.* 1153. *Pollich pal. n.* 520. *Scop. carn. n.* 661. *Ger. herb.* 306. 1. *emac.* 383. 1. *Park. theat.* 325. 5. *Bauh. hiſt.* 3. 413. (Ranunculus) *Raii hiſt.* 625. 3.
Seeds acute, leaflets gaſhed, petals roundiſh, ſtem moſtly one-flowered.

26. Anemone narciſſiflora. *Narciſſus-flowered Anemone*
Lin. ſpec. 763. *Reich.* 2. 638. *mant.* 406. *ſyſt.* 511. *Hall. helv. n.* 1155. *Jacq. auſtr.* 2. *t.* 159. *Crantz. auſtr. t.* 3, *f.* 1.
Flowers umbelled; ſeeds oval-depreſſed, naked.

27. Anemone faſciculata.
Lin. ſpec. 763. *Reich.* 2. 639.
Ranunculus orientalis. *Tourn. cor.* 20. *itin.* 3. *t.* 92.
Flowers umbelled, collected, leaves multifid.]

28. Anemone thalictroides. *Meadow-Rue-leaved Anemone.*
Lin. ſpec. 763. *ſyſt.* 511. *Reich.* 2. 639.
Ranunculus nemoroſus, aquilegiæ foliis, virginianus, aſphodeli radice. *Pluk. alm.* 310. *t.* 106. *f.* 4.
Flowers umbelled; ſtem-leaves ſimple, verticillate; radical leaves biternate.

DESCRIPTIONS, *&c.*

1. [The leaves of the year before remain; they are heart-ſhaped, three-lobed, obtuſe, ſmooth, beneath veined in net-work. Petioles cylindric, long, riſing. The bud has generally four outer ſcales, ovate and membranaceous; three inner, concealing the leaves and flowers. Peduncles three, cylindric, hairy, one-flowered. The flower lies a year complete in all its parts within the bud[a]. The corolla has ſix petals in two rows of three each, lanceolate, and ſpreading: ſtamens about twenty-five: ſeeds oblong-ovate, involved in a ſilky ſubſtance; many of them abortive[b]. This plant is aſtringent, but not in uſe. It is found wild in Sweden abundantly, in Denmark, Switzerland, France, Spain, Italy, and other parts of Europe; in woods and among buſhes; with blue, red, and white flowers, ſingle. I gathered it at the foot of Mont Saleve, in flower, on the 14th of march 1779. It was cultivated in 1596, by Gerard[c].]

There are many varieties of Hepatica common in gardens. As, 1. Single and double blue. 2. Single and double red or peach-coloured. 3. Single and double white. 4. Single and double variegated red and white. 5. Single and double violet-coloured. 6. With ſtriped leaves. Parkinſon mentions a white with red ſtamens.—Theſe are ſome of the greateſt ornaments of the ſpring; the flowers are produced in february and march in great plenty, before the green leaves appear, and make a very beautiful figure in the borders of the pleaſure-garden, eſpecially the double ſorts, which commonly continue a fortnight longer in flower than the ſingle ones, and the flowers are much fairer.

2. [Root perennial. Root-leaves ternate-digitate; leaflets ſeſſile, laciniate, acuminate, the middle leaflet tripartite, the ſide ones bipartite. Scape one-flowered, ſhorter than the leaves. Involucre remote, villoſe. Corolla white, villoſe underneath: ſtamens yellow[d]. A native of Siberia about Tobolſki, and of lower Luſatia. It was cultivated in 1759, by Mr. Miller[e].

3. Differs from the vernal in having ſharper petals, yellow within[f].—There is a confuſion in theſe Anemones. Reichard refers to n. 1148 of Haller, as a ſynonym of this ſpecies. Allioni refers this to a different ſpecies, which he entitles *A. Halleri* (n. 1922) and figures t. 80. f. 2. It is ſaid to reſemble *A. ſulphurea*, but to be really different. The whole plant is covered with a ſilky down: the pinnas of the leaves are more deeply, and ſharply cut: the flower is entirely purple, with a ſilky down; and the petals are tender, not hard and firm as in the *ſulphurea*, which has the petals covered with a yellow, thick, ſoft down. Allioni refers n. 1147. t. 21 of Haller to the *ſulphurea* of Linneus.

4. Unknown to later writers, and totally different from the *alpina*. Root-leaves many, petiolate; the petiole ſhaggy three-parted; each lobe unequally trifid, with two or three unequal teeth; all broadiſh and lanceolate. Scape ſhaggy, three inches high; with three leaves like the radical ones, ſpringing from a ſhaggy ſheath, trifid, with three-parted lobes. The corolla has eight or ten white petals, ſhaggy on the outſide and reddiſh. The fruit reſembles that of the Garden Anemone[g]. Four times ſmaller, weaker and leſs hairy than the *alpina.* The root-leaves twice-ternate, gaſhed and not decompound[h]. It grows wild about Aigle, &c. in Switzerland, Monte Baldo, M. Cenis, &c.

5. Flower red without, white within; it blows earlier than our Paſque-flowers[i]. Leaves approaching thoſe of Meadow-Rue. Stem half a foot high, with a very tomentoſe, yellow, ſhining involucre in the middle, finely cut. When the flower is young, it is white with a bluſh of purple on the outſide, where it is hairy: theſe hairs afterwards become yellow. The corolla conſiſts of ſix convergent ovate-lanceolate petals: the ſtamens are very numerous[k]. It grows in the woods bordering on the mountains, in barren ſands, in Sweden, Germany, and on the high alps of Switzerland.

6. Differs from the laſt in the nodding of the flower, and in the leaves having more pinnas, finely cut. Thunberg found it in Japan near Jedo, flowering early in ſpring.

7. Peduncles erect, round, from four to ſeven or eight inches high, villoſe, one-flowered; lengthening after the flowering is paſt. Involucre multifid, with the diviſions linear and villoſe. It ſits cloſe to the flower, but when that is fallen it is found almoſt in the middle of the peduncle. Corolla ſpecious, purple; petals lanceolate, villoſe without. Seeds ovate, tailed, hairy, ſcarcely adhering to the receptacle[l]. Leaves rough, finely cut, with three or four pairs of pinnas and pinnules[m]. The plant is acrid, and will raiſe bliſters; the diſtilled water will vomit; it cannot therefore be ſafe to give it in diſorders of the lungs[n]. It grows wild on open hills in dry ſoils, in Sweden, Denmark, Switzerland, France, Italy, Germany, Carniola, Siberia, &c. and in England on chalky downs, as Gogmagog-hills, Barnack-heath near Stamford, about Leadſtone-hall near Pontefract, near Charlbury in Oxfordſhire, Lexham, Bury, Newmarket, &c. [Flowering in April. It has the Italian name *Pulſatilla* from the downy ſeed being beaten about by the wind.] There is a variety with double, and another with white flowers.

8. [The flower of this, is leſs than that of the former, and of a darker colour; it hangs down like that, but the tips of the petals are bent back. It is very common in the barren ſtony fields of Oeland and Scania, alſo in Denmark, Germany, and Piedmont[o].] The leaves are ſhorter, the ſtalks

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[a] Linn. [b] Haller. [c] Hort. kew.

[d] Linn. [e] Hort. kew. [f] Linn. mant. [g] Haller. [h] Linn. [i] Ibid. [k] Haller. [l] Relham. [m] Haller. [n] Helwing. [o] Linn.

do not riſe ſo high, and the flowers do not expand ſo wide as in the former.

[9. Stem-leaves woolly at the baſe, leaves of the involucre ſuperdecompound like the root-leaves. Flower almoſt as big as a Tulip, white with a tinge of purple, and pubeſcent on the outſide. It differs from the next, in having the ſtem and ſuperdecompound leaves from the ſame place of the root; the baſe of the leaves woolly; the ſheaths of the involucre not emarginate; and the ends of the tails ſtraight and beardleſs, which in that are bent and villoſe [p]. It grows wild on the Alps, Jura, and in Auſtria: and was, with the foregoing, cultivated by Mr. Miller, in 1731 [q].

10. Stems ſimple, about a ſpan high, upright, round, red at the baſe, and hirſute with abundance of hoary villoſe hairs; they have each one flower at the top, and are leafleſs, having only a large leafy involucre a little above the middle: this at the baſe embraces the ſtem; it is cloſely hirſute and three-leaved; the leaves tripinnate, reſembling thoſe of *Chærophyllum ſylveſtre*, each taking its riſe from a common ſtipular petiole, which is ſomewhat membranaceous, broadiſh, ſhort, and reſembling a ſpathe, and divided into three large petiolate pinnas; each of theſe again is tripartite, the pinnules themſelves being ſubſeſſile, lanceolate, pinnatifidly ſerrate; the teeth oblong, ſharpiſh, flat, entire: the leaves and petioles are naked above, and of a dark graſs green, but beneath they are extremely hirſute with long, denſe, hoary, villoſe hairs. Root-leaves from two to four, tripinnate, reſembling thoſe of the involucre, except that they are larger, and have a common petiole near half a ſpan in length, with the baſe ſheathing, and of a dark blood-red colour. Flower large, conſiſting of ſix or ſeven equal, ſpreading, entire, lanceolate petals, of a firm texture, and ſulphureous colour, cloſely hirſute on the outſide, ſmooth within and marked with abundance of lines. Filaments one third of the length of the corolla, ſubulate, yellow. Styles long, reddiſh at the tip, hoary-villoſe, as are alſo the germs: ſtigmas yellowiſh. Seeds villoſe, with long villoſe tails. It has no ſmell; and is a native of the Leontine Alps [r].

After all, it may be doubted whether this be really diſtinct from the ninth ſpecies.]

11. *Narrow-leaved Garden Anemone* grows naturally in the Levant, particularly in the iſlands of the Archipelago, where the borders of the fields are covered with it of all colours, but the flowers are ſingle, and have been rendered double by culture. In France it was long cultivated, before it was much known in Holland or England. [We find it however in our gardens in 1596 [s].

Parkinſon, in 1629, ſays that ſome reckoned up thirty ſorts with ſingle flowers, of which he mentions only the watchet or pale blue, the ordinary purple, and the ſcarlet, with ſome of their intermediate varieties. Of thoſe with double flowers he gives twelve varieties: 1. Common double red or ſcarlet. 2. Party-coloured crimſon. 3. Crimſon velvet. 4. Great double bluſh. 5. White. 6. Leſſer bluſh. 7. Purple. 8. Blue. 9. Roſe-coloured. 10. Carnation. 11. Purple velvet. 12. Purple velvet of three colours.—He obſerves, that the art of raiſing them from ſeed was not then familiarly known to our nation, although it was very frequent in the Low Countries; and he gives directions for that purpoſe.

Mr. Ray, in his hiſtory, enumerates near three hundred varieties of this and the broad-leaved ſort.

Mr. Rea, in his Flora or Complete Florilege [t], ſpecifies the following varieties of the narrow-leaved, or ſoft-leaved Anemone, as it was called by the Walloons, who brought them over out of France and Flanders to ſell. 1. Common double red. 2. Variable. 3. Elegant red. 4. Scarlet. 5. Variegated ſcarlet. 6. White with a ſcarlet thrum. 7. Nacara, or yellowiſh ſcarlet. 8. Double Brimſtone. 9. Green. 10. Great White. 11. Greateſt or White of Bourdeaux. 12. Bluſh, called *Columbina*. 13. Roſe-coloured. 14. Variegated Roſe. 15. Spotted Bluſh. 16. Purple. 17. Lavender-coloured. 18. Blue. 19. White with a purple thrum or pluſh, called *Perfect in beauty*. 20. Red, with a dark or murrey purple thrum, called *Amarant*. 21. Variegated Amarant. 22. Five-coloured. 23. Dark purple ſtriped with white.—Beſides theſe, he gives a liſt of ſeventy-four varieties raiſed from ſeed in France and Flanders, all fine, different, and many rare: and another, tranſlated out of French, by the accompliſhed Sir Thomas Hanmer, containing forty-ſeven ſorts.

The catalogues of our modern ſeedſmen have uſually about one hundred and fifty or two hundred.]

The principal colours in Anemones, according to Mr. Miller, are White, Red, Blue, and Purple; and theſe in ſome are curiouſly intermixed: but the moſt prevailing colours amongſt our Engliſh-raiſed Anemonies are White and Red; though we have received from France great variety of Blues and Purples, which are exceeding fine flowers, and being intermixed with thoſe of Engliſh growth, make a beautiful variety. [The plain colours in the modern catalogues are, Red, Crimſon, Roſe-coloured, Purple, Lilac, Clear and Pale Blue, Aſh-coloured, and White. The principal variegated ones are, red and white ſtriped, roſe and white, blue and white, red white and purple: but there are innumerable ſhades of theſe and the other colours.

A double Anemone, in order to be a fine one, ſhould have a ſtrong upright ſtem, about nine inches high; the flower ſhould be from two to near three inches in diameter, the outer petals ſhould be firm, horizontal except that they turn up a little at the end, and the ſmaller petals within theſe ſhould lie over each other gracefully, ſo as to form an elegant whole. The plain colours ſhould be brilliant and ſtriking; the variegated ones ſhould be clear and diſtinct.

12. *Broad-leaved Garden Anemone*; or *hard-leaved Anemone*, as it was formerly called by the Walloons who imported the roots; or *Star Anemone*, as the ſingle varieties are ſometimes named, is found wild, with ſingle flowers, in Italy, Provence, and Germany. Cluſius diſcovered it near the Rhine, with red, and with purple flowers; Ray alſo remarked it with theſe colours, in many parts of Italy; and Haller in Switzerland. Cluſius found it with white flowers in Germany; and it has been ſeen of the ſame colour in Auſtria.

Haller thus deſcribes this ſpecies. The root-leaves are of two kinds; one very deeply gaſhed, ſo that they have the appearance of being five-fingered, but are in reality three-parted, the ſide-lobes being two-parted to the very baſe; all the lobes are narrow and ſharp; the ſide ones deeply bifid, the middle ones trifid or quadrifid, the extreme ones ſharply lanceolate: the other kind broad, deeply three-lobed, blunt, bluntly and ſhortly ſerrate at the tip, with an awn ſtanding out. The leaf on the ſtem, which Linneus calls the involucre, is ternate, the leaflets ovate-lanceolate. The peduncle is ſolitary and one-flowered, as in the foregoing: the petals three times three (in the natural ſingle flowers), long, elliptic, marked with lines, the outer ones ſubhirſute on the outſide; white at the baſe with green lines. The roots of both ſorts, it is well known, conſiſt of ſmall tubers.

Parkinſon enumerates ſeveral varieties of this alſo, both with ſingle and double flowers: as ſingle and double Yellow—Purple Starre Anemone, darker and paler—Violet Purple—Purple ſtriped—Carnation—Gredeline, between a peach-colour and a violet—Cochenille, of a fine reddiſh violet or purple—Cardinal, of a rich crimſon red—Bloud-red, of a deeper, but not ſo lively a red—Crimſon—Stamell, near unto a ſcarlet—Incarnadine, of a fine delayed red or fleſh-colour—Spaniſh Incarnate, of a lively fleſh-colour, ſhadowed with yellow—Bluſh, of a fair whitiſh red—Nutmegge, of a dark whitiſh colour, ſtriped with veins of a bluſh-colour—Monk's-gray, pale whitiſh tending to a gray, ſuch as the monks and friers were wont to wear with us—Great Orenge Tawnie—Leſſer Orenge Tawnie.——Of double flowers the moſt remarkable are—the great double Anemone of Conſtantinople, or Spaniſh Marigold—great double Orenge Tawnie—double Anemone of Cyprus—double Perſian Anemone.

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[p] Scopoli.
[q] Hort. kew.
[r] Jacqu. miſc.
[s] Ger. herb.
[t] Lond. 1702 fol.

Rea mentions, the common great double Variable Anemone—Common double and variegated Scarlet—Red and Purple; and variegated of theſe colours: beſides ſingle of divers ſorts and colours.—He ſays, that the beſt Star-Anemones come from Britany, where they raiſe yearly many fine ſorts.

This ſpecies alſo was cultivated here by Gerard, in 1597.

13. This having a ſix-parted calyx connects the Hepaticas with the Anemones: the calyx is quite entire, villoſe and coloured, not remote from the flower. It is the *Anem. latifolia flava* of Bauhin, pinax 176. and An. hortenſis latifolia 1. of Cluſius, (hiſt. 1. p. 248.) who found it in Portugal, by the Tagus. The leaves are large; the corolla conſiſts of ten or more petals, yellow without and orange within.

14. Leaves ſuborbiculate ternate, leaflets gaſhed-palmate, ciliate, petioles hairy, ſcape naked, hairy, involucre under the flower three-parted lobed, with the diviſions lanceolate. Flower patent, with ſix roundiſh, tawny petals: ſtamens yellow: heads of piſtils roundiſh muricate [u]. Found in Siberia by Gmelin.]

15. This approaches near to our Wood Anemone, but the ſeeds of it are round and hairy; the flower is large and white, but having little beauty is ſeldom planted in gardens. [It does not indeed recommend itſelf by the gaudineſs of its colours; but there is in the flowers, eſpecially before they expand, a ſimple elegance, ſomewhat like that of the Snowdrop, which affords a pleaſing contraſt to the more ſhowy flowers of the garden [x]. Parkinſon notices its creeping roots, its large white flowers ſtanding on the tops of the flower-ſtalks, which ſometimes grow two together, but moſt commonly ſingle; the leaves on the ſtalk, he obſerves, are more finely divided than thoſe of the root, and its ſeeds are woolly. It is a native of many parts of Germany. Linneus obſerved it once in Sweden; it is found alſo in Alſace and Siberia. It flowers in may, and ripens its ſeeds in june.

16. Root-leaves four, ſix or more on each ſtalk, on long petioles, ſubtriplicate-ternate or doubly-tripartite, the lobes deeply and unequally bifid or trifid, irregularly toothed about the edge, broadiſh, flat, ovate-lanceolate. They are hirſute at firſt, but at length become almoſt naked. Peduncle from the centre of the root-leaves, half a ſpan long, round, upright, rufous-green, tomentoſe-hirſute. Flowers ſolitary; petals from five to ſeven, white, oblong-oval, ſomewhat hirſute on the outſide and tinged with pale purple; they are deciduous, and then the head of germs reſembles a ſtrawberry. Smell none. Native of Carinthia [y].

17. Stem naked, terminated by three ternate leaves, the middle three-lobed, acute, ſerrate, the ſide ones two-parted, lobate-ſerrate. From the centre of the petioles iſſues a peduncle long and naked. Flowers ſmall, with ovate petals, green like a calyx. The head of piſtils lengthened, cylindric, is reſolved into ſhaggy ſeeds: near the baſe of the peduncle comes out another ſtalk, terminating in a peduncle, and two oppoſite leaves, and ſo on [z]. It was cultivated in 1722 in the Chelſea garden [a]. It is a native of North America, and flowers in may and june.

18. Size of the *A. virginica.* Root-leaves ternate, petiolate; leaflets ſubovate, obtuſe, trilobate or cut. Stem quite ſimple, half a foot high. Involucre one-flowered, three-parted, multifid, linear, acute, ſmooth. Peduncle the length of the involucre, and hairy. Corolla ſmall, white, ten-petalled; petals lanceolate, permanent, the inner ones rather ſmaller. Stamens ſhorter than the corolla. Germ capitate, conic, villoſe. Stigmas acuminate, poliſhed. It is a native of Brazil.

19. This is ſo like the *dichotoma,* that a perſon might eaſily be deceived: but the leaves at the firſt dichotomy of the ſtem are not two, but three: ſeſſile, more veined, leſs horizontal. The corollas are wholly white, and larger: the anthers yellow. The fruit globoſe; the tops of the ſeeds ſubulate, ſtanding out on every ſide [b]. It is a native of Canada and Penſylvania, and was cultivated in 1766, by Mr. James Gordon [c].

20. Root creeping far and wide. Leaves oppoſite, horizontal. Corollas purpliſh underneath. Anthers tawny. Seeds naked, but with a minute recurved point [d]. Stem a foot high, erect, round, pubeſcent: branches erect, thickening toward the top. Leaves revolute near the end, ſcarcely petioled, cordate, trifid beyond the middle: lobes equal, lanceolate, quite entire at the baſe, deeply ſerrate and acute at the end, three-nerved, hairy on both ſides, purple at the edge, flat, with acute ſinuſes. Petioles membranaceous, connate. Peduncles from the forks of the branches, ſolitary, filiform, erect, pubeſcent, half as long again as the internodes, ſuſtaining one flower, the ſame ſize as that of *A. nemoroſa.* It flowers about midſummer, and ripens its ſeeds. It is a native of Canada, and Siberia; from whence it was ſent growing, by David de Gorter, phyſician in ordinary to the empreſs of Ruſſia, into Sweden, in the year 1760 [e].

21. Stem round. Petioles red at the baſe. Leaves oblong, concave, the upper ſurface ſhining, and tinged with red, toothed about the edge. Peduncles one-flowered; corolla ſix-petalled and white; petals elliptic: germs pubeſcent with white down: ſtamens white, more than a hundred [f]. A native of France, Carniola, and Siberia: growing in woods, and flowering at the end of april.

22. Native of Virginia and Canada.

23. Root of *Wood Anemone* perennial, creeping. Height of the whole plant from five to ten inches. Stem ſingle, round, pubeſcent; bearing one leaf, and one flower. The leaf is doubly ternate; each part is petioled; the petiole is flat, broad particularly at the baſe: each part, or leaf (for ſome conſider it as three leaves) is trifid; each leaflet being gaſh-ſerrate, and hairy underneath, eſpecially on the nerves. The peduncle is from an inch to two inches in length, is only a continuation of the ſtem, and ſprings from the centre of the leaf. The flower conſiſts of ſix or ſeven oblong-ovate petals, ſometimes ending bluntly, ſometimes emarginate, and I have obſerved them not unfrequently even gaſhed or lacerate. The uſual colour is white, but they are often tinged with purple on the outſide, particularly the three outer ones; and ſometimes they are entirely purple on both ſides. The joint of the ſtem, and the backs of the leaves are alſo apt to be tinged with red.

It grows in woods, among buſhes, and in hedges in moſt parts of Europe, and ſometimes in paſtures. In many of our woods the ground is almoſt covered with the flowers in march, april, and may. In fine clear weather the bloſſoms are expanded, and become ſo erect as to face the ſun; but in the evening, and in wet weather, they are cloſed and hang down.

It is acrid, and in ſome degree poiſonous; according to Linneus, cattle brought from open to woody paſtures, and eating of this plant, have been affected with the bloody-flux, and have made bloody urine.

The paper in which dried ſpecimens of this plant are preſerved being ſtained brown, it is probable that it may be employed as a dye[g].

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[u] Linn.
[x] Curtis magaz.
[y] Jacqu. miſc.
[z] Linn.
[a] Hort. kew.
[b] Linn. mant.
[c] Hort. kew.
[d] Linn. mant.
[e] Linn. dec.
[f] Scop.

When the flowers become double, the Wood Anemone is cultivated by the gardeners; and were the ſame pains taken with it as with the foreign Anemones, it might probably be much improved in the eye of the floriſt[h].

The leaves have frequently a paraſitical plant growing on their backs, which deceived Bobart and the great Dillenius, who took it for a Fern, and figured it as ſuch in the third edition of Ray's ſynopſis. This error, though detected more than ſixty years ſince[i], has been lately revived, and has given occaſion to Mr. Relhan to aſcertain that this appearance is occaſioned, not by eggs of an inſect, as ſome ſuppoſed, but by the Æcidium fuſcum[k].

24. Root perennial, tuberous. Stem round, purpliſh, about a ſpan high. Root-leaves on long petioles, ternate; leaflets uſually three-parted; ſegments variouſly cut and divided, ſomewhat pointed, hairy on both ſides: one three-parted leaf, or three leaves together on the ſtem, like the others, but on ſhort, ſheathing petioles. From the centre of theſe ariſes the peduncle, about a hand high, round, purpliſh, except near the flower, where it is green. The ſtem, leaves, and peduncle are commonly ſlightly hairy. Flower upright, of a pale blue colour, and ſweet ſmell; petals oblong, from twelve to fifteen, diſpoſed in three rows.

It flowers in april, at the ſame time as the Wood Anemone, with which it has ſome affinity in its foliage; but the root is much thicker and more knobby, the petals much narrower, more than twice as many, and of a light pleaſant purpliſh blue: when they firſt expand, the outſide has a rich purpliſh tint, which is loſt when the flowers have been ſome time expoſed to the ſun.

Native of the Apennines, near Rome; and of ſome few places in England, as Lord Spenſer's park at Wimbledon, near Harrow on the Hill, in a wood by Luton Hoe in Bedfordſhire, and near Berkhamſtead in Hertfordſhire.

It is a very ornamental plant, ſuitable to the flower-garden or plantation; and loves a light, loamy ſoil[l].

25. This differs from the Wood Anemone in having a yellow corolla, two petals alternately outer, and two inner, and one having one ſide within and the other ſide without the next petal; whereas that has three outer and three inner petals; it differs alſo in the peduncles being accompanied with two leaflets, the later of which is furniſhed with three at the baſe. It flowers a day or two earlier than the other[m]. This ſometimes has two flowers on a ſtem, the peduncles villoſe, ſhort, ſo that the flower ſcarcely riſes above the leaves. Petals five, roundiſh; ſtamens about fifty[n]. It grows wild in Sweden, Denmark, Switzerland, France, Germany, Auſtria, Carniola, Italy, Siberia; I gathered it by la Batie near Geneva in flower, april the 8th, 1779: with us it has been found near King's Langley in Hertfordſhire, and near Wrotham in Kent.

26. Leaves hirſute, ſoft; the radical ones petiolate, five-lobed, with the lobes very deeply bifid, or trifid, ſo that they ſeem to be ſeven-lobed; the ſmall lobes acutely trifid, crowded ſo cloſe as to lie over each other. The ſtem-leaves ternate, palmate, acutely trifid or quadrifid. From theſe ariſe ſix or eight flowers, on ſhort one-flowered peduncles. Petals ſix or ſeven, ſubhirſute, ovate-lanceolate, white within, reddiſh without, and forming a ſalver-ſhaped corolla. Seeds large, naked, round and flatted[o]. It grows wild on the mountains of Italy, Switzerland, Auſtria, and Siberia. Introduced in 1773, by John Earl of Bute[p].

27. This very much reſembles the laſt, ſo that Linneus doubts whether it be a diſtinct ſpecies, and Haller thinks that it is only a variety. It was firſt obſerved by Tournefort in the Levant, and is found in the mountains about the lake Baikal.

28. The involucre has the leaflets petiolate. Linneus thus deſcribes the Canadian plant from Kalm. Root tuberous. Radical leaves with long petioles, doubly ternate: leaflets ſubcordate, angular. Scape a little higher than the leaves, terminated by four ſimple leaves, reſembling the radical leaflets, ſitting on long petioles. Peduncles terminal, crowded or faſciculate, one, two, three, or five, ſimple, one-flowered; equal. Corollas white, with ovate, obtuſe, ſpreading petals: ſtamens yellowiſh: the head of piſtils ovate, muricate. It grows wild in Virginia and Canada; and was cultivated in 1768, by Mr. Miller[q].

PROPAGATION AND CULTURE.

The plants of this genus are moſtly hardy perennials, and may be increaſed both by feeds and by the roots.]

Hepatica.

The Hepaticas are ſome of the greateſt beauties of the ſpring. The flowers are produced in february and march in great plenty, before the green leaves appear, and make a handſome figure in the borders of the pleaſure-garden, eſpecially the double ſorts, which commonly continue a fortnight longer in flower than the ſingle ones, and the flowers are much fairer.

The ſingle ſorts produce ſeeds every year, whereby they are eaſily propagated, and alſo new flowers may be that way obtained. The beſt ſeaſon for ſowing the ſeeds is in the beginning of auguſt, either in pots or boxes of light earth, which ſhould be placed ſo as to have only the morning ſun until october, when they ſhould be removed into the full ſun, to remain during the winter ſeaſon; but in march, when the young plants will begin to appear, they muſt be removed again to a ſhady ſituation, and in dry weather ſhould be frequently watered, and about the beginning of auguſt they will be fit to be tranſplanted; at which time you ſhould prepare a border facing the eaſt, of good, freſh, loamy earth, into which you ſhould remove the plants, placing them about ſix inches diſtance each way, cloſing the earth pretty faſt to their roots, to prevent the worms from drawing them out of the ground, which they are very apt to do at that ſeaſon; and, in the ſpring following, they will begin to ſhow their flowers; but it will be three years before they flower ſtrong, and till then you cannot judge of their goodneſs; when, if you find any double flowers, or any of a different colour from the common ſorts, they ſhould be taken up, and tranſplanted into the borders of the flower-garden, where they ſhould continue at leaſt two years before they are taken up or parted; for it is remarkable in this plant, that where they are often removed and parted, they are very ſubject to die; whereas, when they are permitted to remain undiſturbed for many years, they will thrive exceedingly, and become very large roots.

The double flowers, which never produce ſeeds, are propagated by parting their roots, which ſhould be done in march, at the time when they are in flower; but you ſhould be careful not to ſeparate them into very ſmall heads, nor ſhould they be parted oftener than every third or fourth year, if you intend to have them thrive, for the reaſon before given. They delight in a ſtrong loamy ſoil, and in an eaſtern poſition, where they may have only the morning ſun, though they will grow in almoſt any aſpect, not too warm, and are never injured by cold.

[Mr. Bradley relates a remarkable change that was made in the colours of theſe flowers. Some roots of the double blue Hepatica were ſent to Mr. Hariſon of Henley upon Thames, from Mr. Keys's garden in Tothill-fields, whoſe ſoil was ſo different from the ground they were planted in at Henley, that when they came to bloſſom there they produced white flowers, and were therefore returned back to their firſt ſtation, where they retook the blue colour they had at firſt[r].]

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[g] Stokes in Withering. [h] Curtis. [i] Mart. Tourn. 2. 215. [k] Lin. ſyſt. Gmel. p. 1473. [l] Curtis. [m] Linn. ſuec. [n] Haller. [o] Ibid. [p] Hort. kew.

[q] Hort. kew.

Pulſatillas (2—10.)

Theſe plants may be propagated by ſeeds, which ſhould be ſown in boxes or pots filled with very light ſandy earth, obſerving not to cover the ſeeds too deep with mould, which will prevent their riſing, for they require no more than juſt to be covered. Theſe boxes ſhould be placed where they may have the morning ſun until ten of the clock, but muſt be ſcreened from it in the heat of the day; and, if the ſeaſon proves dry, the earth ſhould be often refreſhed with water. The beſt time for ſowing theſe ſeeds is in july or auguſt, ſoon after they are ripe, for if they are kept till ſpring, they ſeldom grow.

Theſe boxes or pots, in which the ſeeds are ſown, ſhould remain in this ſhady ſituation until the beginning of october, when they ſhould be moved where they may enjoy the full ſun during the winter ſeaſon. About the beginning of march, the plants will begin to appear, at which time the boxes ſhould be again removed where they may have only the forenoon ſun; for if they are too much expoſed to the heat, the young plants will ſoon be deſtroyed. They ſhould alſo be refreſhed with water in dry weather, which will greatly promote their growth, and ſhould be carefully kept clean from weeds, which, if ſuffered to grow among them, will in a ſhort time overbear them.

When the leaves are entirely decayed (which is commonly in july,) you ſhould then take up all the roots, which being nearly of the colour of the ground, will be difficult to find while ſmall; therefore you ſhould paſs the earth through a fine wire ſieve, which is the beſt method to ſeparate the roots from the earth, (but notwithſtanding all poſſible care taken, yet there will be many ſmall roots left; ſo that the earth ſhould either be put into the boxes again, or ſpread upon a bed of light earth, to ſee what plants will ariſe out of it the ſucceeding year.) The roots being taken up, ſhould be immediately planted again on beds of light, freſh, ſandy earth, about three or four inches aſunder, covering them about three inches thick with the ſame light earth. The ſpring following moſt of theſe plants will produce flowers, but they will not be ſo large and fair as in the ſucceeding years, when the roots are larger.

The roots of theſe plants generally run down deep, and being of a fleſhy ſubſtance, ſomewhat like Carrots, will not bear to be kept long out of the ground; therefore, when they are removed, it ſhould be done early in the autumn, that they may take freſh root before the froſt comes on; for if they are tranſplanted in the ſpring, they will not produce ſtrong flowers. Theſe plants thrive beſt in a loamy ſoil, for in very light dry ground they are apt to decay in ſummer.

Garden Anemones. (11. 12.)

Theſe are natives of the eaſt, from whence their roots were brought originally; but have been ſo greatly improved by culture, as to render them ſome of the chief ornaments to our gardens in the ſpring. I ſhall therefore proceed to give ample directions for their culture; by which, if duly obſerved, every perſon may have theſe flowers in perfection.

Take a quantity of freſh untried earth (from a common, or ſome other paſture land) that is of a light ſandy loam, or hazel mould, obſerving not to take it above ten inches deep below the ſurface; and if the turf be taken with it the better, provided it has time to rot thoroughly before it is uſed: mix this with a third part of rotten cow dung, and lay it in a heap, keeping it turned over at leaſt once a month for eight or ten months, the better to mix it, and rot the dung and turf, and to let it have the advantages of the free air: in doing this be careful to rake out all great ſtones, and break the clods (but by no means ſift or ſcreen the earth, which is found very hurtful to many ſorts of roots); for when the earth is made very fine, upon the firſt great rains of winter or ſpring, the ſmall particles thereof join cloſely together, and form one ſolid maſs, ſo that the roots often periſh for want of ſome ſmall ſtones to keep the particles aſunder, and make way for the tender fibres to draw nouriſhment for the ſupport of the root.

This earth ſhould be mixed twelve months before it is uſed, if poſſible; but if you are conſtrained to uſe it ſooner, you muſt turn it over the oftener, to mellow and break the clods; and obſerve to rake out all the parts of the green-ſward, that are not quite rotten, before you uſe it, which would be prejudicial to your roots, if ſuffered to remain. The beginning of ſeptember is a proper ſeaſon to prepare the beds for planting (which, if in a wet ſoil, ſhould be raiſed with this ſort of earth ſix or eight inches above the ſurface of the ground, laying at the bottom ſome of the rakings of your heap to drain off the moiſture; but in a dry ſoil, three inches above the ſurface will be ſufficient: this compoſt ſhould be laid at leaſt two feet and a half thick, and in the bottom there ſhould be about four or five inches of rotten neats-dung, or the rotten dung of an old Melon or Cucumber-bed, ſo that you muſt take out the former ſoil of the beds to make room for it.

And obſerve in preparing your beds, to lay them (if in a wet ſoil) a little round, to ſhoot off the water; but in a dry one, let it be nearer to a level; in wet land, where the beds are raiſed above the ſurface, it will be proper to fill up the paths between them in winter, either with rotten tan or dung, to prevent the froſt from penetrating into the ſides of the beds, which often deſtroys the roots. The earth ſhould be laid in the beds at leaſt a fortnight or three weeks before you plant the roots, that it may ſettle; and when you plant them, ſtir the upper part of the ſoil about ſix inches deep, with a ſpade; then rake it even and ſmooth, and with a ſtick draw lines each way of the bed at ſix inches diſtance, ſo that the whole may be in ſquares, that the roots may be planted regularly: then with three fingers make a hole in the center of each ſquare, about three inches deep, laying therein a root with the eye uppermoſt; and when you have finiſhed your bed, with the head of a rake draw the earth ſmooth, ſo as to cover the crown of the roots about two inches.

The beſt ſeaſon for planting theſe roots, if for forward flowers, is about the latter end of ſeptember; and for thoſe of a middle ſeaſon, any time in october; but obſerve to perform this work, if poſſible, at or near the time of ſome gentle ſhowers; for if the roots are planted when the ground is perfectly dry, and there ſhould no rain fall for three weeks or a month after, they will be very apt to grow mouldy upon the crown, and if they once get this diſtemper, they ſeldom come to good after.

You may alſo reſerve ſome of your Anemone roots till after Chriſtmas, before you plant them, leſt by the ſeverity of the winter your early planted roots ſhould be deſtroyed, which ſometimes happens in very hard winters, eſpecially where they are not covered to protect them from froſt: theſe late planted roots will flower a fortnight or three weeks after thoſe which were planted in autumn, and many times blow equally as fair, eſpecially if it prove a moiſt ſpring, or that care be taken to refreſh them gently with water.

But then the increaſe of theſe roots will not be near ſo great as thoſe of your firſt planting, provided they were not hurt in winter; and it is for this reaſon all thoſe who make ſale of theſe roots, are forward in planting: for although it may happen, by ſharp pinching froſts in the ſpring, that their flowers are not ſo double and fair as thoſe planted a little later, yet if they can preſerve the green leaves of the plants from being injured, the roots will greatly increaſe in bulk; but in ſuch gardens where theſe flowers are preſerved with care, there is always proviſion made to cover them from the injuries of the weather, by arching the beds over with hoops, or frames of wood, and covering them with garden-mats or cloths, in froſty nights, and bad weather, eſpecially in the ſpring of the year, when their buds begin to appear; for otherwiſe, if you plant the beſt and moſt double flowers, the black froſts and cutting winds in march will cauſe them to blow ſingle, by deſtroying the thrum that is in the middle of the flower; and this many times has occaſioned perſons who have bought the roots, to think they were cheated in the purchaſe of them, when it was wholly owing to their neglect of covering them, that their flowers were ſingle.

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[r] Philoſophical account of the works of nature, p. 79.

In the beginning of april your firſt planted roots will begin to flower, which will continue for three weeks or more, according to the heat of the weather, or the care taken in covering them, during the heat of the day, with mats or cloths: after theſe are paſt flowering, the ſecond planted ſorts will come to ſucceed them, and theſe will be followed by thoſe planted in the ſpring; ſo that you may have theſe beauties continued for near two months together, or ſometimes longer, if the ſeaſon prove favourable, or proper care be taken to ſhade them in the heat of the day.

The beginning of june, the leaves of your firſt blown roots will begin to decay; ſoon after which time you muſt take them out of the ground, clearing them from decayed ſtalks, and waſhing them, to take the earth clean from the root; then ſpread them on a mat in a dry ſhady place till they are perfectly dried, when you may put them up in bags, and hang them out of the reach of mice, or other vermin, which will deſtroy many of the roots if they can come at them.

Obſerve alſo to take up the latter planted roots as ſoon as their leaves decay; for if they are ſuffered to remain long after in the ground, and there ſhould fall ſome ſhowers of rain, they would ſoon put forth freſh fibres, and make new ſhoots, when it would be too late to remove them: at the time when you take up the roots, is the proper ſeaſon for breaking or parting them, which may be done by ſeparating thoſe that you would chooſe to make all poſſible increaſe from, into as many parts as you can conveniently, provided each one of them have a good eye or bud; but thoſe you intend to blow ſtrong, ſhould by no means be parted too ſmall, which greatly weakens their flowering.

You ſhould obſerve, in planting the roots, to diſtribute the different colours, ſo as to make an agreeable mixture of each in every bed, which will greatly add to their beauty.

But ſince all the fine varieties of theſe flowers were firſt obtained from ſeeds, no good floriſt, who has garden room, ſhould neglect to ſow them: in order to which, he ſhould provide himſelf with a quantity of good ſingle (or what the gardeners call Poppy Anemones) of the beſt colours, and ſuch as have more leaves than common, and have other good properties; theſe ſhould be planted early, that they may have ſtrength to produce good ſeed, which will be ripe in three weeks or a month's time, after the flowers are paſt: when you muſt carefully gather it, otherwiſe it will be blown away in a ſhort time, it being incloſed in a downy ſubſtance. You muſt preſerve this ſeed till the beginning of auguſt, when you may either ſow it in pots, tubs, or a well prepared bed of light earth: in the doing of it you muſt be careful not to let your ſeeds be in heaps, which is to be avoided thus.

After having levelled your bed of earth, in which you intend to ſow your ſeeds, rub the ſeeds well between your hands, with a little dry ſand, in order to make them ſeparate the better; then ſow them as regularly as poſſible over the bed; but as theſe ſeeds will ſtill adhere cloſely together by their down, take a ſtrong hair bruſh, with which gently ſweep over the whole bed, obſerving not to bruſh off the ſeeds; this bruſh will ſo ſeparate the ſeeds, if carefully managed, as not to leave any entire lumps; then gently ſift ſome light earth, about a quarter of an inch thick over the ſeeds; and, if it ſhould prove hot dry weather, it will be adviſable to lay ſome mats hollow upon the bed in the heat of the day, and now and then to give them a little water; but this muſt be given gently, leſt by haſtily watering you waſh the ſeeds out of the ground; but be ſure to uncover the bed at all times when there are gentle ſhowers, and every night, that the ſeeds may have the benefit of the dews; and as the heat of the weather decreaſes, you may begin to uncover your bed in the day time alſo.

In about ten weeks after ſowing, the plants will begin to appear, if the ſeaſon has proved favourable, or your care in management has not been wanting, otherwiſe they many times remain a whole year in the ground. The firſt winter after their appearing above ground, they are ſubject to injuries from hard froſts, or too much wet, againſt both of which you muſt equally defend them; for the froſt is very apt to looſen the earth, ſo that the young plants are often turned out of the ground, after which a ſmall froſt will deſtroy them; and too much wet often rots their tender roots, ſo that all your former trouble may be loſt in a ſhort time for want of care in this particular; nor do I know of any thing more deſtructive to theſe tender plants, than the cold black froſts and winds of february and march, from which you muſt be careful to defend them, by placing a low reed fence on the north and eaſt ſides of the bed, which may be moveable, and only faſtened to a few ſtakes to ſupport it for the preſent, and may be taken quite away as the ſeaſon advances, or removed to the ſouth and weſt ſides of the bed, to ſcreen it from the violence of the ſun, which often impairs theſe plants when young.

As the ſpring advances, if the weather ſhould prove dry, you muſt gently refreſh them with water, which will greatly ſtrengthen your roots; and when the green leaves are decayed, if your roots are not too thick to remain in the ſame bed another year, you muſt clear off all the weeds and decayed leaves from the bed, and ſift a little more of the ſame prepared good earth, about a quarter of an inch thick over the ſurface, and obſerve to keep them clear from weeds during the ſummer ſeaſon, and at Michaelmas repeat the ſame earthing; but as theſe roots ſo left in the ground, will come up early in the autumn, the beds ſhould be carefully covered in froſty weather, otherwiſe their leaves will be injured, whereby the roots will be weakened, if not deſtroyed. If your roots ſucceed well, many of them will flower the ſecond year, when you may ſelect all ſuch as you like, by marking them with a ſtick; but you ſhould not deſtroy any of them until after the third year, when you have ſeen them blow ſtrong, and can judge of their goodneſs; for until the roots have acquired ſtrength, the flowers will not ſhow themſelves to advantage.

By this time your roots will be too thick in the ſeed-bed to remain, as ſoon therefore as their green leaves are decayed, you muſt ſift the earth of the bed through a very fine ſieve, in order to get out the roots which can be no otherwiſe found, being ſmall, and ſo near the colour of the earth; but in doing this, obſerve not to diſturb the ground too deep, ſo as to endanger the burying any of the roots; for, notwithſtanding all your care, many ſmall roots will be left behind; therefore as ſoon as you have ſifted your whole bed, and taken out all the roots you can find, you muſt level the earth of your bed again, and let it remain till next year, when you will find a plentiful crop of roots come up again; the young roots which you take up muſt be dried, as was directed for the old ones, but ſhould be planted again three weeks before them, that they may increaſe in ſtrength, ſo as to flower ſtrongly the ſucceeding year.

The ſingle (or Poppy) Anemones will flower moſt part of the winter and ſpring, when the ſeaſons are favourable, if they are planted in a warm ſituation, at which time they make a fine appearance, therefore deſerve a place in every flower-garden, eſpecially as they require little culture; for if theſe roots are taken up every other year, it will be often enough; and when they are taken up, they ſhould be planted again very early in the autumn, otherwiſe they will not flower till the ſpring. There are ſome fine blue colours amongſt theſe ſingle Anemones, which, with the Scarlets and Reds, make a beautiful mixture of colours; and as theſe begin flowering in january or february, when the weather is cold, they will continue a long time in beauty, provided the froſt is not too ſevere. The ſeeds of theſe are ripe by the middle or end of may, and muſt be gathered daily as they ripen, otherwiſe they will ſoon be blown away by the winds.

Wild Anemones. (23, 24, *&c.*)

The roots of *Wood Anemone* may be taken up when the leaves decay, and tranſplanted into wilderneſſes, where they will increaſe greatly, if they are not diſturbed; and in the ſpring, before the leafing of the trees, will have a good effect, in covering the ground with their leaves and flowers.

The *Blue Anemone* (n. 24.) flowers at the ſame time with the foregoing, and when intermixed with it, makes a fine variety. Double flowers of both theſe ſorts have been obtained from ſeeds. This, and moſt of the other wild Anemones, may be propagated like that of our woods, by offsets from the root, which they put out plentifully; and they will grow in moſt ſoils and ſituations.

Virginian Anemone, (n. 17.) and ſome others, produce plenty of ſeeds, and may be readily increaſed alſo that way.

ANEMONE puſilla. See *Dryas.*

ANEMONOIDES. See *Anemone.*

ANEMONOSPERMOS. See *Arctotis* and *Gorteria.*

ANETHIFOLIUS. See *Protea.*

ANETHUM. (Ἄνηθον, *Hippocr. Theophr.* and *Dioſc.* παρὰ τὸ ἀνω θεῖν, *from its running up quick, or ſtraight.*)
Lin. gen. n. 364. *Reich.* 394. *Schreb.* 496. *Gærtn.* 21. *Tourn.* 169. and *Foeniculum* 164. *Gærtn.* 23. *Juſſ.* 219.
Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ,* or *Umbelliferæ.*

GENERIC CHARACTER.

CAL. *Umbel* univerſal and partial manifold. *Involucre,* neither univerſal nor partial. *Perianth* proper obſolete.

COR. *univerſal* uniform: *floſcules* all fertile: *proper:* petals five, involute, entire, very ſhort.

STAM. *Filaments* capillary; *anthers* roundiſh.

PIST. *Germ* inferior. *Styles* approximating, obſolete. *Stigmas* obtuſe.

PER. none. *Fruit* ſubovate, compreſſed, ſtriated, bipartile.

SEEDS two; ſubovate, margined, convex and ſtriated on one ſide; flat on the other.

OBS. Anethum T. *has the ſeeds ſurrounded with a membranaceous rim, which* Foeniculum T. *has not.*

ESSENTIAL CHARACTER.

Fruit ſubovate, compreſſed, ſtriated. *Petals* involuted entire.

SPECIES.

1. Anethum graveolens. *Common Dill.*
Lin. ſpec. 377. *Reich.* 1. 721. *hort. cliff.* 106. *upſ.* 66. *Gærtn. fruct.* 1. 91. *mat. med.* 85. *Blackw. t.* 545. *Woodv.* 439. *t.* 159. *Park. theatr.* 886. *Plenck. ic. t.* 215.
An. hortenſe. *Bauh. pin.* 147.
Anethum. *Ger. emac.* 1033. *Raii hiſt.* 415. *Mor. umb. t.* 1. *f.* 22. and γ, δ. *Riv. pent. t.* 13.
Fruit compreſſed.

[2. Anethum ſegetum.
Lin. ſyſt. 291. *Reich.* 1. 721. *mant.* 219. *Jacqu. hort.* 2. *t.* 132.
A. ſylveſtre minus. *Bauh. pin.* 147. *prodr.* 76.
Three ſtem-leaves, fruits oval.]

3. Anethum Foeniculum. *Fennel* or *Finckle.*
Lin. ſpec. 377. *Reich.* 1. 722. *mat. med.* 85. *Hall. helv. n.* 762. *Hudſ. angl.* 126. *Wither. arr.* 311. *Krock. ſiles. n.* 466. *Lour. cochinch.* 181. *Woodv.* 441. *t.* 160. *Plenck. ic.* 216. *Mill. illuſtr. ic. Blackw. t.* 288. *Rivin. t.* 61. *Mor. hiſt. ſ.* 9. *t.* 2. *f.* 1. *Ger.* 877. 1. *emac.* 1032. *Park. theat.* 884. *Bauh. hiſt.* 3. 6. 3. *Raii hiſt.* 457.
α. Foeniculum vulgare. *Common Fennel.*
Mill. dict. n. 1.
β. Foeniculum dulce. *Sweet Fennel.*
Mill. dict. n. 2.
γ. Foeniculum Azoricum. *Azorian Fennel* or *Finochio.*
Mill. dict. n. 3.
Fruits ovate.

DESCRIPTIONS, *&c.*

1. [*Dill* differs from Fennel, which it otherwiſe reſembles very much, in having an annual root, a ſmaller and lower ſtem, ſeldom exceeding three quarters of a yard; the leaves more glaucous, and of a leſs pleaſant ſmell; the ſeeds broader, flatter, ſurrounded with a membranaceous rim, and of a leſs pleaſant flavour than fennel ſeeds; the umbels of flowers yellow, but ſmaller than thoſe of fennel[a]. This plant has a peculiar ſtrong ſmell, but aromatic. The bruiſed herb is anodyne and reſolvent. The ſeeds are aromatic and contain an etherial oil; are uſeful therefore in flatulencies; for this purpoſe they rub the bellies of children with the oil prepared by infuſion: the eſſential oil is alſo good in the colic[b]. A diſtilled water, drawn off to the quantity of a gallon from a pound of the ſeeds, was ordered in the London Pharmacopoeia; and occaſionally made the baſis of carminative draughts and juleps: its flavour is more agreeable than that of the ſeeds in ſubſtance. Along with the water ariſes a conſiderable quantity of eſſential oil, which is given from one to three or four drops, or more, as a carminative; and in hiccoughs[c]. No mention is made of this in the laſt edition of the London Pharmacopoeia. It grows wild among the corn in Spain and Portugal; alſo in Italy on the coaſt. It is annual, and was cultivated in 1597[d].

2. Stem ſix or ſeven inches high, round, ſmooth and even, ſtreaked, glaucous. Branches three or four, alternate, ſpreading, the length of the ſtem. Leaves three, bi-or tri-pinnate, ſmooth and even, filiform, linear, flat; leaflets alternately ſubdivided, Upper leaf triternate: leaflets very like the others, but undivided. No involucre, but only a rudiment. Umbel convex, ſpreading, diſperſed. Umbellules nine with the central floret abortive. Corolla floſculous, yellow: petals involute, length of the ſtamens: ſtyles two, conical, permanent. Fruits oval, convex, with three raiſed ſtreaks[e]. Annual. A native of Portugal.

3. Height three to five or ſix feet. Stem upright, very ſmooth. Leaves finely cut, leaflets capillary. Umbels very large, hollow. Corollas yellow, petals equal. Fruit ovate-oblong: the ſeeds have five ribs on the back, and have no membrane round the edge, as the Dill has. Native of Germany, Spain, Italy, Madeira, China, *&c.* It flowers in july, and the ſeeds ripen in autumn. Linneus diſtinguiſhes four varieties of Fennel. 1. Sweet Fennel. 2. Common Fennel. *Fœn. vulgare germanicum.* Bauh. pin. 147. 3. Italian Fennel. *Fœn. vulgare italicum.* Bauh. pin. 4. Wild Fennel. *Fœn. ſylveſtre.* Bauh. pin. Miller has only three varieties as above.]

α. The common Fennel has a ſtrong fleſhy root, which penetrates deep into the ground, and will continue ſeveral years. It flowers in july, and the ſeeds ripen in autumn. It has ſown itſelf in many places, where it has been introduced in ſuch plenty, as to appear as if it were a native in England; but it is no where found at a great diſtance from gardens. [It is however enumerated among our native plants, by Hudſon, Withering, *&c.* though certainly not originally ſo: and is now common on chalk cliffs, as about Marazion in Cornwall, in Suſſex, about Graveſend, and other parts of Kent, and in many inland places, as Nottingham caſtle, near Spetchly in Worceſterſhire, Burwell, and other places in Cambridgeſhire.]

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[a] Ray hiſt. [b] Allioni. [c] Lewis. [d] Gerard. [e] Lin. mant.

β. The ſweet Fennel has been by many ſuppoſed only a variety of the common ſort; but I have cultivated it in the ſame ground with that, where it has always retained its differences. [Mr. Ray however affirms, that it will return to its priſtine form and qualities.] The leaves of it are very long and ſlender, growing more ſparſedly, and do not end in ſo many points as thoſe of the common ſort; the ſtalks do not riſe ſo high, and the ſeeds are longer, narrower, and of a lighter colour. Theſe ſeeds are generally imported from Germany or Italy, and are by ſome preferred to thoſe of the common ſort for uſe, being much ſweeter.

[The tender buds of Fennel are eaten in ſalads. The leaves boiled are uſed as ſauce for fiſh, and they are eaten raw with pickled fiſh. In Spain, they put them up with olives, and pickled pork.

A pound of ſweet Fennel ſeeds impregnates a gallon of water ſtrongly with their flavour, in diſtillation. A great quantity of yellowiſh eſſential oil, floats on the ſurface of the water, mild and ſweetiſh like oil of aniſeeds, and like it alſo, congealing by a ſlight cold, into a white maſs like butter.

Theſe ſeeds contain likewiſe a conſiderable quantity of groſs expreſſed oil, which is extracted, along with the aromatic matter of the Fennel, by digeſtion in rectified ſpirit, but riſes to the ſurface upon inſpiſſating the filtered tincture: the concentrated extract retains much the greateſt part of both taſte and ſmell.

The ſeeds of common Fennel are warmer and more pungent, but leſs ſweet, and of a leſs grateful flavour. There is the ſame difference in the preparations from them: the ſpirituous tincture of ſweet Fennel is yellowiſh; of this, greeniſh. The leaves impregnate water by diſtillation with a grateful flavour, and yield a conſiderable portion of eſſential oil. An extract made from them by rectified ſpirit, is likewiſe no inelegant aromatic.

The roots, taken up early in the ſpring, have a pleaſant ſweetiſh taſte, with a ſlight aromatic warmth. They are ranked among the aperient roots, and ſuppoſed by ſome to be equivalent in virtue to the *Ginſeng*; from which however they differ conſiderably in their ſenſible qualities [f].]

γ. The Finochio is ſuppoſed to have been originally brought from the Azorian iſlands; it has been long cultivated in Italy as a ſalad-herb; and there are ſome few gardens in England, where it is now cultivated, but in ſmall quantities, for there are not many Engliſh palates which reliſh it, nor is it eaſy to be furniſhed with good ſeeds; thoſe which are annually brought from Italy ſeldom prove good; and it is difficult to ſave it in England, becauſe the winter frequently kills thoſe plants which are left for ſeeds, and when any good plants of the early ſowing are left for ſeeds, they do not ripen, unleſs the winter proves very favourable. This ſort has very ſhort ſtalks, which ſwell juſt above the ſurface of the ground, to four or five inches in breadth, and almoſt two thick, being fleſhy and tender: this is the part which is eaten when blanched, with oil, vinegar, and pepper, as a cold ſalad. When the plants are permitted to run for ſeeds, the ſtalks do not riſe more than a foot and a half high, having a large ſpreading umbel ſtanding on the top. The ſeeds of this ſort are narrow, crooked, and of a bright yellow colour; they have a very ſtrong ſmell like Aniſeed, and are very ſweet to the taſte.

PROPAGATION AND CULTURE.

Dill.

This plant is propagated by ſowing the ſeeds, which ſhould be done in autumn ſoon after they are ripe; for if they are kept out of the ground till ſpring, they frequently miſcarry; or if any of the plants come up, they often decay before they have perfected their ſeeds. They love a light ſoil, and will not bear to be tranſplanted, but muſt be ſown where they are to remain, and ſhould be allowed eight or ten inches room to grow, otherwiſe they will draw up very weak, and produce few lateral branches; whereby their leaves will decay, and be rendered uſeleſs; nor will they produce ſo good ſeeds; therefore the beſt way is, when the plants are come up, to hoe them out, as is practiſed for Onions, Carrots, &c. leaving the plants about eight or ten inches aſunder every way; obſerving to keep them clear from weeds; and when the ſeeds begin to be formed, you ſhould cut up thoſe that are intended to be put into the pickle for Cucumbers; leaving thoſe that are intended for the uſe of the ſeeds until they are ripe; at which time they ſhould be cut, and ſpread upon a cloth to dry, and then beat out for uſe: if you let the ſeeds fall upon the ground, the plants will riſe the next ſpring without any care.

Fennel.

The beſt time to ſow the ſeeds, is ſoon after they are ripe; the plants will come up in the autumn or the following ſpring, and require no other care but to keep them clean from weeds, and thin the plants where they are too cloſe; it will grow in any ſoil or ſituation.

Finochio.

For the cultivation of this plant, your firſt care muſt be to procure good ſeeds from ſome perſon who has been careful in the choice of the plants, otherwiſe there will be little hope of having it good; for the plants will run up to ſeeds before they ſwell to any ſize, and thus not be fit for uſe: then make choice of a good ſpot of light rich earth, not dry nor very wet, for in either extreme this plant will not thrive. The firſt crop may be ſown about a fortnight in march, which, if it ſucceeds, will be fit for uſe in july; and by ſowing at ſeveral times, there may be a ſupply for the table till the froſt puts a ſtop to it. After having well dug and levelled the ground ſmooth, you muſt make a ſhallow drill by a line, into which you muſt ſcatter your ſeeds pretty thin; for if your plants are ſix inches aſunder in the rows, it will be full near enough; however, you muſt expect ſome of your ſeeds to fail, and therefore you ſhould ſcatter them about two inches diſtance; then cover the ſeeds about half an inch thick with earth, laying it ſmooth: theſe drills ſhould be made eighteen inches aſunder, or more, that there may be room to clean the ground, as alſo to earth up the plants when they are full grown. When the plants come up, which will be in about three weeks or a month after ſowing, you muſt with a ſmall hoe cut up all the weeds between them, and where the plants are too cloſe, they ſhould be thinned to about three inches diſtance; and as they advance, and the weeds ſpring again, they ſhould, from time to time, be hoed; and at the laſt time of thinning them, they ſhould be left ſeven or eight inches aſunder at leaſt. If your kind be good, the ſtems of the plants will increaſe to a conſiderable bulk juſt above the ſurface of the ground; which part ſhould be earthed up in the manner of Celeri, to blanch, about a fortnight or three weeks before it is uſed, and this will cauſe it to be very tender and criſp.

Your ſecond crop ſhould be ſown about three weeks after the firſt, and ſo continue ſowing every three weeks or a month till the end of july, after which time it will be too late for the plants to come to any perfection. But you ſhould obſerve to ſow in april, may, and june, on a moiſter ſoil than that which you ſowed the firſt on; as alſo what you ſow in the latter part of july, ſhould be ſown on a drier ſoil, and in a warmer ſituation; becauſe this crop will not be fit for uſe till late in autumn, and therefore will be ſubject to injuries from too much wet or cold weather, if on a moiſt ſoil. But as the ground is often extremely dry in june and july, and the ſeeds more apt to miſcarry and not come up, you ſhould therefore obſerve to water and ſhade the beds where this ſeed is ſown at that ſeaſon, until the plants come up. And if the ſeaſon ſhould prove dry, the plants muſt be duly watered, otherwiſe they will run up to ſeed before they are of any ſize; therefore there ſhould be a channel made where every row of plants grows, to detain the water which is poured on them. In the autumn, if there ſhould happen ſharp froſts, it will be very proper to cover the plants with ſome Peas-haulm, or other light covering, to prevent their being pinched; by which method they may be continued for uſe till the middle of winter.

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[f] Lewis.

A ſmall bed of this plant will be ſufficient at each ſowing for a middling family; and for a large family, a bed of about twenty feet long, and four feet broad, will be full enough at a time.

ANGELICA. (*From the angelic, or ſuppoſed ſuper-excellent qualities of the roots and ſeeds.*)
Lin. gen. n. 347. *Reich.* 377. *Schreb.* 479. *Juſſ.* 222. *Gærtn. t.* 85.
Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ*, or *Umbelliferæ*.

GENERIC CHARACTER.

Cal. *Univerſal umbel* manifold, roundiſh: *partial*, when flowering exactly globular. *Univerſal involucre* three-or five-leaved, ſmall: *partial* eight-leaved, ſmall. *Proper perianth* five-toothed, ſcarcely obſervable.

Cor. *Univerſal* uniform: floſcules all fertile: *partial*, petals five, equal, lanceolate, flattiſh, incurved, caducous.

Stam. *Filaments* ſimple, longer than the corolla: *anthers* ſimple.

Pist. *Germ* inferior: *ſtyles* reflex: *ſtigmas* obtuſe.

Per. none. *Fruit* roundiſh, angular, ſolid, bipartile.

Seeds two, ovate; flat on one ſide, and margined; convex on the other, ſcored with three lines.

ESSENTIAL CHARACTER.

Fruit roundiſh, angular, ſolid, with reflex ſtyles. *Corollas* equal, with petals bent inwards.

SPECIES.

1. Angelica Archangelica. *Garden Angelica.*
Lin. ſpec. 360. *Reich.* 1. 691. *lapp. n.* 101. *ſuec. n.* 245. *mat. med.* 80. *Gærtn. fruct.* 2. 29. *Fl. dan. t.* 206. *Plenck. ic.* 197. *Riv. pent. t.* 15. *Blackw. t.* 496. *Crantz umb. p.* 65. *Hall. helv. n.* 807. *Scop. carn. n.* 326. *Krock. ſiles. n.* 431. *Raii hiſt.* 434. *Ger.* 846. 1. *emac.* 999. 1. *Park. theat.* 940. 1.
Ang. ſativa. *Mill. dict. n.* 1.
β. Ang. Archangelica. *Mill. dict. n.* 2. *Tabern. icon.* 82. *Raii hiſt.* 434. 3. *Ger. emac.* 1000. 3. *Park.* 940. 4.
The odd leaflet of the leaves lobed.

2. Angelica ſylveſtris. *Wild Angelica.*
Lin. ſpec. 361. *Reich.* 1. 691. *ſuec. n.* 246. *lapp. n.* 102. *Hudſ. angl.* 118. *With.* 290. *Hall. helv.* 806. *Rivin. pent. t.* 17. *Moriſ. hiſt. ſ.* 9. *t.* 3. *f.* 2. *Ger.* 846. 2. *emac.* 999. 2. *Park. theat.* 940. 2. *Scop. carn. n.* 327. *Pollich palat. n.* 285. *Plenck. ic. t.* 198. *Krock. ſiles. n.* 432. *Villars dauph.* 2. 628. *Bauh. hiſt.* 3. 6. 144. *Raii hiſt.* 434. 2.
Leaflets equal, ovate-lanceolate, ſerrate.

[3. Angelica verticillaris.
Lin. ſyſt. 284. *Reich.* 1. 691. *mant.* 217. 561. *Jacqu. hort.* 2. *t.* 130. *Allion. pedem. n.* 1311. *Krock. ſiles. n.* 433.
Leaves very much divaricate, leaflets ovate, ſerrate, ſtem verticilled with peduncles.]

4. Angelica atropurpurea. *Purple Angelica.*
Lin. ſpec. 361. *Reich.* 1. 692. *mant.* 354. *Corn. canad.* 198. *t.* 199. *Raii hiſt.* 436. 7.
The outermoſt pair of leaves coadjoined; the terminal leaf petioled.

5. Angelica lucida. *Shining Angelica.*
Lin. ſpec. 361. *Reich.* 1. 692. *hort. cliff.* 97. *upſ.* 62. *Jacqu. hort.* 3. 16. *t.* 24. *Corn. canad.* 196. *t.* 197. *Mor. hiſt. ſ.* 9. *t.* 3. *f.* 8. *Park. theatr.* 949. *f.* 3. *Raii hiſt.* 435. 7.
Leaflets equal, ovate, gaſh-ſerrate.

[6. Angelica Razulii.
Allion. pedem. n. 1310. *Gouan. illuſtr. p.* 13. *t.* 6. *Tourn. ſchol. bot.* 167.
Panax alpina, &c. *Bocc. t.* 99.
Leaves bipinnate, leaflets lanceolate, ſerrate, decurrent.

DESCRIPTIONS, &c.

Theſe are all hardy, biennial or perennial plants. The umbel of flowers is large, ſpreading, and compoſed of many rays; the partial umbels are globular. The leaves are large, and moſtly bipinnate.

1. Root thick, branched, very long, brown on the outſide, white within. Leaves pinnate, with the extreme leaflet three-lobed. Univerſal umbel copious, rays (ſixty) angular; partial globular. Involucre frequently one-leafed; involucels many-leaved (ten), linear, reflex. Petals ovate, acute, greeniſh or pale purple, caducous. Filaments white[a]. Fruit elliptic, ſwelling, lens-ſhaped, ſlightly emarginate at both ends, grooved and winged, whitiſh or pale ſtraw-colour; ſplitting into two ſeeds, which are convex on one ſide, with a ſtiff marginal wing, and three on the back ſimilar to it; flat on the other ſide, with a ſingle raiſed longitudinal ſtreak. This is the ſtructure of the ſeeds in the garden plant; the wild one has no dorſal wings, but only three curved riſings, and thoſe very low ones[b]. Scopoli remarks, that in this ſpecies, the back of the ſeed is more convex (than in the ſylveſtris), and truly furrowed; ſo that it cannot be ſaid to be marked with lines, but to be really angular.

Native of the northern parts of Europe. It flowers with us from june to auguſt; and was cultivated here in 1568[c].]

β. Mr. Miller makes a diſtinct ſpecies of the Angelica, which grows naturally in Hungary and ſome parts of Germany. He affirms, that from many years experience in the culture of this plant, he could never obſerve any alteration in it; for all the plants which he raiſed from ſeeds, proved exactly the ſame as the parent plant, and when planted in the ſame ſoil with the common ſort, they were twice their ſize. The leaves were alſo much larger, and deeper ſawed on the edges, the umbels much larger, and the flowers were yellow.

[The ſtalks of Garden Angelica were formerly blanched, and eaten as Celeri. The young ſhoots are in great eſteem among the Laplanders. In Norway bread is ſometimes made of the roots.] The gardeners near London, who have ditches of water running through their gardens, propagate great quantities of this plant, for which they have a great demand from the confectioners, who make a ſweetmeat with the tender ſtalks of it cut in may. [The roots are one of the principal aromatics of european growth, though not much regarded in the preſent practice. The other parts of the plant have the ſame flavour, but their active principles are far more periſhable. The ſeeds, which come neareſt to the roots, can ſcarcely be kept till the ſpring after they are gathered[d]. Theſe however are the only part of the plant which is ordered by the London college, and that only in compound ſpirit of aniſeed. The college formerly directed the roots brought from Spain to be kept in the ſhops; but they are probably more efficacious on their native northern mountains; and accordingly that direction is now dropped.

2. Our *Wild Angelica* grows to the height of ſix feet, with a ſmooth ſtem. Leaf-ſtalks channelled on the upper ſurface, widening below into a large membranaceous ſheath incloſing the ſtem. Leaves large and pinnate, as in the firſt ſpecies; pinnas five and three-leaved; pinnules generally ovate, ſerrate, the ſerratures ending in a ſharp, reddiſh point. Peduncles riſing from the ſheaths of the leaf-ſtalks. Umbel very large and cloſe: univerſal involucre commonly none; but ſometimes it has one or two very ſmall, ſlender leaves. The umbel has as far as forty, and the umbellule eighty rays. Involucels permanent; leaflets 5—12, ſubulate, unequal. Petals nearly equal, white more or leſs tinged with purpliſh red. The fruit has four wings, and three ridges on each ſide[e].

It is perennial, and is found common in moiſt woods and hedges, and by the ſides of rivers, flowering in july and auguſt. This, poſſeſſing only the ſame properties with Garden Angelica in a far lower degree, has been long neglected. The herb however dyes a good yellow.

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[a] Linneus.
[b] Gærtner.
[c] Hort. kew. from Turner.
[d] Lewis.
[e] Haller, Withering, Relhan.

3. Height of the ſtem ſix feet and more, with a glaucous bloom on it. Flowering branches four or five in verticils, two or three; with one peduncle above another to the top of the ſtem. Leaves decompound: petioles full, or not fiſtulous, knotted at the baſe; leaflets ſmooth, green, not lucid, the outmoſt not decurrent. Umbel not convex, nor cloſe. Flowers green: petals minute, inflex, entire. Seeds cordate-orbiculate, obtuſe, poliſhed, much compreſſed[a]. A native of Italy and Sileſia. Introduced in 1774, by M. Richard[b].

4. Stem ſix feet high, fiſtulous, jointed, poliſhed, dark purple, with a glaucous bloom. Common petioles ſheathing, ſtreaked; partial compreſſed, channelled. Leaflets oblong, ſublobate with the ſerratures white at the tip, veined, naked, pale underneath, and moſtly ſeſſile. Umbels terminal three; ſheaths two, oppoſite, purple, leafy at the top. Common peduncle round: partial angular, or furrowed: proper poliſhed. No involucre. Involucels with twelve ſubulate leaflets, the length of the umbellule, which is hemiſpherical. Petals incurved, ſhorter than the ſtamens, ferruginous without, purple within. Receptacle and ſtamens green. Seeds convex, three-keeled[c]. A native of North America. It was cultivated by Mr. Miller, in 1759[d].

5. The whole plant is ſmooth. Root biennial. Stem from a foot to two feet in height, the thickneſs of a finger at leaſt, round, ſometimes ſtraight, ſometimes flexuoſe, branched, hollow, ſtriated eſpecially towards the top. Leaves bipinnate, riſing from a large, ſtriated ſheath. Root-leaves tripinnate. Leaflets lanceolate or ovate, the outmoſt confluent with the next pair. Umbels and umbellules convex and cloſe: rays ſtriated: univerſal involucre of about five narrow-lanceolate, mucronate leaflets; the leaflets of the partial involucre are about as many as there are outer rays of the umbellule; they are ſubulate and acuminate: petals of a dirty whitiſh or very pale yellow colour: anthers twin, yellowiſh. Seeds brown, of a hot aromatic flavour, with little ſmell. It flowers in june, and the ſeeds ripen in auguſt[e]. Native of Canada.

6. Root perennial, thick, deeply fixed into rocks. It has the appearance of the firſt ſpecies. Stem three feet high, angular, ſtreaked and ſmooth; branches only three or four. Primordial leaves like thoſe of Elder, triangular, ternate; the two lower oppoſite pinnules quinate; the leaflets lanceolate, ſerrate, pubeſcent beneath. The root and lower ſtem-leaves are alſo triangular, and almoſt a foot long; they conſiſt uſually of five pinnules; the lower ones have four pairs of leaflets, with an odd one; the ſecond three, or two only; the terminating pinnule has uniform, ſeſſile, lanceolate, ſerrate leaflets, the ſerratures ending in a tender awn or point: theſe leaflets are decurrent. The upper ſurface of the leaves is green and ſmooth; the lower aſh-coloured and pubeſcent. Umbel very large, hemiſpherical, conſiſting of about eighty unequal rays, from two to three inches in length, cinereous-pubeſcent. In place of an univerſal involucre there is a ſlender briſtle-ſhaped leaflet, one-third of an inch in length. Involucels briſtle-ſhaped, with from four to ſix leaflets. Corollas before they unfold bright purple, afterwards white. Germs hoary, pubeſcent; fruits ovate-oblong, with three ribs on the back, appearing wrinkled and hirſute with a magnifying glaſs. Some of the umbels ſeem to be hermaphrodite, and others female[f]. Native of the Apennines and Piedmonteſe mountains. It was found on the former by M. Raſouls, an apothecary at Perpignan, whence the trivial name.

PROPAGATION AND CULTURE.

All the ſorts may be increaſed by ſeeds.]

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[a] Linneus.
[b] Hort. kew.
[c] Linneus.
[d] Hort. kew.
[e] Jacqu. hort.
[f] Gouan.

The common Angelica delights to grow in a very moiſt ſoil; the ſeeds of this plant ſhould be ſown ſoon after they are ripe, for if they are kept until the ſpring, ſeldom one ſeed in forty will grow. When the plants are come up about ſix inches high, they ſhould be tranſplanted at a large diſtance, for their leaves extend very wide; the beſt place for this plant is upon the ſides of ditches, or pools of water; where being planted about three feet aſunder, they will thrive exceedingly. The ſecond year after ſowing, they will ſhoot up to flower; therefore if you have a mind to continue their roots, you ſhould cut down theſe ſtems in may, which will occaſion their putting out heads from the ſides of the roots, whereby they may be continued for three or four years; whereas, if they had been permitted to ſeed, their roots would periſh ſoon after; where it is cultivated for the ſeeds, there ſhould be new plantations annually made to ſupply the places of thoſe which die, for when they are permitted to ſeed, they laſt but two years.

[ANGELICA. See *Ægopodium*, *Chærophyllum*, *Cicuta*, *Laſerpitium*, *Selinum*, *Smyrnium*.

ANGELICA-TREE. See *Aralia*.

ANGIOPTERIS. See *Onoclea*.

ANGRÆCUM. See *Epidendrum*.

ANGUILLARIA. See *Ardiſia*.]

ANGUINA. See *Calla* and *Trichoſanthes*.

[ANGURIA. (*Modern Greek*; *from* Ἄγγος, *a veſſel.*) *Lin. gen. n.* 1037. *Reich.* 1129. *Schreb.* 1399. *Jacqu. amer.* 242. *Juſſ.* 395.

Claſſ. 21. 2. Monoecia Diandria.

Nat. order of *Cucurbitaceæ*.

GENERIC CHARACTER.

* *Male flowers.*

CAL. Monophyllous, quinquefid, ſwelling at the baſe; *diviſions* lanceolate, ſhort.

COR. pentapetalous, ſpreading, growing to the border of the calyx.

STAM. *Filaments* two, oppoſite, inſerted into the calyx: *anther* creeping up and down.

* *Female flowers.*

CAL. and COR. as in the male.

STAM. *Filaments* as in the male, but no *anthers*.

PIST. *Germ* inferior oblong: *ſtyle* ſemibifid; *ſtigmas* bifid, acute.

PER. a *Pome* oblong, quadrangular, bilocular.

SEEDS very many, oval, compreſſed, neſtling.

ESSENTIAL CHARACTER.

MALE. *Calyx* five-cleft. *Corolla* five-petaled.

FEMALE. *Cal.* five-cleft. *Cor.* five-petaled. *Pome* inferior, two-celled, many-ſeeded.

SPECIES.

1. Anguria trilobata.
Lin. ſpec. 1376. *ſyſt.* 840. *Reich.* 4. 91. *Jacqu. amer.* 243. *t.* 156. *pict. p.* 119. *t.* 234. *Plum. ſpec.* 3. *ic.* 22.
Leaves three-lobed.

2. Anguria pedata.
Lin. ſpec. 1376. *Reich.* 4. 92. *Jacqu. amer.* 242. *t.* 155. *pict. t.* 233. *Plum. ic.* 23.
Leaves pedate, ſerrate.

3. Anguria trifoliata.
Lin. ſpec. 1376. *Reich.* 4. 92.
Cucumis triphyllus fructu variegato. *Plum. amer.* 85. *t.* 99.
Leaves ternate, quite entire.

DESCRIPTIONS, &c.

1. This plant has a very ſhining appearance. The leaves are alternate, large and three-lobed: the lobes oblong, acuminate, flat, entire except that they have a few toothlets on the edge; the outer ones uſually have a blunt appendicle with a terminating toothlet, reſembling the rudiment of a fourth and fifth lobe. Tendrils the length of the leaves. Peduncles of the male flowers ſolitary from the axils, long, and bearing at the end about twenty ſubaggregate, ſeſſile, inodorous, beautiful, vermilion-coloured flowers, opening ſucceſſively. They are perfectly thoſe of the next ſpecies, except that the petals are more round.

round[a]. Jacquin had not an opportunity of obſerving the female flowers. Native of Carthagena in South America; flowering there in june.

2. This is a perennial plant, climbing trees by means of long tendrils to the height of twenty feet. The old ſtems are woody, leafleſs and ſarmentoſe; the younger ones round, pliant, ſmooth and leafy. Leaves ternate, repand-ſerrate, acuminate, ſhining, petioled, alternate; leaflets petioled, the middle one lanceolate, the ſide ones pedate, a little ſhorter, and frequently difform. Peduncles of the male flowers racemed, longer than the leaves: of the females one-flowered, round, ſmooth, axillary, commonly two together. Flowers inodorous, with orange-coloured petals. Fruits an inch in length, the thickneſs of the middle finger, green with longitudinal white ſtreaks and ſhining. Seeds white. Plumier's figure has male and female flowers on the ſame plant. Jacquin has always found them on different plants; and yet from the analogy which this genus bears to Cucumbers, he ſuſpects that the *Anguria* may ſometimes be monoecous, as Plumier has repreſented it.

Native of St. Domingo, flowering in ſeptember, The fruit is ripe in december[b].

3. This differs, in having the leaves quite entire, and narrower; and ſeveral fruits collected together[c]. Native of St. Domingo.

Anguria. See *Cucurbita.*

Aniba. See *Cedrota.*

Anil. See *Indigofera.*

Anisifolium. See *Limonia.*

Anisomarathrum. See *Scandix.*]

Aniseed-tree. See *Illicium.*

Anisum or Aniſe. See *Pimpinella.*

——— africanum. See *Bubon.*

ANNŌNA. (*Anona.* Amer. *a meſſe.* Annona *and* Guanabanus *are barbarous words, that the ſound however may be kept, I name it* Annona, *on account of the fruit which is ſo grateful to the natives.* Lin. cliff.)

Lin. gen. n. 693. *Reich.* 751. *Schreb.* 945. *Juſſ.* 283. *Gærtn. t.* 138. 125.

Guanabanus. *Plum.* 10.

Claſſ. 13. 7. Polyandria Polygynia.

Nat. order of *Coadunatæ. Anonæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* three-leaved, ſmall: *leaflets* cordate, concave, acuminate.

Cor. *Petals* ſix, cordate, ſeſſile: the three alternate interior ones leſs. (Nectary.)

Stam. *Filaments* ſcarcely any: *anthers* very numerous, placed on the receptacle.

Pist. *Germ* roundiſh, placed on a roundiſh receptacle: *ſtyles* none: *ſtigmas* obtuſe, numerous, covering the whole germ.

Per. a *Berry,* very large, roundiſh, cloathed with a ſcaly bark, one-celled: (or a compound Berry, as in *Rubus.*)

Seeds very many, hard, ovate-oblong, placed in a ring, neſtling.

ESSENTIAL CHARACTER.

Cal. three-leaved. *Pet.* ſix. *Berry* many-ſeeded, roundiſh, with a ſcaly bark.

SPECIES.

1. Annona muricata. *Rough-fruited Cuſtard Apple,* or *Sour Sop.*

Lin. ſpec. 756. *ſyſt.* 508. *Reich.* 2. 628. *hort. cliff.* 222. 1. *mant.* 405. *Swartz obſ.* 220. *Gron. virg.* 61. 83. *Brown. jam.* 255. *Sloan. jam.* 2. *t.* 225. *Pluk. alm. t.* 134. *f.* 2. *and t.* 135. *f.* 2. *Comm. hort.* 1. *t.* 69. *Merian ſurin. t.* 14. *Jacqu. obſ.* 10. *t.* 5. *amer. pict. t.* 161.

Guanabanus. *Plum. gen. t.* 143. *f.* 1.

Araticu-Ponhe. *Marcg. braſ.* 93. *Piſ. braſ.* 69. *f.* 70. *Raii hiſt.* 1651. *n.* 5.

Leaves oval-lanceolate, ſmooth, acute; fruits muricate; petals ovate, the interior ones obtuſe, ſhorter.

2. Annona tripetala. *Broad-leaved Cuſtard Apple.*

Ait. hort. kew. 2. 252. *Trew ehret.* 16. *t.* 49. *Feuill. itin.* 3. *p.* 24. *t.* 17.

Ann. Cherimola. *Mill. dict. n.* 5.

Leaves ovate, acute, pubeſcent beneath; flowers three-petalled: petals lanceolate, coriaceous, tomentoſe.

3. Annona ſquamoſa. *Undulated Cuſtard Apple,* or *Sweet Sop.*

Lin. ſpec. 757. *ſyſt.* 508. *Reich.* 2. 629. *mant.* 405. *Swartz obſ.* 221. *Gærtn. fruct.* 2. 193. *Jacqu. obſ.* 13. *t.* 6. *f.* 1. *amer. pict. t.* 162. *Pluk. alm. t.* 134. *f.* 3. *Brown. jam.* 256. *Sloan. jam.* 2. *t.* 227. *Lour. cochinch.* 349.

A. tuberoſa. *Rumph. amb.* 1. 138. *t.* 46.

Atamaram. *Rheed. mal.* 3. *t.* 29. *Raii hiſt.* 1650. *n.* 1.

Leaves oblong, acute, ſmooth: fruits obtuſely ſcaled: outer petals lanceolate, inner ones minute.

4. Annona reticulata. *Netted Cuſtard Apple.*

Lin. ſpec. 757. *ſyſt.* 509. *Reich.* 2. 629. *Swartz obſ.* 222. *Jacqu. obſ.* 14. *t.* 6. *f.* 2. *amer. pict. t.* 264. *f.* 93. *Brown. jam.* 256. *Sloan. jam.* 2. *t.* 226.

Guanabanus fructu aureo et molliter aculeato. *Plum. gen.* 43.

Anona-maram. *Rheed. mal.* 3. *t.* 30. 31. *Raii hiſt.* 1650. *n.* 2. *and* 1651. *n.* 3.

Leaves oblong-lanceolate, acute, ſmooth: fruits ovate, reticulate-areolate; outer petals lanceolate, inner minute.

[5. Annona hexapetala. *Long-leaved Cuſtard Apple.*

Lin. ſuppl. 270.

Leaves elliptic-oblong, acute, ſmooth: petals ſpatulate, equal, acute.

6. Annona paluſtris. *Shining-leaved Cuſtard Apple.*

Lin. ſpec. 757. *ſyſt.* 509. *Reich.* 2. 629. *Swartz obſ.* 223. *Brown. jam.* 256. *Sloan. jam.* 2. *t.* 228. *f.* 1. *Pluk. alm. t.* 240. *f.* 6. *Raii dendr.* 78. *n.* 1.

Guanabanus paluſtris, fructu lævi viridi. *Plum.*

Leaves oblong, rather obtuſe, ſmooth; fruits areolate.]

7. Annona triloba. *Trifid-fruited Cuſtard Apple.*

Lin. ſpec. 758. *Reich.* 2. 630. *Mill. fig. t.* 35. *Cateſb. car.* 2. *t.* 85. *Trew ehret. t.* 5. *Duham. arb.* 1. *p.* 56. *t.* 19.

Leaves elliptic, acute, ſmooth: flowers pendulous, campanulate: calyxes ovate: petals many, oval.

[8. Annona glabra. *Smooth Cuſtard Apple.*

Lin. ſpec. 758. *Reich.* 2. 630. *Cateſb. car.* 2. *t.* 64.

Leaves lanceolate-ovate, fruits conoid ſmooth.]

9. Annona aſiatica. *Aſiatic Cuſtard Apple.*

Lin. ſpec. 758. *Reich.* 2. 630. *hort. cliff.* 222. 2. *fl. zeyl.* 225. *Burm. zeyl.* 21. *Lour. cochinch.* 350. *Plum. ſpec.* 43. *ic.* 143. *f.* 2. (Guanabanus.)

Leaves lanceolate, ſmooth, ſhining, marked with lines.

[10. Annona africana. *African Cuſtard Apple.*

Lin. ſpec. 758. *Reich.* 2. 630. *hort. cliff.* 222. 3. *Plum. gen.* 43. *Trew ehret. t.* 49. (Guanabanus.)

Leaves lanceolate pubeſcent.

DESCRIPTIONS, *&c.*

Theſe trees are natives of the hot climates of Aſia, Africa, and America: ſome of them are eſteemed for their fruits, which are commonly ſerved up at the tables of the principal inhabitants, in the countries where they grow.

The ſpecies require a more accurate examination than they have hitherto had; ſome having a ſimple, and others a compound pericarp; the radicle of the embryo in ſome being centripetal, in others centrifugal; they are probably not of the ſame natural genus[d].

1. The firſt ſpecies is a middle-ſized tree, rarely above twelve or fourteen, or at moſt twenty feet high. Trunk upright, with ſtiff, round, ſmooth branches, and a browniſh aſh-coloured bark. Leaves petioled, alternate, ſparſe, oblong, acuminate, entire, ſhining, firm, ſtiffiſh. Petioles ſhort. Peduncles axillary, ſolitary, thick, longer than the

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[a] Jacqu. amer.

[b] Ibid.

[c] Plumier.

[d] Gærtner.

petioles, one-flowered. Flowers coriaceous, yellow. Calyx one-leafed, triangular. Corolla three-petalled: petals acuminate, thick, concave, coriaceous, ſmooth, ſcabrous on the outſide, pale green. Nectary three-leaved; leaflets alternate with the petals, only half the ſize, ſubcordate, ſmooth, convex, yellow. Filaments ſcarcely any. Anthers rather pedicelled, ſubclavate, bivalve, whitiſh. Styles very ſhort, crowded together into a conical form. Stigmas oblique, hirſute after flowering time. Berry difform, cordate-oblong, muricate with prickles bowed back, fleſhy. Seeds oblong, black, with a lateral ſcar of a different colour, placed in a ring[a].]

Miller compares it with the fourth ſpecies, and remarks that this is not ſo large a tree, nor ſo well furniſhed with branches; the leaves are broader, have a ſmooth ſurface, without any furrows, and are of a ſhining green colour: the fruit is large, of an oval ſhape, irregular and pointed at top; being of a greeniſh yellow colour, and full of ſmall knobs on the outſide; the pulp is ſoft, white, and of an acid and ſweet taſte intermixed.

[It is a native of the Weſt-Indies, and is common in every ſavannah of Jamaica, flowering in the ſpring. The large ſucculent fruit is agreeable to new-comers, and over-heated habits; but it is ſo common, and ſo much in uſe among the negroes, that it is now hardly ever uſed among the better ſort of people[b]. The ſmell and taſte of the fruit, flowers, and whole plant, reſemble very much thoſe of Black Currants. There is a variety of it in Jamaica with inodorous leaves, larger flowers of a fulvous colour, and ſpherical mucronate fruits[c].

It was cultivated here in 1656, by Mr. John Tradeſcant, jun.[d]]

2. The ſecond ſort grows to a very large tree in South America, and is well furniſhed with branches. Leaves bright green, much larger than thoſe of any other ſpecies. The fruit is oblong, ſcaly on the outſide, and of a dark purple colour when ripe; the fleſh is ſoft and ſweet, and has many brown ſeeds intermixed with it, which are very ſmooth and ſhining. This fruit is eſteemed by the Peruvians as one of their moſt delicate ſorts. [It was cultivated in 1739, by Mr. Miller[e].

3. The third ſort is a ſmall tree, about eight feet in height, and is frequently rather a ſhrub. The trunk is ſmooth, and the branches ſpreading and round. Leaves alternate, acuminate, entire, nerved, ſmooth on both ſides, glaucous on the back. Petioles ſhort, round, ſmooth, thickened at the baſe. Flowers peduncled, uſually in pairs, oblong, acuminate, green without, whitiſh within. Peduncles below the petioles, longer, one-flowered. Calyx one-leafed, triangular. Petals three, lanceolate, triquetrous, plane-convex without, ſharp at the tip, excavated within at the baſe, dark purple, ſmooth. Nectary none. Filaments ſcarcely any. Anthers imbricate, preſſed cloſe to the germ, obtuſe, two-valved. Styles ſhort, thick, imbricate. Stigmas oblong, oblique. Berry oval: ſcales adnate, roundiſh, bluiſh, reſembling ſubimbricate teats. Seeds flatted a little, black with a white ſcar on the ſide, wrapped in a ſucculent cottony ſubſtance[f]. It is a native both of the Eaſt and Weſt-Indies. The fruit is ſweet, and is eaten in thoſe countries. It was cultivated in 1739, by Mr. Miller[g].]

4. The fourth ſort is a tree which grows to the height of twenty-five feet or more, with ſpreading branches; the bark is ſmooth and of an aſh-colour. The leaves are of a light green colour, and have ſeveral deep tranſverſe ribs, ending in acute points.

[They are alternate in two rows, elongate, broad, rounded at the baſe, acuminate with a blunted tip, entire about the edge, veined, ſmooth on both ſides. Petioles gibbous, ſhort, excavated, ſmooth. Flowers three or four cloſe together, peduncled, nodding, whitiſh, the ſame ſize as in *A. ſquamoſa*. Petals three, linear, thick, three-cornered, blunt, unequal and brown on the outſide, yellowiſh white within, ſpotted with dark purple, excavated at the baſe. The Nectary conſiſts of three very minute, oblong, blunt petals, at the baſe of the genuine petals. The body of ſtamens and piſtils is roundiſh, minute, whitiſh. The fruit is roundiſh, heart-ſhaped, the rind ſometimes reticulate, thick, brown, ſhining[h].] Miller deſcribes it as of a conical form, as large as a tennis-ball, of an orange colour when ripe, having a ſoft, ſweet, yellowiſh pulp, the conſiſtence of a cuſtard, whence the name. [It is a native both of the Eaſt and Weſt-Indies; and, according to Browne, the fruit is much eſteemed by many people. Swartz ſays, that it is ſeldom eaten. It was cultivated in 1690, in the royal garden at Hampton Court[i].

5. This tree is very like moſt of the genus. The leaves are elliptic and ſmooth; the calyx three-leaved and minute; the ſix petals equal and oblong[k]. It is a native of China, and is cultivated in the Eaſt-Indies. It was introduced in 1758, by Hugh Duke of Northumberland[l]. Father Loureiro ſuſpects that this is not different from the third ſort, both having uſually no more than three petals, though ſometimes the corolla may be double.

6. The ſixth ſort is a ſmall tree, only a fathom in height, or little more. Branches round, ſcabrous, aſh-coloured; twigs ſmooth, alternate, patulous. Bark tenacious, and may be drawn out into long threads for making ropes. Leaves petioled, alternate, ſpreading, ovate, ſcarcely acuminate, entire, beautifully nerved, very ſmooth, coriaceous, a little recurved. Flowers peduncled, towards the ends of the branches. Peduncle ſolitary, the length of the petioles, round, one-flowered, below the petiole, ſmooth. Flower yellow, the ſame ſize as in *A. muricata*. Calyx three-parted, almoſt triangular. Petals three, concave, roundiſh with a ſhort point, thick, coriaceous, veined on the outſide, ſmooth and paler on the inſide, with blood-red ſpots at the baſe. The nectary conſiſts of three petals, ſhorter by half than the three others, narrower, acute, concave, white without, dark blood-red within. Filaments crowded, fixed to the receptacle below the piſtil. Anthers oblong, angular, blunt, white. Germs crowded into a convex, green body. Styles ſcarcely any. Stigmas blunt, pale. Berry heart-ſhaped, very ſmooth, with a coriaceous, pulpy rind[m].

It grows wild in ſoft marſhy places in Jamaica; and bears a fine ſweet-ſcented fruit, of no diſagreeable flavour; but it is ſaid to be a ſtrong narcotic, and is not eaten on that account. It is called *Alligator Apple*. The wood of this tree is ſo very ſoft, even after it is dried, that it is frequently uſed by the country people inſtead of corks, to ſtop up their jugs and calabaſhes; whence it has now univerſally obtained the name of *Cork-wood* in Jamaica[n].

It was introduced here in 1778, by Thomas Clarke, M. D.[o]

7. The trunk of this tree is ſeldom bigger than the ſmall of a man's leg, and riſes about ten or twelve feet high, having a ſmooth, greeniſh-brown bark. In march, when the leaves begin to ſprout, its bloſſoms begin to appear, conſiſting each of ſix greeniſh-white petals. The fruit grows in cluſters of three, and ſometimes four together; they are at firſt green, and when ripe yellow, covered with a thin ſmooth ſkin, which contains a yellow pulp, of a ſweet luſcious taſte; in the middle of which lie in two rows, twelve ſeeds, divided by ſo many thin membranes. All parts of the tree have a rank, if not a fetid ſmell; and the fruit is reliſhed by few, except negroes. Theſe trees grow uſually in low ſhady ſwamps, and in a very fat ſoil[p].

Mr. Miller obſerves, that this is rather a ſhrub than a tree, and that the flowers, at leaſt in England, are of a ruſty purple colour. He mentions, that the largeſt plant he had ſeen, was in the Duke of Argyle's garden at Whitton, near Hounſlow, which produced flowers the beginning of may. It is a native of the Bahama iſlands, Carolina, Maryland, and Virginia; and the ſeeds are frequently brought to England, by the title of *Papaw-tree*[q]. It was introduced here in 1736, by Peter Collinſon, Eſq.[r]

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[a] Swartz. [b] Browne. [c] Swartz. [d] Hort. kew.
[e] Hort. kew. [f] Swartz. [g] Hort. kew.

[h] Swartz. [i] Hort. kew. [k] Linn. ſuppl. [l] Hort. kew.
[m] Swartz. [n] Browne. [o] Hort. kew. [p] Cateſby.

8. This ſhrub or ſmall tree grows to the height of about ſixteen feet, covered with a ſmooth, greeniſh bark. Leaves thick, ſtiff, and ſhaped like thoſe of the Lemon. The fruit is covered with a ſmooth, yellowiſh-green ſkin; the pulp is of the conſiſtence of a ripe pear, and contains many conic, brown ſeeds. This is an eatable fruit, very ſweet, but ſomewhat inſipid: it is the food of Guanas, and many other wild creatures[s]. It is a native of North America.

9. This is a middle-ſized tree, with ſpreading branches. Leaves quite entire, alternate, petioled. Flower pale, ſingle on binate peduncles. Petals three, oblong-conical, incurved, erect. Germs ſuperior, uniting, as they ripen, into an oblong-conical berry, five inches long, red and ſmooth on the outſide, filled with a whitiſh, ſweet, eatable pulp, but inferior in flavour to the third ſort[t].

Native of the Eaſt-Indies. Cultivated there and in China.

10. The branches are rugged with little dots. The leaves pubeſcent on both ſides, ſo as to be hoary, and not at all ſhining[u].

This, though it has the name of *africana*, is ſaid to be a native of America.

Theſe fruits are much eſteemed by the natives of the countries where they grow naturally, are eſteemed very cooling and wholeſome, and are frequently given to ſick perſons.]

PROPAGATION AND CULTURE.

The ſeventh ſort will thrive in the open air in England, if it is planted in a warm ſituation; but the plants ſhould be trained up in pots, and ſheltered in winter for two or three years, until they have acquired ſome ſtrength; then they may be turned out of the pots in the ſpring, and planted in the full ground, where they are to remain. This ſort produced flowers in the curious garden of his grace the duke of Argyle, at Whitton, near Hounſlow, where it grew in the open air for ſome years, as alſo in the nurſery of the late Mr. Gray, near Fulham. The ſeeds are frequently brought to England from North America, they are much larger than thoſe of the other ſpecies, and many plants have been raiſed in the gardens near London. The ſhape of the leaves is alſo different; this caſts its leaves in autumn, whereas all the others retain their leaves, never caſting them until the ſpring, when the new leaves come out. The fruit is very different from thoſe of the other ſpecies, two or three growing together at their foot-ſtalks. When the ſeeds of this ſort are ſown, they frequently remain a whole year in the ground; therefore the earth in the pots ſhould not be diſturbed, where they are ſown, if the plants do not come up the firſt year; and the pots ſhould be ſheltered in winter, and the following ſpring if they are plunged into a new hot-bed, the plants will come up much ſooner than thoſe which are ſown in the open air, and will have more time to get ſtrength before the winter.

All the other ſorts, which are natives of the hot parts of America, or the Eaſt Indies, are too tender to live in this country, if they are not preſerved in warm ſtoves; they come up very eaſily from the ſeeds which are brought over, if they are freſh; but theſe ſeeds muſt be ſown on a good hot-bed, or in pots of light earth, and plunged into a hot bed of tanner's bark in february, which is by much the beſt time; becauſe when the plants come up early, they will have time to get ſtrength before the cold weather comes on in the autumn.

Theſe plants ſhould be kept in the bark-ſtove, and carefully managed, with which they will make great progreſs: but in warm weather they ſhould have plenty of freſh air admitted to them, for when the air is excluded from them too much, they are apt to grow ſickly, and are often attacked by vermin, which will multiply and ſpread over the whole ſurface of the leaves, and cauſe them to decay; but when carefully managed, their leaves will continue green all the winter, and make a very good appearance in the ſtove at that ſeaſon.

As theſe plants advance in their growth, they ſhould be ſhifted into larger pots; but this muſt be done with caution, for nothing is more prejudicial to them than over-potting them. They muſt alſo conſtantly remain in the tan-bed, otherwiſe they will make but little progreſs, for although they will live in a dry ſtove, yet they will make little progreſs, nor will their leaves appear ſo fine, as when they are preſerved in a vigorous growing ſtate; and it is more for the beauty of their leaves, than any hopes of their producing fruit in this country, that they are preſerved in ſtoves: for though ſome of the ſorts have produced flowers in England, yet none have ever ſhewn their fruit here.

Some of theſe plants are twelve or fourteen feet high in our gardens, and there were plants of the ſeventh ſort in the garden at Chelſea, which were more than twenty feet high, and produced flowers two or three years. The ſtove in which theſe plants are placed, ſhould, during the winter ſeaſon, be kept to the Ananas heat, marked on the botanical thermometers. The earth ſhould be light and rich in which they are planted, and the tan-bed ſhould be frequently turned over and refreſhed. Their waterings muſt be frequent in ſummer, but not in too great quantity. In the winter they muſt have it but ſeldom, a little once a week in open weather, and, in froſt, once in a fortnight or three weeks will be ſufficient.

[Anoda. See *Sida*.

Anona. See *Achras*. *Annona*. *Chriſophyllum*. *Cratæva*. *Sloanea*.

Anonis. *See Glycine*. *Hediſarum*. *Ononis*. *Sophora*.

Anotta. See *Bixa*.

Anserina. See *Potentilla*.

Antanisophyllum. See *Boerhaavia*.

Antennaria. See *Gnaphalium*.

Anteuphorbium. See *Cacalia*.]

ANTHĔMIS. (Ανθεμις, *Dioſc.* Ἀνθεω, *floreo, from its abundance of flowers, or from its luxuriance.)*

Lin. gen. 970. *Reich.* 1052. *Schreb.* 1312. *Juſſ.* 185. Chamæmelum *Tourn.* 281. & *Vaill. act. gall.* 1720. *Gærtn.* Anthemis *Mich. gen.* 30. Buphthalmun *Tourn.* 282.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of *Compoſitæ Diſcoideæ*. *Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* hemiſpherical: *ſcales* linear, ſubequal.

Cor. *Compound* radiate. *Corollules* hermaphrodite, tubular, numerous in a convex diſk. *Females* more than five in the ray.

Proper of the *hermaphrodite* funnel-ſhaped, five-toothed, erect—of the *female* ligulate, lanceolate, ſometimes three-toothed.

Stam. in the hermaphrodites: *fil.* five, capillary, very ſhort: *anther* cylindrical, tubular.

Pist. in the herm. *Germ* oblong: *ſtyle* filiform, the length of the ſtamens: *ſtigmas* two reflex—in the females, *germ* oblong: *ſtyle* filiform, the length of the hermaphr. *ſtigmas* two revolute.

Per. none. *Calyx* unchanged.

Seeds ſolitary, oblong: *down* margined or none.

Rec. chaffy, convex, or conical.

ESSENTIAL CHARACTER.

Rec. chaffy. *Down* none. *Cal.* hemiſpherical, nearly equal. *Floſcules* of the ray more than five.

SPECIES.

* *With a diſcolour or white ray.*

1. Anthemis Cota.

Lin. ſpec. 1259. *Reich.* 3. 859. *mant.* 474. *ſyſt.* 776. *Mich. gen.* 32.

Chamæmelum annuum, &c. *Mor. hiſt.* 3. *ſ.* 6. *t.* 8. *f.* 11. *for* 12. *Tilli piſ. t.* 19. *f.* 2.

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[q] Miller's figures.
[r] Hort. kew.
[s] Cateſby.
[t] Loureiro.
[u] Lin. cliff.

Bellis montana, &c. *Pluk. alm. t.* 17. *f.* 5.

Chaffs of the flowers rigid, pungent.

2. Anthemis altiſſima. *Tall Chamomile.*

Lin. ſpec. 1259. *Reich.* 3. 860. *mant.* 474. *Gouan. hort.* 450. *Sauv. monſp.* 265. *D'Aſſo aragon. n.* 848. *Bauh. hiſt.* 3. 120. *Raii hiſt.* 356. 8. *Bauh. pin.* 135. *prodr.* 70.

Erect, with leaves pinnate; the baſes of the pinnas rough with a reflex toothlet.

3. Anthemis maritima. *Sea Chamomile.*

Lin. ſpec. 1259. *Reich.* 3. 860. *Hudſ. angl.* 374. *With.* 935. *Mich. gen.* 33. *Tilli. piſ. t.* 19. *f.* 3. *Bauh. hiſt.* 3. 122. 1. *Raii hiſt.* 355. 5. *ſyn.* 186. (Chamæmelum).

Leaves pinnate, toothletted, fleſhy, naked, dotted; ſtem proſtrate; calyxes rather tomentoſe.

4. Anthemis tomentoſa. *Downy Chamomile.*

Lin. ſpec. 1260. *ſyſt.* 776. *Reich.* 3. 861. *hort. cliff.* 415. 3. *mant.* 474. *Gouan. illuſtr.* 70. *Fl. dan. t.* 685? *Vaill. act. par.* 1720. *n.* 319. (Chamæmelum).

Leaves pinnatifid, obtuſe, flat, peduncles ſhaggy, leafy; calyxes tomentoſe.

5. Anthemis mixta. *Simple-leaved Chamomile.*

Lin. ſpec. 1260. *Reich.* 3. 861. *Guett. ſtamp.* 2. 347. *Gouan. illuſtr.* 71. *Mich. gen.* 32. *t.* 30. *f.* 1. *Pluk. alm. t.* 17. *f.* 4.

Chamæmelum annuum ramoſum, coronopi folio, flore mixto. *Mor. hiſt.* 3. *ſ.* 6. *t.* 18. *f.* 15.

Ch. luſitanicum latifolium, ſeu coronopi folio. *Breyn. cent. t.* 74.

Leaves ſimple, jagged, toothed.

[6. Anthemis alpina. *Alpine Chamomile.*

Lin. ſpec. 1261. *ſyſt.* 776. *Reich.* 3. 861. *mant.* 474. *Amæn.* 4. 330. *Jacqu. auſtr.* 5. *t.* 30.

Chamæmelum alpinum ſaxatile perenne, flore albo ſingulari, calyce nigricante. *Tilli. piſ. t.* 19. *f.* 1. *Segu. ver.* 3. *p.* 282.

Leaves tooth-pinnate, quite entire, linear; ſtem villoſe, one-flowered; petals ovate, chaffs ſphacelate.

7. Anthemis chia. *Cut-leaved Chamomile.*

Lin. ſpec. 1260. *Reich.* 3. 862. *hort. cliff.* 415. 4.

Chamæmelum chium vernum, folio croſſiere, flore magno. *Tourn. cor.* 37.

Leaves pinnatifid, jagged: peduncles naked, ſubvilloſe.]

8. Anthemis nobilis. *Common* or *Sweet Chamomile.*

Lin. ſpec. 1260. *Reich.* 3. 862. *mant.* 474. *mat. med.* 189. *Hudſ. angl.* 373. *With.* 936. *Woodv. med. bot.* 283. *t.* 103. *Hall. helv. n.* 102. *Blackw.* 298. 1. & 526. *Krock. ſileſ. n.* 1434.

Chamæmelum romanum. *Ger.* 616. 4. *emac.* 755. 4. —odoratum. *Dod. pempt.* 260. 1.—odoratiſſimum repens. *Bauh. hiſt.* 3. 118. *Raii hiſt.* 353. *ſyn.* 185. *Pet. brit. t.* 19. *f.* 10.

Leaves pinnate-compound, linear, acute, ſubvilloſe.

[9. Anthemis arvenſis. *Corn Chamomile.*

Lin. ſpec. 1261. *Reich.* 3. 862. *ſuec. n.* 768. *Hudſ. angl.* 373. *With.* 937. *Hall. helv. n.* 103. *Scop. carn. n.* 1091. *Pollich. palat. n.* 816. *Krock. ſileſ. n.* 1435. *Leers herborn. n.* 666.

Chamæmelum inodorum. *Bauh. pin.* 135. *Raii ſyn.* 184.

Buphthalmum album. *Petiv. brit. t.* 19. *f.* 8.

Receptacles conic, chaffs briſtle-ſhaped; ſeeds crown-margined; leaves thinly downed.

10. Anthemis auſtriaca. *Auſtrian Chamomile.*

Lin. ſyſt. 776. *Jacq. auſtr.* 5. 22. *t.* 444.

Chamæmelum Triumfetti. *Allion. pedem. n.* 680.

Receptacles conic, chaffs oblong, mucronate, ſeeds naked, leaves bipinnate woolly-villoſe.

11. Anthemis Cotula. *Stinking Chamomile* or *May-weed. Maithes, Maithen,* or *Mather.*

Lin. ſpec. 1261. *Reich.* 3. 863. *ſuec.* 767. *mat. med.* 190. *Hudſ. angl.* 373. *With.* 938. *Hall. helv.* 104. *Curtis lond.* 5. 61. *Scop. carn. n.* 1092. *Pollich. pal. n.* 817. *Leers herborn. n.* 667. *D'Aſſo aragon. n.* 851. *Krock. ſileſ. n.* 1436.

Chamæmelum foetidum. *Bauh. pin.* 135. *Raii hiſt.* 355. 3. *ſyn.* 185. *Bauh. hiſt.* 3. 121. 1. *Mor. hiſt. ſ.* 6. *t.* 12. *f.* 8, 10. *Petiv. brit. t.* 19. *f.* 11. *Ger. emac.* 757. 1. *Park. theat.* 87. 9.

Receptacles conic, chaffs briſtly, ſeeds naked, leaves ſmooth.]

12. Anthemis Pyrethrum. *Spaniſh Chamomile,* or *Pellitory of Spain.*

Lin. ſpec. 1262. *Reich.* 3. 864. *hort. cliff.* 414. *upſ.* 263. *mat. med.* 100. *Woodv. med. bot.* 286. *t.* 104. *Gouan. hort.* 451. *Mill. fig. t.* 38. *Blackw. t.* 390. *Krock. ſileſ. n.* 1437.

Chamæmelum ſpecioſo flore, radice longa fervida. *Shaw. afr.* 138.

Pyrethrum flore bellidis. *Bauh. pin.* 148. *Raii hiſt.* 353.

P. vulg. officin. *Ger.* 618. 1. *emac.* 758. 1. *Park. theat.* 858. *n.* 2. 859. *f.* 2.

Stems ſimple, one-flowered, decumbent, leaves pinnate multifid.

** *With a concolour* or *yellow ray.*

13. Anthemis valentina. *Purple-ſtalked Chamomile.*

Lin. ſpec. 1262. *Reich.* 3. 864. *hort. cliff.* 414. *Gouan. hort.* 451. *Mill. fig.* 73.

Buphthalmum creticum cotulæ folio. *Breyn. cent. t.* 75. *Dalech. hiſt.* 863. *Raii hiſt.* 341. 11.

Stem branching, leaves pubeſcent, tripinnate, briſtle-ſhaped, calyxes villoſe, peduncled.

[14. Anthemis repanda. *Repand-leaved Chamomile.*

Lin. ſpec. 1262. *Reich.* 3. 865.

Leaves ſimple, ovate-lanceolate, repand-crenate.

15. Anthemis trinervia. *Three-nerve-leaved Chamomile.*

Lin. ſyſt. 777. *ſuppl.* 378.

Leaves ovate, ſerrate, three-nerved, oppoſite, petiolate, receptacle conic.

16. Anthemis americana, *American Chamomile.*

Lin. ſyſt. 777. *Reich.* 3. 865.

Leaves triternate, peduncles terminal, longer than the branch.]

17. Anthemis tinctoria. *Yellow Chamomile* or *Ox-eye.*

Lin. ſpec. 1263. *Reich.* 3. 865. *ſuec. n.* 769. *Fl. dan. t.* 741. *Hudſ. angl.* 374. *With.* 938. *Pollich. palat. n.* 818. *Krock. ſileſ. n.* 1438. *Leers herborn. n.* 668.

Chryſanthemum foliis tanaceti. *Loeſ. pruſſ.* 47. *t.* 9. *Pet. brit. t.* 19. *f.* 7.

Buphthalmum. *Ger.* 607. 3. *emac.* 747. *Park.* 1370. 10. *Bauh. hiſt.* 3. 122. 2. *Raii hiſt.* 341. 9. *ſyn.* 182.

Leaves bipinnate, ſerrate, tomentoſe underneath, ſtem corymbed.

18. Anthemis arabica. *Arabian Chamomile.*

Lin. ſpec. 1263. *Reich.* 3. 866. *hort. cliff.* 413. *t.* 24. *upſ.* 264. *Smith. ſpicil.* 10.

Aſteriſcus annuus trianthophorus *Craſſas* arabibus dictus. *Shaw. afr.* 58.

Stem decompound, calyxes branch-bearing.

[19. Anthemis odorata. *Shrubby Chamomile.*

Ait. hort. kew. 3. 238.

Leaves pinnatifid at the tip, peduncles elongate, calyxes membranaceous, ray barren.

DESCRIPTIONS, &c.

1. Peduncles very little ſwelled at top. Calyx contracted, with ſcales ſcarcely to the ſight black at the tips. Diſk of the fructiferous flower hemiſpherical, with a flat calyx, the ſize of a plum, the largeſt therefore of the genus[a]. A native of Italy and Spain; growing in ploughed fields. Annual.

2. Stem many-flowered, almoſt overtopping the corn, ſtreaked, erect. Peduncles a little ſwelling out at top. Calyxes ſmooth. Chaffs broad, ſubtruncate, terminated by a ſomewhat ſtiff briſtle, the length of the calyx. Leaves multifid-compound with acuminate teeth; the points pale, reſembling ſpines[b]. Annual; and grows wild in the ſouth of France, Italy and Spain. It was cultivated in 1748. by Mr. Miller[c].

3. Stems widely proſtrate, ſmooth, purpliſh. Leaves pinnate, gaſhed, naked, ſprinkled with hollow dots, towards the baſe more cloſely toothed, under the baſe with a tranſverſe raiſed purpliſh line.

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[a] Linn. mant.

[b] Linn.

[c] Hort. kew.

Peduncles terminal, ſolitary, ſubſtriated, pubeſcent, thicker towards the top. The flowers have the ſmell of Feverfew[d]. It grows wild about Montpellier, and in Italy; and flowers in july and auguſt.

4. Stems a foot high, one-flowered, leaves tomentoſe-ſilky. The two outer diviſions of the corolla larger than the others[e]. A native of the coaſts of Greece, Italy, and France.

5. The ray of the flowers white, but yellow at the baſe[f]. Annual. Grows wild in Italy and France. It was cultivated in 1731, by Mr. Miller[g].

6. Grows wild in the Tyroleſe Alps, Monte Baldo, Tubingen, Piedmont, *&c.* Perennial.

7. Obſerved by Tournefort in the iſle of Chios. It was cultivated in 1731, by Mr. Miller[h].

8. Root perennial. Stems trailing, hairy. Leaves bipinnate, pinnas rather diſtant, pinnules ſometimes with two or three clefts, pointed, hairy, grayiſh. Flowers ſolitary. Calyx hairy, with broad, ſhining, membranaceous edges. Florets of the circumference ſomewhat elliptical, either entire, or with two or three teeth; thoſe of the centre yellow[i]. Abundant in Cornwall, and in moſt of the dry commons in Surrey. Flowering in july and auguſt.

The leaves and flowers of *Common Chamomile* have a ſtrong, not ungrateful ſmell, and a very bitter, nauſeous taſte. The latter are more bitter and conſiderably more aromatic than the leaves. The ſmell as well as the taſte is rather improved by careful drying, and does not ſoon ſuffer any conſiderable diminution in keeping[k]. An infuſion of the flowers is often uſed as a ſtomachic, and as an antiſpaſmodic. In large quantities it excites vomiting. The powdered flowers, in large doſes, have cured agues, even when the Bark had failed. Both the leaves and flowers poſſeſs very conſiderable antiſeptic properties, and are therefore uſed in antiſeptic fomentations and poultices. From their antiſpaſmodic powers they are frequently found to relieve pain, either applied externally, or taken internally[l]. In the London Pharmacopoeia, an extract of the flowers is directed: and beſides this, they are to be found only in *Decoctum pro Enemate* and *Decoctum pro Fomento.* The ſingle flowers are ordered to be kept, and with good reaſon, the white florets of the ray, which are multiplied in the double flowers, being almoſt taſteleſs: notwithſtanding this, double flowers only are to be found in the ſhops.

9. Root biennial. Stems many, proſtrate, diffuſed. Leaves hoary. Peduncles long, angular and furrowed, pubeſcent. Scales of the calyx ovate-lanceolate, the inner ones dilated at the tip with a ſcarioſe membrane. Chaffs lanceolate, keeled, acuminate. Seeds ſmooth, ſomewhat ſquared, ten-furrowed, crowned at the top. Receptacle ovate[m]. It is a common weed in corn in moſt parts of Europe; and flowers in june and july.

Linneus thus diſtinguiſhes this from the eleventh ſpecies, or *Stinking Mayweed.* The root is biennial. The appearance and ſtature is the ſame in both, but the ſtalks are more diffuſed in this; the peduncles longer, with only four or five ſtreaks or fine grooves, whereas that has about eight; the leaves are more hoary, and inodorous; the inner ſcales of the calyx are dilated at the tip and membranaceous, but in *A. Cotula* they are not at all dilated and ſcarcely membranaceous; the chaffs in this are lanceolate, in that narrow like a briſtle; the apex of the ſeeds in this is crowned with a four-cornered rim, as in *Matricaria Chamomilla,* in that the ſeeds have no crown, and terminate only in a pore[n].

In plants that have ſo much reſemblance as we find in ſeveral of this claſs, we can ſcarcely be too minute in diſcriminating them.

10. Root annual. Stem uſually ſingle, upright, ſcarcely a foot in height, round, branching into a kind of panicle. Leaves bipinnate, ſhort, thickiſh, ſubſeſſile; pinnules minute, converging, lanceolate, mucronate, quite entire, whitely ciliate when examined with a glaſs, ſeſſile. Solitary, upright, peduncled flowers terminate the branches. Scales of the hemiſpheric calyx hairy at their edges. Petals of the ray white, three-toothed, the middle tooth very ſmall; they ſpread very much, and in the night are turned back. Diſk yellow. Chaffs longer than the ſeeds, not pungent. The ſtem branches, leaves and calyxes are lanuginoſely villoſe. The leaves, but eſpecially the flowers, have a powerful ſmell of *Matricaria officinalis,* with ſomething of the Chamomile: the taſte is bitter. Native of Auſtria, by way ſides and in corn fields, ſometimes covering the fallows. It flowers the whole ſummer[o].

11. *Stinking Chamomile* or *Mayweed* is an annual plant, the whole of which is extremely fetid and acrid, ſo as to bliſter the ſkin of thoſe who handle it: the acrid matter probably reſides in ſmall glands, which are viſible only with a microſcope. Stem ſingle, upright, ſomewhat angular, ſtriated, downy, with alternate branches upwards, ſometimes almoſt to the bottom. Leaves alternate, ſeſſile, ſlightly woolly, bipinnate or tripinnate, midrib keeled underneath, pinnas for the moſt part branched, flat, pointed, marked on the upper ſide with impreſſed dots viſible to the naked eye. Peduncles upright, ſolitary, terminating, eight-ſtreaked, naked, ſomewhat thicker towards the top. Scales of the calyx pale green, lanceolate, the outer ones blunt, and edged with brown, the keel more deeply coloured. Florets in the ray about thirteen, white without any tendency to green, ſubovate or elliptic-oblong, almoſt two lines broad, obtuſe, two-ribbed, terminating in three obtuſe teeth; the tubular part, and the germ ſtudded with tranſparent glands, viſible to the naked eye. Seeds obovate, bluntly four-cornered, warted at the angles, brown, wrinkled, flat at top, with a prominent hollow point in the centre; before they ripen, crowned with a fleſhy herbaceous ſubſtance, formed of the tube of the floret. Receptacle ſubcylindrical, with rigid briſtle-ſhaped chaffs on the upper part, ſhorter than the florets. The petals vary much in length and breadth; and it is found with double flowers[p]. Linneus obſerves, that the flowers are alſo ſometimes proliferous; the diſk being filled with ſmaller flowers, which are compound themſelves, and have abundance of aphides among them. He adds, that it is a very grateful plant to toads; and from Loeſelius, that it drives aways fleas, is very diſagreeable to bees, and is given as a medicine to ſheep infeſted with the aſthma[q].

It has never been much in uſe as a medicine, nor are its effects well know. Decoctions of it are ſaid to have been uſed as a bath or fomentation againſt hyſteric ſuffocations, and hæmorrhoidal pains and ſwellings. Mr. Ray ſays, that it has been given internally, with ſucceſs, in ſcrophulous caſes[r].

It is a common weed by way ſides, on dunghills, and in corn fields, where it ſometimes abounds ſo much as greatly to diminiſh the crop.

Mr. Curtis very juſtly obſerves, that farmers are not aware of the amazing increaſe from a ſingle plant of this and ſome other weeds, which they ſuffer to exhauſt their dunghills, in order to be diſperſed afterwards over their fields. It flowers from may to auguſt.

Mr. Curtis has admirably well diſtinguiſhed this plant from *Matricaria Chamomilla,* which it greatly reſembles, by the following circumſtances. The whole plant in that puts on a deep green colour, and ſomewhat ſhining appearance; this on the contrary aſſumes a much paler hue, and the ſtalk is often covered with a kind of woolly ſubſtance: the leaves in *Matricaria* are nearly as fine as thoſe of Fennel, which they diſtantly reſemble; in the *Anthemis* they are almoſt twice as broad, and their points, which in that are ſimple, in this are often bifid. The radial florets of the *Anthemis* are in general much broader, and ſomewhat ſhorter: the diſk in this is not ſo prominent, but of a lighter yellow than in *Matricaria*. If the heads of that are bruiſed, they emit a ſtrong ſmell, ſomewhat reſembling that of true Chamomile, but not ſo pleaſant; but thoſe of *Anthemis* are intolerably diſagreeable; theſe when handled bliſter the ſkin, which thoſe of *Matricaria* do not. The ſeeds of *Anthemis* are broad, truncate, wrinkled, and deep brown; thoſe of *Matricaria* are much ſmaller, paler, and different in ſhape.

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[d] Linn.
[e] Ibid.
[f] Ibid.
[g] Hort. kew.
[h] Ibid.
[i] Woodw. in With.
[k] Lewis.
[l] Withering.
[m] Leers.
[n] Linn. ſuec.
[o] Jacquin.
[p] Curtis. Woodw. M.S. Stokes in Withering.
[q] Lin. ſuec.
[r] Lewis.

12. Stems many, proſtrate, uſually one-flowered, ſeldom branching. Root perennial, thick[s], running down a foot or more into the ground, about as big as a man's finger, the colour of Horſe-radiſh, white within, of an acrid biting taſte. Flower large, the florets of the ray purple on the outſide. Mr. Miller ſays, the firſt time he raiſed this plant was in 1732, from ſeeds picked out of raiſins, and the year after the plants produced ſeeds, which ripened well, and the plants raiſed from theſe ſeeds continued ſeveral years, but did not perfect their ſeeds; ſo that in the winter of 1753, the old roots being deſtroyed, he loſt the ſpecies[t]. It is a native of the Levant, and the ſouthern parts of Europe; and was cultivated in 1570[u]. The root, on being chewed, excites a glowing heat, and produces a diſcharge of ſaliva, which relieves tooth-achs, and rheumatic affections of the face; it is recommended in lethargic complaints and paralyſes of the tongue.

13. It grows to the height of two feet, and when allowed room, throws out many ſide branches, eſpecially in good land. Stem diffuſed, purpliſh. Peduncles ſwelling at the top. Scales of the calyx villoſe; but the inner ones ſcarioſe, notched, ſmooth[x]. Linneus ſays that his ſon has obſerved the corollas of the florets in this ſpecies to be awned at the end. Cultivated in 1621, by Mr. John Goodyer[y].

This plant has been continued in moſt of the diſpenſatories for many ages, and is ſuppoſed to be the ſame which Dioſcorides recommends as good for the jaundice, and to reſtore the ſkin to a good colour: but of late years, it has been entirely diſuſed in the ſhops; and whenever Ox-eye has been ordered, the greater Ox-eye Daiſy (*Chryſanthemum Leucanthemum*) has been uſed. This grows naturally in Spain, Portugal, and Provence. The flowers are yellow, but there is a variety with white flowers: both are mentioned by Breynius. There is a third with naked flowers having no rays, which Linneus places in his genus of *Anacyclus*: but all theſe will riſe from the ſeeds of the ſame plant, and frequently both radiate and naked flowers appear on the ſame branch. Theſe plants not only vary in their flowers; but the leaves alſo are different; ſome being finely divided, and others having broader ſegments; and this from the ſame ſeeds. Mr. Miller has figured that with yellow flowers, whoſe leaves are not ſo finely divided as thoſe of the white; and which is ſuppoſed to be the true medical Ox-eye[z].

14. Stems rather ſimple, erect. Leaves petiolate, alternate, obtuſe, ſcarcely villoſe. Flowers terminal, ſubſolitary, globoſe; calyx not much imbricated: ray narrow; diſk convex: ſeeds four-cornered, crowned with four ſcales, two of which end in briſtles[a]. A native of Spain and Portugal.

15. Stem erect, ſubpubeſcent, ſimple. Leaves ſmooth, diſcolour. Peduncle terminal, pubeſcent, thickening to the end, one-flowered. Ray ovate-oblong, obtuſe, entire: five-flowered. Diſk elevated, chaffy. Seeds of the ray and diſk obovate, roundiſh, warty, without any down[b]. Found in South America, by Mutis.

16. A native of America. According to Swartz (obſ. 309.) it is probably the ſame with *Verbeſina mutica*.

17. Stem ſtriated, ſlightly hairy, much branched. Lower leaves pinnate; lower pinnas ſhort, diſtant, toothed; upper pinnatifid, the midrib broader than the pinnules, which are lanceolate, toothed, ſlightly hairy, green above, glaucous underneath; the upper leaves pinnatifid; midrib broad; pinnas irregular, linear-lanceolate, toothed; uppermoſt leaves ſometimes ſimply toothed, ſlightly hairy. Long, naked, ſtriated, ſlightly-hairy peduncles terminate the ſtem and branches, each bearing one flower. Calyx imbricate with numerous ſcales; outer of various lengths, inner equal, lanceolate, hairy, with a green dorſal line, and white ſhining edges. Florets all yellow, thoſe of the radius broad, three-toothed; of the diſk numerous, ſhort[c]. A native of Sweden, Germany, &c. in dry open paſtures. Mr. Ray found it near the river Tees, not far from Sogburn, in the biſhopric of Durham. Linneus ſays that the flowers are much uſed in Gotland in dyeing yellow.

18. Root annual. Stem ſingle, at firſt upright, little branched, but proliferous, round, ſtriated, purpliſh, ſlightly downy, leafy. Leaves ſcattered, thicker ſet near the flowers, ſeſſile, pinnatifid or twice pinnatifid, a little fleſhy, nearly ſmooth; ſegments linear, acute, alternate. One flower terminates the original ſtem, ſeſſile, of a bright gold colour; from its baſe ſpring from two to five branches, curved upwards, leafy, ſhaped like the ſtem, each terminated by one flower, and in the ſame manner becoming proliferous, till the plant, weighed down by its own luxuriance, becomes proſtrate. Calyx a little imbricate, brown, downy; ſcales membranous at the tip, obtuſe, lacerated. Radial florets twelve to eighteen, ſpreading, with about three teeth at the end. Receptacle conical; ſcales lanceolate, pointed, carinated, bearded at the baſe. Seeds obovate, ſtriated, brown, entirely deſtitute of down or crown[d].] The ſeeds were bought from Arabia by the late Dr. Shaw, and were diſtributed to many curious botaniſts in Italy, France, and England, where ſome of the plants were raiſed. [It muſt have been loſt afterwards, for Dr. Smith obſerves (in 1792), that it is ſcarcely to be met with in any garden, or even herbarium; and that his figure was drawn from a plant at the Marchioneſs of Rockingham's in 1790, the ſeed of which was received from the gardens at Carlſruth the preceding year, by Mr. Lee of Hammerſmith.

It is an ornamental plant, and merits a place among hardy annuals. Its flavour is bitter and aromatic, but far weaker than officinal Chamomile[e].

19. Native of the Cape of Good Hope, where it was found by Mr. Francis Maſſon. It was introduced in 1774; and flowers from april to june[f].]

PROPAGATION AND CULTURE.

Some of theſe plants are annuals, and others perennials, both hardy enough, except the fifteenth and nineteenth, to bear the open air. They may be propagated by ſeeds ſown in the ſpring, on poor land; and require no other culture but to thin the plants where they are too cloſe, and to keep them clean from weeds. They flower in july, and being generally buſhy, require room.

The Common or Sweet Chamomile may be increaſed by ſlips planted in the ſpring a foot aſunder, that they may have room to ſpread, and they will ſoon cover the ground. It was formerly planted for edges, to cover banks, and for walks. The variety with double flowers is equally hardy, and may be propagated in the ſame manner.

17. The Yellow Chamomile or Ox-eye may be increaſed by ſowing the ſeeds on a bed of common earth in the ſpring; and when the plants are ſtrong enough to remove, they ſhould be tranſplanted into large open borders, near ſhrubs, where they may have room to grow, for they require to be three feet diſtant from other plants. In large open ſpots they make a pretty variety from june to november, during which time they continue in flower. Some of the flowers are white, others ſulphur-coloured, and others are of a deeper yellow. Thoſe which come from the Levant are taller plants, and produce larger flowers; but in other particulars they are the ſame with the European.

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[s] Linn. [t] Mill. fig. [u] Hort. kew. [x] Linn. [y] Hort. kew. [z] Mill. fig. [a] Linn. [b] Linn. ſuppl. where it is called A. americana.

[c] Woodward M.S. [d] Smith ſpicil. [e] Ibid. [f] Hort. kew.

18. The ſeeds of Arabian Chamomile ſhould be ſown in autumn, otherwiſe the ſeeds are ſeldom perfected in England.

ANTHERICUM. (Ανθεϱικος *Theoph. and Dioſc.* Ανθος ῥηχοσ, *flower of the hedges.*)
Lin. gen. n. 422. *Reich.* 455. *Schreb.* 570. *Gærtn.* 16. *Juſſ.* 52.
Bulbine. *Lin. gen. edit. prior.* 269.
Phalangium. *Tourn.* 193.
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Coronariæ. Aſphodeli* Juſſ.

GENERIC CHARACTER.

Cal. none.
Cor. *Petals* ſix, oblong, obtuſe, ſpreading very much.
Stam. *Filaments* ſubulate, erect; *anthers* ſmall, incumbent, four-furrowed.
Pist. *Germ* obſcurely three-cornered; *ſtyle* ſimple, the length of the ſtamens: *ſtigma* obtuſe, three-cornered.
Per. *Capſule* ovate, ſmooth, three-furrowed, three-celled, three-valved.
Seeds numerous, angular.
Obs. *Various ſpecies have woolly filaments: in others the petals are not deciduous.*
Liliaſtrum. *Tourn. has a bell-ſhaped corolla.*
Anth. calyculatum *has the calyx three-toothed, and three ſtigmas diſtinct without a ſtyle.*
The character of the genus is very difficult to aſcertain.

ESSENTIAL CHARACTER.

Cor. ſix-petalled, expanding. *Capſule* ovate.

SPECIES.

* Phalangium. *Leaves channelled. Filaments generally ſmooth.*

[1. Anthericum floribundum. *Thick-ſpiked Anthericum.**
Ait. hort. kew. 1. 447.
Leaves flat, ſmooth, linear-lanceolate, acute: ſcape ſimple; raceme many-flowered, cylindric, compact: petals ſpreading: ſtamens ſmooth.

2. Anthericum ſerotinum,
Lin. ſpec. 444. *ſyſt. p.* 330. *n.* 422. 1. *Reich.* 2. 61. *mant.* 365. *Jacqu. auſtr.* 5. *t.* 38. *Hudſ. angl.* 144. *With.* 349. *Raii ſyn.* 374. *t.* 17. *f.* 1. *Hall. helv. n.* 1209. *Villars dauph.* 2. 266. *Bauh. hiſt.* 2. 663. *f.* 1. (Narciſſus).
Bulbocodium alpinum. *Mill. dict. Lin. ſpec. ed.* 1. 294.
Pſeudo-narciſſus gramineo folio. *Bauh. pin.* 51. *prodr.* 27.
Leaves flattiſh, ſcape one-flowered.

3. Anthericum græcum.
Lin. ſpec. 444. *Reich.* 2. 62.
Bulbocodium græcum, myoſotidis flore. *Tournef. cor.* 50.
Leaves flat, ſcape ſimple, flowers corymbed, filaments woolly.

4. Anthericum planifolium.
Lin. ſyſt. 330. *Reich.* 2. 62. *mant.* 224.
Leaves flat, ſcape and filaments woolly.]

5. Anthericum revolutum. *Curled-flowered Anthericum.*
Lin. ſpec. 445. *ſyſt.* 330. *Reich.* 2. 62. *Murr. prodr.* 214. *Comm. hort.* 1. 67. *t.* 34. (Phalangium.)
Leaves flat, ſcape branched, corollas revolute.

6. Anthericum ramoſum. *Branching Anthericum.*
Lin. ſpec. 445. *ſyſt.* 330. *Reich.* 2. 62. *ſuec.* 289. *Scop. carn. n.* 413. *Plenck. ic.* 269. *Jacq. auſtr.* 2. *t.* 161. *Pollich pal. n.* 334. *Krock. ſileſ. n.* 527. *Villars dauph.* 2. 267. *Hall. helv. n.* 1208. (Phalangium.) *Lob. ic.* 47. *Camer. epit.* 580. *Dod. pempt.* 106. *Ger. herb.* 44. *f.* 1. *Park. theat.* 419. *f.* 1. *parad.* 150. 4. *t.* 151. *f.* 3. *Bauh. hiſt.* 2. 635. *f.* 1. *Raii hiſt.* 1193. 3.
Leaves linear-ſubulate, flat; ſcape branched: peduncles ſolitary: corollas flat: piſtils ſtraight.

7. Anthericum elatum. *Tall Anthericum.*
Ait. hort. kew. 1. 448.
Aſphodelus foliis planis, caule ramoſo, floribus ſparſis. *Mill. fig.* 38. *t.* 56.
Leaves flat, ſcape branched, peduncles aggregate, corollas flat.

[8. Anthericum triflorum. *Three-flowered Anthericum.*
Ait. hort. kew. 1. 448.
Leaves channelled-ſword-ſhaped, ſcape ſimple, bractes remote, three-flowered.

9. Anthericum canaliculatum. *Channelled Anthericum.*
Ait. hort. kew. 1. 448.
Leaves rather fleſhy, hairy, ſword-ſhaped-triquetrous, channelled on the narrow ſide; ſcape ſimple.

10. Anthericum Albucoides. *Striped-flowered Anthericum.*
Ait. hort. kew. 1. 449.
Leaves linear, channelled, ſmooth, with a cartilaginous edge; ſcape ſimple.]

11. Anthericum Liliago. *Graſs-leaved Anthericum.*
Lin. ſpec. 445. *ſyſt.* 330. *Reich.* 2. 63. *ſuec. n.* 290. *Jacqu. hort.* 1. *t.* 83. *Fl. dan. t.* 616. *Pollich pal. n.* 335. *Krock. ſileſ. n.* 528. *Villars dauph.* 2. 267. *Hall. helv. n.* 1207. (Phalangium.)
Phalangium flore parvo, non ramoſum *Bauh. pin.* 29. *Mor. hiſt. ſ.* 4. *t.* 1. *f.* 10. *Ger. herb.* 44. *f.* 2. *Park. parad.* 150. 3. *t.* 151. *f.* 2. *theat.* 419. *f.* 2. *Bauh. hiſt.* 2. 635. *f.* 2. *Raii hiſt.* 1193. 2. *Lob. obſ.* 27. *ic.* 48. *Dod. pempt.* 106.
Leaves flat, ſcape perfectly ſimple, corollas flat, piſtil bending down.

12. Anthericum Liliaſtrum. *Savoy Anthericum* or *Spider-wort.*
Lin. ſpec. 445. *ſyſt.* 330. *Reich.* 2. 63. *Villars dauph.* 2. 268.
Hemerocallis Liliaſtrum. *Lin. hort. cliff.* 128. *ſpec. ed.* 1. 324. *Mill. dict. n.* 4.
Hem. floribus patulis ſecundis. *Hall. helv. n.* 1230.
Phalangium. *Bauh. hiſt.* 2. 636. *Raii hiſt.* 1192. *Ger. emac.* 48. *f.* 4. *Park. par.* 150. *t.* 151. *f.* 1.
Leaves flat, ſcape perfectly ſimple, corollas bell-ſhaped, ſtamens bending down.

[13. Anthericum ſpirale.
Lin. ſyſt. 330. *Reich.* 2. 64. *mant.* 224.
Scape ſpiral.]

** Bulbine. *Leaves fleſhy, Filaments bearded.*

14. Anthericum fruteſcens. *Shrubby Anthericum.*
Lin. ſpec. 445. *Reich.* 2. 64.
Phalangium capenſe cauleſcens, foliis cepitiis ſuccoſis, *Dill. elth. t.* 231. *f.* 298.
Leaves fleſhy, columnar, ſtem ſhrubby.

15. Anthericum alooides. *Aloe-leaved Anthericum.*
Lin. ſpec. 446. *Reich.* 2. 64. *hort. upſ.* 83.
Phalangium capenſe ſeſſile, foliis aloeformibus pulpoſis. *Dill. elth. t.* 232. *f.* 299.
Leaves fleſhy, ſubulate, flattiſh.

16. Anthericum aſphodeloides. *Glaucous-leaved Anthericum.*
Lin. ſpec. 446. *Reich.* 2. 65. *Jacqu. hort.* 2. *t.* 181.
Leaves fleſhy, ſubulate, ſemicolumnar, upright and ſtiff.

17. Anthericum annuum. *Annual Anthericum.*
Lin. ſpec. 446. *Reich.* 2. 65. *hort. upſ.* 83.
Leaves fleſhy, ſubulate, columnar, ſcape ſubracemed.

18. Anthericum hiſpidum. *Hairy-leaved Anthericum.*
Lin. ſpec. 446. *Reich.* 2. 65.
Leaves fleſhy, compreſſed, hiſpid.

*** Narthecium. *Leaves ſword-ſhaped.*

19. Anthericum oſſifragum. *Lancaſhire Anthericum* or *Aſphodel.*
Lin. ſpec. 446. *Reich.* 2. 65. *lapp.* 136. *ſuec. n.* 287. *Plenck. ic.* 270. *Fl. dan. t.* 42. *Relh. cantab. n.* 265. *Gmel. ſib.* 1. 73. *t.* 18. *f.* 2. *Krock. ſileſ. n.* 529.
Narthecium oſſifragum. *Weber ſpicil.* 11. *Moerh. E. N. C.* 1742. *p.* 389. *t.* 5. *f.* 1. *Hudſ. angl.* 145. *With.* 351. *Lightf. ſcot.* 181.
Phalangium anglicum paluſtre viridis folio. *Raii ſyn.* 375.
Aſphodelus Lancaſtriæ verus. *Ger. emac.* 96. 2. *f.* 3.—luteus paluſtris. *Dod. pempt.* 208.
Pſeudo-aſphodelus paluſtris vulgaris, *Raii hiſt.* 1195. *Bauh. hiſt.* 2. 633. 2.
Leaves ſword-ſhaped, filaments woolly.

20. Anthericum calyculatum:
Lin. ſpec. 447. *ſyſt.* 331. *Reich.* 2. 65. *ſuec. n.* 288. *lapp.* 139. *t.* 10. *f.* 3. *With.* 350. *Lightf. ſcot.* 181. *ic. Gmel. ſib.* 1. 73. *t.* 18. *f.* 2. *Krock. ſileſ. n.* 530. *Hall. helv. n.* 1205.
Narthecium iridifolium. *Villars dauph.* 2. 225.
Tofieldia paluſtris. *Hudſ. angl.* 175.
A. Pſeudoaſphodelus. *Jacq. vind.* 233. *Fl. dan. t.* 36.
Phalangium alpinum paluſtre, iridis folio. *Segu. ver.* 2. *t.* 14. *Raii ſyn.* 375. *n.* 2. *hiſt.* 1195. 3.
Scheuchzeria Pſeudo-Aſphodelus. *Scop. carn. n.* 445.
Leaves ſword-ſhaped, perianths three-lobed, filaments ſmooth, flowers three-piſtilled.

[21. Anthericum japonicum.
Lin. ſyſt. 331. *Thunb. jap.* 138.
Leaves ſword-ſhaped, convolute, ſmooth: ſcape branching, angled, flowers racemed, nodding.

22. Anthericum filiforme. *Thread-leaved Anthericum.*
Ait. hort. kew. 1. 451.
Leaves filiform, rather cylindric, rough: filaments ſmooth, petals lanceolate.

From the Supplement, &c.

23. Anthericum flexifolium.
Lin. ſuppl. 201.
Leaves ſubulate, ſmooth, flexuoſe : ſtem branching.

24. Anthericum muricatum.
Lin. ſuppl. 202.
Leaves fleſhy, compreſſed, muricated, ſtreaked.

25. Anthericum latifolium.
Lin. ſuppl. 202.
Leaves fleſhy, wide-ſword-ſhaped, ſmooth : raceme very long : ſtem ſimple.

26. Anthericum cauda-felis.
Lin. ſuppl. 202.
Leaves channel-ſword-ſhaped, ſcape ſimple, raceme oblong.

27. Anthericum triquetrum.
Lin. ſuppl. 202.
Leaves filiform, triquetrous, ſhorter than the ſimple ſcape ; raceme ovate.

28. Anthericum ciliatum.
Lin. ſuppl. 202.
Leaves ſword-ſhaped, fleſhy-ſubtriquetrous, ciliate ; ſcape ſimple ; raceme very long.

29. Anthericum falcatum.
Lin. ſuppl. 202.
Leaves fleſhy, ſword-ſhaped-ſickled, ſmooth : ſtem branching, racemed.

30. Anthericum contortum.
Lin. ſuppl. 202.
Leaves flat, ſword-ſhaped ; ſtem branching, flowers very remote.

31. Anthericum ſcabrum.
Lin. ſuppl. 202.
Leaves triquetrous, ſerrulate, ſtem branching, rugged ; fruit-bearing peduncles recurved.

32. Anthericum ſquameum.
Lin. ſuppl. 202.
Scape imbricate with membranous tumid ſcales.

33. Anthericum cirratum.
Forſt. flor. n. 148.
Leaves lanceolate, flattiſh ; ſcape panicled, leaves bearded, bicirrate.

34. Anthericum Adenanthera.
Forſt. flor. n. 149.
Leaves linear-enſiform, connate at the baſe : a gland between the filament and anther.

DESCRIPTIONS, *&c.*

1. Native of the Cape of Good Hope, where it was found by Mr. Fr. Maſſon. Introduced here in 1774. It flowers in march and april [a].

2. The ſcape has three or four lanceolate, alternate, minute bractes or leaves, ſheathing, without a ſpathe. The flower is inferior. Filaments not woolly [b]. The root is an oblong bulb, covered with a net. Many ſlender leaves proceed from it. Flower-ſtem three or four inches high. Corolla convergent, petals ovate-lanceolate, white within, duſky red without, marked with ſpadiceous lines; yellowiſh at the baſe. This is a vernal plant, appearing after the melting of the ſnows ; and growing only on high mountains in Switzerland, Dauphiné, Piedmont, Auſtria, *&c.* and on Snowdon, *&c.* in Wales [c]. Perennial, flowering in april and may.

3. Root a bulb. The leaves linear, ſmooth, almoſt as long as the ſcape, which has three or four very ſhort leaves on it. A terminal corymb, of about five flowers ; the middle peduncle one-flowered, the ſide-ones two-flowered. The corolla white, like that of the ſixth. The ſtamens ſhorter than the corolla, and the ſtyle ſhorter than the ſtamens [d]. From the Levant.

4. Roots thick, oblong, yellowiſh. Root-leaves linear, flattiſh, ſtriated, ſubcarinate, ſubulate, with the end involute. Scape branching, bractes lanceolate, peduncles ſubracemoſe. Flowers red, the ſize of thoſe in *A. ramoſum.* This plant is of the ſame ſize with *A. græcum,* but the flowers are leſs. A native of Portugal, flowering in april [e].]

5. Roots fleſhy, and compoſed of tubers joined at the crown, like thoſe of the Aſphodel ; the ſtalk riſes near two feet high, and branches out on each ſide ; each branch being terminated by a looſe ſpike of flowers, which are white, and the petals are turned backward to their peduncle. [We may add from Chevalier Murray, that the root-leaves are numerous, only one-third of the height of the ſcape, ſubulate, channelled at the baſe, then keeled and flat, ſtriated, an inch and half broad, ſpreading. Scape four feet high, almoſt naked, round, ſmooth, oblique. Bractes five, gibbous at the baſe, preſſed cloſe, ſubulate, the lower ones larger like the leaves, the upper ones ſcaly and ſhrivelling. Corymb terminating, compreſſed, having ſix round, long, alternate branches, knotted where the flowers ſpring forth. Flowers alternate, ſolitary, or two ſometimes three together, on ſmall gray pedicels, thicker at the top, each ſupported by a little ſubulate bracte. Corolla inferior ; petals lanceolate-ovate, reflex, obtuſe, concave at the tip, white except towards the end on the outſide, where they are browniſh green. Filaments a little ſhorter than the corolla : anthers erect, oblong, revolute as they wither. The root is ſo like that of *Hæmanthus puniceus,* that they may eaſily be miſtaken for each other.

It is a native of the Cape of Good Hope, and was cultivated in 1731, by Mr. Miller [f].]

6. Root round, the ſtalks riſe about the ſame height as the former, ſending out many lateral branches in like manner, which are terminated by looſe ſpikes of flowers. [Leaves hard, graſſy, none on the ſcape, which is looſely panicled, with one-flowered peduncles.] Corollas white ; petals flat, and not turning back as in the former ſort. [The three outer petals narrower than the others, lanceolate and ſeſſile ; the three inner oval and petioled. In each angle of the germ a ſmall melliferous pore [g]. A native of Sweden, the ſouth of France, Switzerland, Auſtria, Carniola, *&c.* The flowers watch from ſeven in the morning to three or four in the afternoon [h]. It was cultivated in 1597, by Gerard [i].

7. Roots compoſed of many tubers, each about the ſize of a little finger at top, and diminiſhing gradually to the ſize of a ſtraw. Leaves ſeven or eight, nine or ten inches in length, and an inch and half broad in the middle, leſſening gradually to both ends ; they are ſmooth and glaucous. Flower-ſtem about two feet high, dividing into ſeveral branches, having a few narrow leaves, generally one at every diviſion of the branch. The flowers form a looſe ſpike, and are white.

This plant has probably been formerly in the Dutch gardens, for there are paintings of it in ſeveral flower-pieces, which are ſuppoſed to have been done above ſixty years [k]. However it has been loſt for ſome years in Europe, and has been lately recovered from ſeeds which were ſent from the Cape of Good Hope to England and Holland. The firſt ſeeds received by Mr. Miller were in 1750; and the plants raiſed from them flowered in 1752, and perfected their ſeeds. When they are fully blown, which is uſually in auguſt and ſeptember, they make a pretty variety among other exotic plants[l].

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[a] Hort. kew.

[b] Linn.

[c] Haller.

[d] Linn.

[e] Linn. mant.

[f] Hort. kew.

[g] Haller.

[h] See Memoires de la Soc. de Berne, 1766.

[i] Hort. kew.

[k] This was ſaid about the year 1755.

8. Native of the Cape of Good Hope. Introduced in 1782, by George Wynch, Eſq. It flowers in november.

9. Scape round, hairy. Raceme many-flowered; peduncles round, ſmooth, ſcarcely an inch in length. Bractes lanceolate, acuminate, in the time of flowering ſhorter than the peduncle, ſmooth. Petals patulous, white, dirty green on the outſide, half an inch long. Filaments ſubulate, white, ſhorter than the petals, ſomewhat hiſpid; three alternately ſhorter, leſs hiſpid. Style the length of the ſtamens. Native of the Cape of Good Hope. It flowers in april.

10. Petals yellow, with a green keel, arched at the tip, reſembling thoſe of *Albuca*, but differing in having the inner petals patulous, and the filaments not complicate above the baſe. This and the foregoing were found at the Cape by Mr. Francis Maſſon. It was introduced in 1788; and flowers in auguſt[m].

11. Roots numerous, round, collected into a tuber crowned with briſtles. Leaves from the root many, firm, a foot long, carinated, graſſy. Scape erect, eighteen inches high, firm. Spike looſe, ten-flowered, peduncles ſimple. Flower two inches wide; petals in two ranks; the inner wideſt, petiolate and pure white; the outer have a green line running along beneath[n]. Jacquin's plant differs from Haller's (n. 1207) in having the petals not petioled, all in one row, without any green line running along beneath[o]. It is a native of Italy, Switzerland, Germany, France and Denmark. Cultivated in 1597[p].

12. Root faſcicled, with fleſhy fibres. It has the corolla of the white Lily[q]. Leaves graſſy, ſoft, broader than two lines, the radical ones very long. Scape a foot or eighteen inches high. Spike thin-ſet with ſpreading flowers, on ſimple peduncles. Stipules coloured, ovate-lanceolate. Corolla above an inch in diameter, gradually widening; petals tender and white; ovate, thin, lanceolate, with a reflex point, which is thicker and has a green dot: they are marked with lines, and ſweet-ſcented. Stamens almoſt as long as the petals, with weak filaments[r].] There are two varieties of this, the *Liliaſtrum alpinum majus*, and *Lil. alp. minus* of Tournefort. The firſt riſes with a flower-ſtalk more than a foot and half high; the flowers are much larger, and there is a greater number upon each ſtalk than in the ſecond ſort. There is no eſſential difference between them, but the firſt is by much the fineſt plant, though the ſecond is what I have always obſerved in the gardens here. I received ſome roots of the ſecond from Monſ. Richard, gardener to the King of France, which continue their difference in the ſame ſoil and ſituation with the firſt, which flowers earlier in the year; the leaves of this are ſomewhat like thoſe of the Spiderwort, are pretty firm, and grow upright: the flower-ſtalks grow about a foot and half high, and have ſeveral white flowers at top, ſhaped like thoſe of the Lily, which hang on one ſide, and have an agreeable ſcent; theſe are but of ſhort duration, ſeldom continuing in beauty above three or four days; but when the plants are ſtrong, they will produce eight or ten flowers upon each ſtalk. The French call it St. Bruno's Lily. [It grows wild on the mountains of Switzerland and Savoy; and was cultivated in 1629[s].

13. A plant without leaves[t]. Rudiments of them at the bottom ſheathing the ſcape, which is four inches high, filiform, ſpiral, ſomewhat ſcandent, with three or four flowers, ſmall, and from the top of the ſtem: peduncles ſtraight, three times longer than the flowers: bractes minute, ovate[u]. A native of the Cape of Good Hope.

14. It differs from the fifteenth by riſing into a ſtem and branches, by having the leaves greener, longer, and narrower, with a firmer pulp, and a viſcid juice flowing copiouſly from them when cut, of a greeniſh yellow colour. In the fifteenth the leaves are paler, grow cloſe, many together, are broader and more tranſlucid, ſoft and pulpy, they pour out a limpid juice like the white of an egg, only when preſſed, and then they are hollow, like thoſe of an onion. The root of the fifteenth is tuberous, whereas in this it is fibrous, and not only the ſtem, but even the branches put out fibres, which hang down, and when they reach the ground ſtrike root[x]. It is a native of the Cape of Good Hope, was cultivated in the Chelſea garden in 1702[y];] and was formerly known among the gardeners by the name of Onion-leaved Aloe.

15. It has broad, flat, pulpy leaves, reſembling thoſe of ſome ſorts of Aloe, and was therefore formerly by gardeners called *Aloe with flowers of Spiderwort*. The leaves ſpread open; the flowers are produced on looſe ſpikes, like the former, but are ſhorter: they are yellow, and appear at different ſeaſons. This and the next ſpecies grow cloſe to the ground, never riſing with any ſtalk. [A native of the Cape of Good Hope. Cultivated in 1732, by James Sherard, M. D.[z]

16. Leaves ſcarcely ſtriated, but rough at the edge; more gibbous at the back towards one ſide[a]:] They are long, narrow, and pulpy, almoſt taper, but flatted on their upper ſide. The flowers are yellow, and grow on long looſe ſpikes, as the former; theſe appear at different ſeaſons; thoſe of the ſpring and ſummer are ſucceeded by ſeeds in great plenty, which ripen very well. [A native of the Cape of Good Hope. Cultivated in 1759, by Mr. Miller[b].]

17. This is a low, annual plant, growing cloſe to the ground, having pretty long ſucculent leaves which are taper; but flatted on their upper ſide; the flowers grow in looſe ſpikes, which are ſhorter than either of the other ſorts. They are yellow, and ſucceeded by round ſeed-veſſels, like thoſe of the former ſorts; the plants periſh ſoon after their ſeeds ripen. [A native of the Cape of Good Hope, and cultivated in 1748, by Mr. Miller[c].

18. Root fibroſe. Leaves rather fleſhy, compreſſed, ſtriated, half a foot long, recurved, hiſpid every way with ſpreading hairs. Scape ſimple, hiſpid. Raceme with lanceolate bractes, the length of the pedicels, both hiſpid. Flowers white with a green keel. Anthers yellow[d]. A native of the Cape of Good Hope, introduced by Mr. Francis Maſſon, in 1774[e].

19. Root creeping, reedy. Leaves cloſely interwoven; the radical ones incurved, nervoſe, acute; the ſtem-leaves alternate, embracing, with a membranaceous edge. Scape ſimple, erect, columnar, a little riſing on one ſide, ſmooth, flexuoſe in the ſpike. Flowers in a thick ſpike, alternate, ſupported by a lanceolate bracte of the length of the peduncle: another linear bracte in the middle of the peduncle. Petals lanceolate-linear, yellow. Filaments in the direction of the petals, yellow, villoſe with a white wool, ſmooth at the tip, permanent: anthers orange. Capſules cloſe preſſed to the ſtalk, and forming a cylindrical ſpike, wrapped up in the permanent corolla, from triangular cylindrical, ſix-furrowed, the furrows alternately leſs, awl-ſhaped, and three-celled[f]. It grows wild in the northern countries of Europe on bogs; in Lancaſhire, and other northern counties: in Cambridgeſhire, Norfolk, on Putney-heath, &c. flowering in july and auguſt.

20. An extraordinary liliaceous plant with a perianth; the agreement in appearance with the laſt ſpecies forbids us to make a different genus of it,

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[l] Miller's figures.
[m] Hort. kew.
[n] Haller.
[o] Jacquin.
[p] Ger. herb.
[q] Linn.
[r] Haller.
[s] Park. par.
[t] Linn. ſyſt.

[u] Linn. mant.
[x] Dillen.
[y] Hort. kew.
[z] Ibid.
[a] Linn.
[b] Hort. kew.
[c] Ibid.
[d] Linn.
[e] Hort. kew.
[f] Weber.

though it differs totally in the fructification—having naked filaments, three ſtigmas without ſtyles, a ſubgloboſe pericarp, and a three-valved perianth[g]. Radical leaves many, hardiſh, graſſy. Flower-ſtalk ſimple, leafy below, and terminated by a crowded ſpike of flowers, becoming long by age and cylindrical. Stipules often purple, ovate-lanceolate. Flowers on very ſhort, ſimple peduncles. Petals in two rows, ſpreading, with a greeniſh line running along the middle[h]. It grows wild on the mountains of Lapland, Sweden, Denmark, Siberia, Switzerland, *&c.* and in ſeveral places in Scotland.

21. Leaves drawn very much to a point, coriaceous, erect, a foot long. Scape angular, branching, bracted, flexuoſe, erect, ſmooth, the length of the leaves. Flowers in the diviſions and ſubdiviſions of the ſcape, forming a raceme; white, nodding, deciduous: filaments awl-ſhaped, very ſhort: anthers linear, erect, the length of the corolla[i]. A native of Japan, China, and Java.

22. Scape filiform, a foot high, ſhorter than the leaves, rufous at the baſe, with pale ſpots. The three outer petals whitiſh within, green on the outſide; the three inner ones white, having a green line on the outſide. It is perennial, a native of the Cape of Good Hope; was diſcovered there by Mr. Francis Maſſon, and introduced in 1774. It flowers in april[k].

23. Found at the Cape, by Thunberg.

24. Leaves long, extremely rough. Scape two feet high, ſhaggy at the baſe, then branching.

25. 26. 27. Found at the Cape, by Thunberg.

28. Leaves very long, fleſhy.

29. Leaves flatted, lying on the ground, and ſickle-ſhaped on the ſide.

30. Corolla contorted.

31. Found at the Cape, by Thunberg.

32. Root tuberous, tubers oblong, tomentoſe, many, hanging by a thread. Leaves three, radical, graſſy. Scape ſhort, ſurrounded at the baſe with chaffs, and terminated by a raceme of chaffs, to each of which there is a ſingle pubeſcent filiform peduncle of the ſame length, ſupporting one flower, with a funnel-ſhaped corolla. It is a middle plant between the Hyacinth, Ornithogalum and Anthericum: in having a tuberous root it differs from the two firſt, and from the Scilla. It varies with rough and ſmooth leaves.

From n. 24. to 32. are natives of the Cape of Good Hope, where all but the laſt were found by Thunberg[l].

33. A native of New Zealand.

34. A native of New Caledonia[m].

This is a very difficult genus to determine. The nineteenth and twentieth ſpecies are ſo alike as ſcarcely to be diſtinguiſhed, and yet they differ eſſentially in their fructification. The nineteenth is connected with the fourteenth, fifteenth, ſixteenth, ſeventeenth, and eighteenth, by means of its bearded filaments; but differs from them in its pyramidal germ, chaffy ſeeds, and permanent corolla. The ſpecies of the firſt diviſion differ from thoſe of the ſecond in having ſmooth filaments, and the habit of the Aſphodel[n].]

PROPAGATION AND CULTURE.

All theſe, except the ſeventeenth, are perennial plants, and may in general be increaſed by offſets or ſuckers, taken off during the ſummer or autumn; and the ſpecies which do not throw out theſe freely, may be propagated by ſeeds, ſown in the ſpring or autumn, on a bed of light ſandy earth, in a warm ſituation. In autumn, when the leaves decay, they ſhould be carefully taken up, and tranſplanted into a bed of light earth, at the diſtance of a foot from each other. If the winter ſhould prove ſevere, the bed muſt be covered with ſtraw, peas-haulm, or ſuch light covering, to keep out the froſt; or ſome old tan from a hot-bed may be ſpread over the ground. In this bed they may remain one year; by which time they will be ſtrong enough to flower; therefore the following autumn they ſhould be carefully taken up, ſo as not to break their roots, and planted in the borders of the flower-garden, where they will laſt ſeveral years, if they are not killed by froſt; to prevent which, ſome rotten tan may be laid over the roots in winter.

The ſpecies which come from the Cape of Good Hope require of courſe ſome ſhelter in winter; although ſome of them will live through a mild ſeaſon, in a warm ſituation.

7. The ſeventh ſort muſt be houſed in winter, or placed under a hot-bed frame, where the plants will thrive better than in a common green-houſe. In winter the plants muſt have little wet; much moiſture, at that ſeaſon, being apt to rot their roots. This may ſerve as a direction with regard to the other Cape ſorts, for thoſe who have not a dry ſtove on purpoſe for them.

12. The twelfth ſort is uſually propagated by parting the roots, for which autumn is the beſt ſeaſon, as it is alſo for tranſplanting them; for when they are removed in the ſpring, they ſeldom flower the ſame year, or if they do, it is but weakly. They ſhould not be tranſplanted oftener than every third year for an increaſe; and then, if they are divided too much, it will be two years before they flower. This ſort, flouriſhing moſt in a light loamy ſoil and an open expoſure, ſhould not be planted under the drip of trees; but if it be placed in an eaſtern aſpect, where it may be protected from the ſun in the heat of the day, it will continue in beauty longer than when it is more expoſed.

19. 20. The nineteenth and twentieth ſorts, although they be hardy, yet growing naturally upon bogs, cannot without ſome difficulty be preſerved in gardens; except where bog earth is procured, and they are planted in pots or frames filled with it, and have a conſtant ſupply of water.

[ANTHISTIRIA. (Ανθεστηρια, *Floralia. An Athenian feſtival, obſerved in honour of Bacchus, on the* 11*th*, 12*th, and* 13*th days of the month Antheſterion.*)

Lin. fil. gram. gen. p. 38. *amæn. acad.* 10. *ſuppl. p.* 13. *Schreb. n.* 1567. *Juſſ.* 30.

Claſſ. 23. 1. Polygamia Monoecia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

CAL. *Glume* four-valved, three or four-flowered: *valves* equal, oblong, flat, blunt, leathery, erect-expanding.

Hermaphrodite floſcule ſeſſile: *males* pedicelled, very like the hermaphrodite.

COR. *Glume* two-valved: *valves* lanceolate, acute, awnleſs: the outer larger.

STAM. *Filaments* three, ſhort, filiform: *anther* oblong, erect.

PIST. in the hermaphrodite. *Germ* oblong; from the baſe a twiſted awn: *ſtyles* two: *ſtigmas* club-ſhaped, hairy.

PER. none, except the cloſed calyx.

SEED oblong, ſmooth, marked with a furrow.

OBS. *At firſt ſight it may be diſtinguiſhed from all the known genera of graſſes by its four-valved calyx.*

ESSENTIAL CHARACTER.

Cal. cleft at the baſe into four equal diviſions.

SPECIES.

1. Anthiſtiria ciliata.
   Lin. ſuppl. 113. *ſyſt.* 123.
   Andropogon quadrivalve. *Lin. ſyſt. edit.* 13. 758.
   A. nutans. *Lin. mant.* 303.

DESCRIPTIONS, &c.

Root annual. Culms many, a foot high, branched, jointed, ſmooth, nodding a little. Leaves ſeveral, alternate, ſmooth, except that they are ſcabrous about the edge, and ciliate towards the ſheath; which is compreſſed, ſtriated, keeled, and ciliate on the upper edge. Raceme terminating, leafy, decompound, nodding. Partial racemes alſo leafy, ciliate. Peduncles lateral, in pairs, ſtraight, filiform[a].

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[g] Linn.
[h] Haller.
[i] Thunb.
[k] Hort. kew.
[l] Linn. ſuppl.
[m] Forſt.
[n] Linn.

[a] Linn. mant.

Anthoceros. A genus among the Algæ, in the claſs Cryptogamia.

ANTHOLYZA. (Ἄνθοσα flower, and λύσσα, madneſs.)
Lin. gen. 58. *Reich.* 64. *Schreb.* 78. *Juſſ.* 58.
Claſſ. 3. 1. Triandria Monogynia.
Nat. order of *Enſatæ*. *Irides* Juſſ.

GENERIC CHARACTER.

Cal. *Spathes* two-valved, alternate, imbricate, ſeparating the flowers, permanent.

Cor. *Petal* one, gradually dilated from the tube into a compreſſed ringent throat. *Upper lip* ſtraight, ſlender, very long; furniſhed with two ſhort diviſions at the baſe. *Under lip* ſhorter, trifid.

Stam. *Filaments* long, ſlender, under the upper-lip: *anthers* acute.

Pist. *Germ* inferior: *ſtyle* filiform; ſituation and length of the upper ſtamens: *ſtigma* trifid, capillary, reflex.

Per. *Capſule* roundiſh, three-cornered, three-celled, three-valved.

Seeds many, triangular.

Obs. *This genus, too nearly allied to the Gladiolus, differs in the corollas: ſome have an inflated, compreſſed throat; others a funnel-ſhaped corolla; others the lower lip very ſhort; others the alternate diviſions abbreviated; others have a ſalver-ſhaped corolla, with a ſix-parted, equal limb.*

ESSENTIAL CHARACTER.

Cor. tubular, irregular, recurved. *Capſ.* inferior.

SPECIES.

1. Antholyza ringens. *Narrow-leaved Antholyza.*
Lin. ſpec. 54. *Reich.* 102.
Gladiolus floridus rectum referens coccineus: ſuprema linea erecta et fiſtuloſa. *Breyn. ic.* 21. *t.* 8. *f.* 1.
Gladiolo æthiopico ſimilis planta anguſtifolia. *Comm. hort.* 1. *t.* 41. *Rudb. elyſ.* 2. *p.* 237. *f.* 15.
Lips of the corolla divaricate, throat compreſſed.

[2. Antholyza plicata. *Plaited-leaved Antholyza.*
Linn. ſuppl. p. 96. *ſyſt.* 87.
Leaves plaited, ſtem branching hirſute, corolla ringent, ſhorter than the ſtamens.]

3. Antholyza Cunonia. *Scarlet-flowered Antholyza.*
Lin. ſpec. 54. *ſyſt.* 87. *Reich.* 102. *mant.* 320.
Cunonia floribus ſeſſilibus, ſpathis maximis. *Buttn. Cun.* 211. *t.* 1. *Mill. dict.* and *fig. t.* 113.
Gladiolus Cunonia. *Gærtn. fruct.* 31. *t.* 11.
Corollas ſtraight, the two outer lobes of the five-parted lip broader and aſcending.

[4. Antholyza æthiopica. *Broad-leaved Antholyza.*
Lin. ſpec. 54. *Reich.* 103.
Gladiolus æthiopicus, flore coccineo. *Corn. canad. t.* 79. *Mor. hiſt. ſ.* 4. *t.* 23. *f.* 1. *Rudb. elyſ.* 2. *p.* 236. *f.* 2.
Corollas incurvate, the two alternate lobes of the five-parted lip ſpreading, larger and lanceolate.]

5. Antholyza Meriana. *Red-flowered Antholyza.*
Lin. ſpec. 54. *Reich.* 103.
Meriana flore rubello. *Trew. Ehret. t.* 40.
Watſonia Meriana. *Mill. dict. n.* 1.—foliis enſiformibus, floribus alternis. *Mill. fig. t.* 276.
Corollas funnel-ſhaped, leaves linear.

6. Antholyza Merianella. *Dwarf Antholyza.*
Linn. ſyſt. 87. *Reich.* 103.
Watſonia humilis. *Mill. dict. n.* 2.—foliis lineari-enſiformibus, tubo floris longiſſimo. *Mill. fig. t.* 297. *f.* 2.
Corollas funnel-ſhaped, leaves linear.

[7. Antholyza Lucidor.
Lin. ſuppl. p. 96. *ſyſt.* 88.
Radical leaves with filiform baſe, broad-awled, furrowed at top: ſtem ſimple, leafy, ſpiked.]

DESCRIPTIONS, &c.

1. This has round, red, bulbous roots, from which ariſe ſeveral rough furrowed leaves, near a foot long, and half an inch broad; between theſe comes out the flower-ſtem immediately from the root, which riſes two feet high, is hairy, and has ſeveral flowers coming out on each ſide. Theſe are of one leaf, cut into ſix unequal parts at the top; one of theſe ſegments is ſtretched out much beyond the others, ſtanding erect; the margins are waved, and cloſed together, wrapping up the three ſtamens. The flowers are red and appear in june, and the ſeeds ripen in ſeptember. [It was cultivated in 1759, by Mr. Miller[a].

2. This differs from the firſt in its appearance, and eſpecially in not having the ſtamens ſo long. It was found at the Cape by Thunberg[b]. Introduced in 1774, by Mr. Francis Maſſon[c].]

3. This has a compreſſed bulbous root, ſomewhat like that of Corn Flag, covered with a brown ſkin, and putting forth fibres with little bulbs at the end; from this ariſe ſeveral narrow ſword-ſhaped leaves, about nine inches long, and a quarter of an inch broad in the middle, terminating in acute points; theſe have one longitudinal midrib which is prominent, and two longitudinal veins running parallel on each ſide: they are of a ſea-green colour, and appear in autumn, growing in length all the winter; in ſpring the ſtalk ariſes from between the leaves, it is round, ſtrong, and jointed; at each joint is ſituated a ſingle leaf, which almoſt embraces the ſtalk for near three inches from the baſe, then by the curvature of the ſtalk it is ſeparated, ſtanding erect: the ſtalks riſe near a foot and a half high, and are generally curved two oppoſite ways; the upper part of the ſtalk is terminated by a looſe ſpike of flowers, coming out of large ſpathes, compoſed of two oblong concave leaves, terminating in acute points: theſe are at their firſt appearance imbricated, but as the ſtalk increaſes in length, they are ſeparated; from between theſe two leaves come out the flowers, each having a ſlender Saffron-coloured tube near half an inch long, which is then enlarged where the petal is divided, and the upper ſegment is extended two inches in length, being arched over the ſtamens and ſtyle. This is narrow as far as to the extent of the wings, but above them is enlarged and ſpread open half an inch in length, and is concave, covering the anthers and ſtigmas which are extended to that length; the two wings are alſo narrow at their baſe, but are enlarged upward in the ſame manner, ending in concave obtuſe points, which are compreſſed together, and cover the ſtamens and ſtyle. This flower is of a beautiful ſcarlet colour, and makes a fine appearance, about the latter end of april or beginning of may, which is the ſeaſon of its flowering. After the flowers decay, the germ becomes an oval ſmooth capſule, opening in three cells, which are filled with flat bordered ſeeds.

I received the ſeeds of this plant from the Cape of Good Hope, where it grows naturally; they ſucceeded ſo well in the Chelſea garden, as to produce a great number of plants, which flowered well the third ſeaſon after they appeared, and continued to produce flowers, and perfect their ſeeds every year after. [It was cultivated in 1756, by Mr. Miller[d].

4. Corolla tubulous, ſcarlet: upper lip very large, lanceolate; lower five-parted, the lobes lanceolate, ſhort, three alternately very ſhort. This and the laſt border very near on the *Gladiolus*[e]. It was cultivated in 1759, by Mr. Miller; and flowers in may and june[f].]

5. Root bulbous, compreſſed, ſhaped like a kidney, covered with a fibrous brown ſkin. Leaves ſword-ſhaped, about a foot long, and an inch broad, ending in points; the two ſides have ſharp edges, but the middle is thicker, and has a prominent midrib; they are of a dark green colour, and riſe immediately from the root. The ſtalk comes out from the root between the leaves, and riſes a foot and a half high toward the upper part. The flowers are produced from the ſide, ſtanding alternately at about an inch and a half diſtance from each other; they have each a ſpatha or ſheath compoſed of two leaves, which are joined at their baſe, where they are broad, but gradually leſſen to their points. Before the flowers appear, they are of the ſame green colour

[a] Hort. kew.
[b] Linn. ſuppl.
[c] Hort. kew.
[d] Ibid.
[e] Linn.
[f] Hort. kew.

with the ſtalk, and are divided but a ſmall part of their length, incloſing the flower, but afterward they are ſplit almoſt to the bottom, and wither before the flowers decay, becoming dry, and wrap round the ſeed-veſſel. The tube of the flower is an inch and a half long, narrow at the baſe, and a little curved, ſwelling much larger the upper half. The rim is divided into ſix obtuſe ſegments which ſpread open, and are nearly equal; the flower is of a copper red colour on the outſide, but of a deeper red within; it has three ſtamens a little longer than the petal, they are incurved, and are terminated by oblong anthers of a dark brown colour, which are faſtened in the middle to the apex of the ſtamens, lying proſtrate. At the bottom of the tube of the petal is ſituated an oval three-cornered germ, ſupporting a ſlender ſtyle a little longer than the ſtamens, crowned by three bifid reflex ſtigmas. The flowers generally appear in april or may, and the ſeeds ripen in july.

The ſeeds of this, and alſo ſome of the ſorts of Ixia, were ſent me by my friend Dr. Job Baſter, F. R. S. of Kirkzee, which ſucceeded in the Chelſea Garden, in 1756, where many of them have ſince produced their beautiful flowers.

[Dr. Trew named this plant *Meriana*, in honour of Sybilla Merian, the celebrated female Dutch botaniſt: but Mr. Miller had before given this and the following ſpecies the name of *Watſonia*, from the late Sir William Watſon: they are not however deemed ſufficiently different from the other Antholyzas to form a diſtinct genus.]

6. Root bulbous. Culm a foot and half high, poliſhed, columnar. Leaves alternate, three or four, ſheathing, ſword-ſhaped, ſtreaked, pubeſcent, beyond the ſheaths ſhort. Flowers three, alternate, in the ſame row, ſeſſile. Glumes bivalve, lanceolate. Corolla ſalver-ſhaped: tube bent, purpliſh, longer than the border, which is ſix-parted and equal; the diviſions ovate, acutiſh, yellow. Stamens riſing, the length of the corolla. Anthers linear, incumbent. Style filiform. Stigmas three, filiform. The foregoing differs in appearance, but the limits ſeparating them from *Gladiolus* and *Ixia* do not aſſiſt us. The flowers in this are pale red, in the former deep red[f].] The ſeeds were brought from the Cape of Good Hope, by Captain Hutchinſon, of the Godolphin Indiaman, in the year 1754. It is of humbler growth than the fifth; the leaves of this are rarely more than ſix inches long, but are full as broad as thoſe of the fifth, and of a lighter green colour: the flower-ſtalk riſes between the leaves, about nine inches high, ſupporting four or five flowers ſitting cloſe thereto. The flowers are larger, but of the ſame colour with the fifth, and are later in flowering.

[7. Root bulbous. Leaves at the baſe of the culm, awl-ſhaped, narrowed at the baſe, as it were into a long petiole. Scape columnar, a foot and half high, ſpiked, with ſeſſile, alternate flowers. Spathes bivalve, purpliſh. Flowers oblong, a little bent, purple above, cut into ſix lanceolate parts, a little unequal and erect. Anthers linear. Style the length of the ſtamens and corolla. Stigma trifid[g]. All the ſpecies of Antholyza are natives of the Cape of Good Hope.]

PROPAGATION AND CULTURE.

The Antholyzas are propagated by offſets, which the bulbous roots ſend forth in pretty great plenty; or by ſeeds, which are ſometimes perfected in Europe. Theſe ſeeds ſhould be ſown ſoon after they are ripe; for if they are kept out of the ground till the following ſpring, they often miſcarry, or at leaſt remain a year in the ground before they grow. If the ſeeds are ſown in pots of light earth, and plunged into an old bed of tan which has loſt its heat, and ſhaded in the middle of the day in hot weather, the ſeeds will come up the following winter; therefore they muſt be kept covered with glaſſes to ſcreen them from cold, otherwiſe the young plants will be deſtroyed. Theſe may remain in the pots two years, if the plants are not too cloſe, by which time they will have ſtrength enough to be planted each into a ſeparate ſmall pot filled with light earth. The time for tranſplanting theſe roots is in july or auguſt, when their leaves are decayed. In ſummer the pots may be placed in the open air, but in winter they muſt be removed, and placed under a hot-bed frame, for they are not very tender; but where any damp ariſes, it is very apt to occaſion a mouldineſs upon their leaves. The roots ſhoot up in autumn, and the flowers begin to appear in may; the ſeeds ripen in auguſt, and ſoon after their leaves and ſtalks decay; the roots may then be taken up, and kept ſix weeks or two months out of the ground, ſo that they may be eaſily tranſported from one country to another at that time. Theſe flowers are ornamental when they appear, and being plants which require little culture, deſerve a place in every good garden.

3. The third ſpecies is too tender to thrive in the open air in England, the roots muſt therefore be planted in pots filled with light earth, and may remain in the open air till october, when they muſt be removed into ſhelter, either into an airy glaſs-caſe, or placed under a hot-bed frame, where the leaves will keep growing all winter, and in the ſpring the ſtalks ariſe and flower. During the winter ſeaſon, the plants will require a little water when the weather is mild, once a week, but it muſt not be given in great quantities, eſpecially in cold weather; in the ſpring they ſhould be watered oftener; and when the flowers are paſt, the pots ſhould be removed into the open air to perfect their ſeeds, which will ripen the latter end of june, ſoon after which the ſtalks will decay to the root, and remain inactive till ſeptember. When the ſtalks are decayed, the roots may be taken out of the ground, and kept in a dry room till the end of auguſt, when they ſhould be planted again.

This plant is eaſily propagated by offſets, which it ſends out in great plenty, or by ſowing the ſeeds in pots about the middle of auguſt; they ſhould be placed in a ſituation where they may enjoy the morning ſun, and in dry weather ſhould be gently watered; in ſeptember the pots may be removed to a warmer ſituation, and in october they muſt be placed under a frame, where they may be protected from froſt and hard rains, but in mild weather enjoy the free air. The plants will appear in october, and continue growing all the winter, and in june their leaves will decay; then they may be taken up, and four or five roots may be planted in each pot, till they have grown another year, when they may be each put into a ſeparate pot. Theſe ſeedling plants muſt be ſheltered in the ſame manner as the old roots in winter, and the third year they will flower.

5. 6. The fifth and ſixth ſorts are propagated by offſets from the root, in the ſame manner as the Crocus or Gladiolus, and are produced in pretty great plenty; the time for tranſplanting the roots is in auguſt, ſoon after the ſtalks decay; the larger roots muſt be each put into a ſeparate pot filled with light freſh earth, and may be placed in the open air till toward the end of ſeptember, when the leaves will begin to appear above ground, at which time it will be proper to remove them into ſhelter; for as the plants are natives of a warm country, they will require ſome ſhelter from the froſt, at leaſt hitherto they have been ſo managed; for until the roots are become more common, it would be imprudent to venture them abroad in winter; though they may probably be hardy enough to reſiſt the cold of our ordinary winters, when planted in a warm border and a dry ſoil, at leaſt with a little ſhelter in hard froſts; for thoſe plants which have been placed in an open airy glaſs-caſe, have ſucceeded better than thoſe which have been in the ſtove; and the flowers have been much ſtronger, and of longer duration, though thoſe in the ſtove have flowered a month earlier; but theſe have been ſo much drawn, as not to produce ſeeds; whereas thoſe which have been treated

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[f] Linn. ſyſt.

[g] Linn. ſuppl.

pretty hardily, and had plenty of air, have ſeldom failed.

The beſt way of treating theſe roots, is to plunge the pots into an old bed of tanner's bark, which has loſt its heat ſome time in october; this bed ſhould be covered with a frame, the glaſſes of which ſhould be drawn off every day in mild weather, that they may enjoy as much free air as poſſible, to prevent their drawing up weak; but they muſt be covered in bad weather, and ſcreened from froſt. The latter end of march, when they begin to put out their flower-ſtalks, the pots ſhould be removed to an airy glaſs-caſe, where they may ſtand to flower, and when the flowers are decayed, they ſhould be placed in the open air to perfect their ſeeds.

The offsets and ſmall roots may be planted three or four in a pot, according to their ſize, and ſhould have the ſame treatment as the larger roots the firſt year, and by that time twelvemonth they will be ſtrong enough to flower, and ſhould have ſeparate pots.

Anthora. See *Aconitum.*

ANTHOSPERMUM. (Ἄνθος *and* σπέρμα, Flower-ſeed.)

Lin. gen. n. 1164. *Reich.* 1276. *Schreb.* 1501. *Juſſ.* 197. Tournefortia *Ponted. epiſt.* 11.

Claſſ. 23. 2. Polygamia Dioecia; or rather Dioecia tetrandria.

Nat. order of *Stellatæ. Rubiaceæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* one-leafed, conical, quadrifid beyond the middle: *diviſions* ovate-oblong, revolute, obtuſe, a little coloured.

Cor. none, unleſs you ſo name the calyx.

Stam. *Filaments* four, capillary, erect, the length of the calyx, inſerted into the receptacle: *anthers* twin, oblong, four-cornered, obtuſe, erect.

* *Female.*

Cal. and Cor. as in the male.

Pist. *Germ* inferior, ovate, four-cornered: *ſtyles* two recurved: *ſtigmas* ſimple.

Obs. Linneus had not ſeen the fruit.

Character from Pontedera.

Flower one-petalled, funnel-ſhaped, ſitting on the calyx, with the mouth ſlightly gaſhed. The calyx changes into a roundiſh angular fruit big with eight oblong ſeeds, and two connected ones. *Whether he miſtook the calyx for the fruit, and the anthers for the ſeeds, or whether he had ſeen the real fruit, future inſpection muſt determine.*

ESSENTIAL CHARACTER.

Cal. four-parted. *Cor.* none. *Stam.* four. *Piſt.* two. *Germ* inferior. *Male* and *Female* in the ſame, or a diſtinct plant.

Obs. *All the ſpecies are dioecous without any hermaphrodite flowers. Thunb.*

SPECIES.

1. Anthoſpermum æthiopicum. *Amber Tree.*
Lin. ſpec. 1511. *ſyſt.* 919. *Reich.* 4. 358. *hort. cliff.* 455. *t.* 27.
Frutex africanus ambram ſpirans. *Pluk. phyt. t.* 183. *f.* 1. *Walth. hort.* 24. *t.* 9.
Leaves poliſhed.

[2. Anthoſpermum ciliare.
Lin. ſpec. 1512. *Reich.* 4. 359.
Clinopodium africanum, &c. *Pluk. mant.* 5. *t.* 244. *f.* 5.
Leaves ciliated along the keel, and edge.

3. Anthoſpermum herbaceum.
Lin. ſuppl. p. 440. *ſyſt.* 919.
Leaves ſix, poliſhed; ſtem herbaceous.

DESCRIPTIONS, &c.

1. The male flowers are borne on one plant, and the hermaphrodite flowers on another[a].] The beauty of this ſhrub is in its ſmall evergreen leaves, which grow as cloſe as heath; and being bruiſed between the fingers, emit a very fragrant odour.

[2. Root perennial, woody. Many branches ſcarcely dividing. Leaves narrow, lanceolate. Flowers axillary, ſeſſile. Calyxes four-parted. Stamens four[b].

3. This has the appearance of a *Galium.* The ſtalks are herbaceous, diffuſed, roundiſh, red, ſmooth: the branches oppoſite. Leaves in whorls, ſeſſile, lanceolate, ſmooth, one-nerved. Flowers axillary[c]. All theſe plants are natives of the Cape of Good-Hope.

Thunberg obſerves, that all the *Anthoſpermums* are dioecous without any hermaphrodite; which is expreſsly contrary to Linneus's and Miller's obſervation, on the firſt ſpecies.]

PROPAGATION AND CULTURE.

Theſe plants may be eaſily propagated by cuttings during any of the ſummer months, in a border of light earth; they will take root in ſix weeks time, provided they are watered and ſhaded as the ſeaſon may require: or if theſe cuttings are planted in pots, and plunged into a very moderate hot-bed, they will take root ſooner, and there will be a greater certainty of their growing. Afterward they ſhould be taken up, with a ball of earth to their roots, and planted into pots filled with light ſandy earth, and may be expoſed to the open air until october; at which time they ſhould be removed into the conſervatory, where they ſhould be placed as free as poſſible from being over-hung with other plants; and, during the winter ſeaſon, they muſt be refreſhed with water, but ſhould not have too much given them each time; and ſhould have as much air admitted to them as the weather will permit, for if they are kept too cloſe, they will be ſubject to grow mouldy, and generally decay ſoon after; ſo that if the houſe is damp, it will be difficult to preſerve theſe plants through the winter.

They muſt frequently be renewed by cuttings, for the old plants ſeldom continue above three or four years.

All thoſe which were formerly in the gardens (of the firſt ſpecies) were male plants, which, being propagated by cuttings, had been continued, ſo that no ſeeds were ever produced in England, until I received ſome ſeeds from the Cape of Good Hope, from which I raiſed many plants of both ſexes, and a few among them with hermaphrodite flowers, which produced ſeeds; and from them many plants were raiſed.

[Plukenet mentions, that the firſt ſort grew from ſeed in Biſhop Compton's garden at Fulham, in 1692. This, and the ſecond ſort, may alſo be raiſed from layers.]

Anthoxanthon. See *Rumex maritimus.*

[ANTHOXANTHUM. [Ἄνθος *and* ξανθος, Yellow flower.]

Lin. gen. 42. *Reich.* 46. *Schreb.* 58. *Juſſ.* 29.

Claſſ. 2. 2. Diandria Digynia.

Nat. order of *Gramina* or *Graſſes.*

Engl. *Vernal Graſs.* Fr. *Flouve.*

GENERIC CHARACTER.

Cal. *Glume* one-flowered, two-valved; *valves* ovate, acuminate, concave: the inner one larger.

Cor. *Glume* one-flowered, two-valved, the length of the greater valve in the calyx: each valve emitting an awn from the lower part of the back; one of them jointed.

Nectary two-leaved, very ſlender, cylindric: leaflets ſubovate, embracing.

Stam. *Filaments* two, capillary, very long: *anthers* oblong, forked at both ends.

Pist. *Germ* oblong: *ſtyles* two, filiform: *ſtigmas* ſimple.

Per. *Glume* of the corolla grows to the ſeed.

Seed one, acuminate at both ends, roundiſh.

ESSENTIAL CHARACTER.

Cal. Glume two-valved, one-flowered. *Cor. Glume* two-valved, acuminate. *Seed* one.

SPECIES.

1. Anthoxanthum odoratum. *Sweet Vernal Graſs.*
Lin. ſpec. 40. *Reich.* 1. 74. *ſuec. n.* 33. *Hudſ.*

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[a] Linn, ſyſt.

[b] Linneus.

[c] Ibid.

angl. 11. *Wither. arr.* 25. *t.* 2. *f.* 1. *Curtis lond.* 1. 4. *Stilling. miſc. t.* 1. *Schreb. gram. t.* 5. *Fl. ruſt.* 23. *Muſ. ruſt.* 4. 2. 3. *Mill. illuſtr. Fl. dan. t.* 666. *Hall. helv. n.* 1491. (Avena.) *Scop. carn. n.* 38. *Pollich pal. n.* 29. *Neck. gallob.* 16. *Leers herborn. n.* 25. *Krock. ſileſ. n.* 47. *Scheuch. agr.* 88. *Monti* 57. *ic.* 84. *Bauh. pin.* 3. 3. *Bauh. hiſt.* 2. 466. 1. *Raii hiſt.* 1268. 1. *ſyn.* 398. (Gr. vernum.) *Mor. hiſt. ſ.* 8. *t.* 7. *f.* 25.

Spike oblong ovate; flowers longer than the awn, on ſhort peduncles.

2. Anthoxanthum indicum.

Lin. ſpec. 40. *Reich.* 1. 75. *fl. zeyl. n.* 25. *Pluk. alm. t.* 119. *f.* 1.

Spike linear, flowers ſeſſile ſhorter than the awn.

3. Anthoxanthum crinitum.

Lin. ſuppl. 90. *ſyſt.* 73.

Panicle ſpike-form cylindrical awned, the awns long ſpreading looſe.

DESCRIPTIONS, &c.

1. Root perennial, odorous. Culms at firſt oblique, then erect, cylindrical, ſmooth, when magnified appearing ſcored with green lines, from ſix or eight inches to a foot or more in height, having two or three, ſometimes four, ſhining joints on each. Root-leaves many, downy on their upper ſurface. Stem-leaves one at each joint, a little rugged on both ſides, with a blunt membrane at the baſe finely notched. Sheaths ſtriated and ſmooth, except the lower ones, which are ſomewhat villoſe and reddiſh. The ſpike or rather ſpike-like panicle is oblong-ovate and looſe: the peduncles in bundles, very ſhort, ſomewhat branched, upright, before and after flowering contracted cloſer, the lower ones more remote [d].

This is eaſily diſtinguiſhed from all our wild Graſſes: for beſides its having only two ſtamens, in common with others of the genus, and each ſpicule containing only one flower; one valve of the calyx is ſmall and membranous, the other large, incloſing the fructification, both pointed, and ſmooth or ſometimes having ſoft white hairs ſcattered over them; they are alſo ſprinkled over with minute yellow dots, ſimilar to thoſe of *Black Currants*, whence poſſibly its peculiar ſcent. Corolla as ſhort or ſhorter than the ſmaller valve of the calyx, covered on the outſide to near the top with ſtiff brown hairs lying flat: valves equal or nearly ſo, cloven at the end, each having an awn; that from the outer valve ſtraight, ſhorter than the calyx, from the middle of the back, or near the top; that on the inner valve ſpringing from the baſe or near it, at firſt ſtraight, and a little longer than the calyx; but as the ſeed ripens, the top is generally bent horizontally inward. The nectary reſembles the corolla of a *Poa*, and is ſmooth; it is compoſed of two little ſhining ovate valves, of different ſizes, cloſely embracing the germ, and ſcarcely to be obſerved, unleſs when the anthers are protruding from between them, for as ſoon as theſe are excluded, they cloſe again on the germ, and form a coat to the ſeed; the outer valve is oblong-roundiſh, yellowiſh-brown, membranaceous at the edge, the inner is membranaceous and as narrow again as the other. Anthers purple. Filaments ſhort at the firſt opening of the corolla, but afterwards very long. Stigmas woolly [e].

Haller makes the *Anthoxanthum* one of his two-flowered *Avenas*; but Dr. Stokes obſerves, that it is a genus truly diſtinct; that it has the awn of *Avena*, the corolla of *Poa*, and the double one of *Phalaris*; and that in a natural arrangement it ſhould ſtand between *Poa* and *Avena*.

The uſual colour of the ſpike is a pale yellow, whence its generic name *Anthoxanthum*. From the ſweetneſs both of the flowers and leaves, which it imparts to new-mown hay, it has derived its ſpecific or trivial name *odoratum*, or *ſweet-ſcented*. From the earlineſs of its flowering, it has acquired its other Engliſh name of *Vernal* or *Spring-graſs*. It grows on almoſt any kind of ſoil, but it ſeems to prefer that which is moderately dry. In a rich ſoil it is ſaid that the leaves have a great tendency to curl. It is common in paſtures; and alſo in woods, where the ſpikes are uſually ſlender and looſe. Towards the middle of may it is in full bloom; and about the middle of june the ſeed is ripe, and may eaſily be ſeparated by rubbing: this graſs however is not very abundant in ſeed.

Mr. Stillingfleet remarks, that from its being found on ſuch paſtures as ſheep are fond of, and whence excellent mutton comes, it is moſt likely to be a good graſs for ſheep-paſtures: that he has found it on all grounds, from the moſt ſandy and dry to the moſt ſtiff and moiſt, and even in bogs: that it is very plentiful in the beſt meadows about London, as about Hampſtead and Hendon: and that it is very eaſy to gather.

Mr. Curtis recommends it for its earlineſs, its readineſs to grow in any ſoil or ſituation, and for its agreeable ſcent; in which it approaches the *Schoenanthus* and other odoriferous graſſes of the Eaſt-Indies. It retains the odour for a long time; and Boccone ſays, that a diſtilled water is prepared from it, as the vehicle of ſome perfumes.

It might probably be cultivated to conſiderable advantage, for in good meadows it grows to a reaſonable height, and forms a thick tuft of tender ſucculent leaves at bottom, though in point of crop it is not ſo productive as ſome other graſſes. Cattle of all ſorts ſeem to be fond of it. Mr. Curtis ſuggeſts, that probably *Poa trivialis* or common Meadow, with *Feſtuca elatior* or meadow Feſcue, joined to this Graſs, would form an excellent mixture for laying down meadows.

2. Culm a foot high, jointed, aſcending. Leaves broad, ſhort. Spike very narrow, thin. Each valve of the calyx ends in a long awn [f]. Native of the Eaſt-Indies.

3. High and ſmooth. Panicle long, cloſe ſo as to reſemble a ſpike. A long, ſimple, ſpreading, ſoft, looſe awn to the corolla. Native of New Zealand [g].

PROPAGATION AND CULTURE.

See Grass.

Anthoxanthum aculeatum. See *Crypſis*.

———— paniculatum. See *Feſtuca ſpadicea*.

Anthriscus. See *Chærophyllum*. *Scandix*.]

ANTHYLLIS. (Ανϑυλλις *Dioſc.* Ανϑήλη, *flos evadens in lanuginem*, or *floris lanugo: a downy flower.*)

Lin. gen. 864. *Reich.* 936. *Schreb.* 1174. *Gærtn. t.* 145. *Juſſ.* 355. Vulneraria *Tourn.* 211. Erinacea *Ejuſd.* Barba Jovis *Ejuſd.* 419.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ* or *Leguminoſæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ovate-oblong, ſwelling, villoſe: the mouth five-toothed, unequal, permanent.

Cor. papilionaceous: *banner* longer, the ſides reflex, claw the length of the calyx: *wings* oblong, ſhorter than the banner: *keel* compreſſed, the length of the wings, and ſimilar to them.

Stam. *Filaments* connate, riſing: *anthers* ſimple.

Pist. *Germ* oblong: *ſtyle* ſimple, aſcending: *ſtigma* obtuſe.

Per. *Legume* roundiſh, concealed within the calyx, very ſmall, bivalve.

Seeds one or two.

ESSENTIAL CHARACTER.

Cal. ſwelling. *Legume* roundiſh, concealed.

SPECIES.

* *Herbaceous.*

1. Anthyllis tetraphylla. *Four-leaved Anthyllis* or *Kidney Vetch.*

Lin. ſpec. 1011. *Reich.* 3. 433. *hort. upſ.* 221. *cliff.* 371. 3. *Gærtn. fruct.* 2. 307. *Sauv. monſp.* 227. *Mill. fig. t.* 41. *f.* 1. *Curtis mag. t.* 108. *Rivin. tetr. t.* 18. *f.* 2. *Park. theat.* 1094. 3.

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[d] Leers.

[e] Curtis. Leers. With. Stokes.

[f] Linn. zeyl.

[g] Linn. ſuppl.

Trifolium halicacabum. *Cam. hort. t.* 47. *Bauh. hiſt.* 2. 361. *f.* 2. *Raii hiſt.* 922.
Lotus pentaphyllos veſicaria. *Bauh. pin.* 332.
Leaves pinnate with four lobes, flowers lateral.

2. Anthyllis Vulneraria. *Common Ladies' finger* or *Kidney Vetch.*
Lin. ſpec. 1012. *ſyſt.* 654. *Reich.* 3. 433. *ſuec. n.* 638. *hort. cliff.* 371. 2. *Hudſ. angl.* 313. *With.* 765. *Pollich palat. n.* 671. *Neck. gallob.* 303. *Rivin. t.* 18. *f.* 1. *Ger.* 1060. 1. *emac.* 1240. 1. *Park.* 1093. 1. *Bauh. hiſt.* 2. 362. *Raii hiſt.* 922. 2. *ſyn.* 325. 1.
α. Anthyllis ruſtica. *Mill. dict. n.* 3.
Vulneraria Anthyllis. *Scop. carn. n.* 879. *Hall. helv. n.* 398.
β. Vulneraria ſupina, flore coccineo. *Dill. elth.* 431. *t.* 320. *f.* 413. *Raii ſyn.* 325. 2. *hiſt.* 922. 3.
Anth. Vulneraria. *Mill. dict. n.* 2.
γ. Vulneraria ruſtica, flore albo. *Tournef. inſt.* 291.
Leaves pinnate, unequal: head double.

3. Anthyllis montana. *Mountain Anthyllis* or *Kidney Vetch.*
Lin. ſpec. 1012. *Reich.* 3. 434. *Jacqu. auſtr.* 4. 17. *t.* 334.
Vulneraria foliis pinnatis æqualibus, ſub umbella palmatis. *Sauv. monſp.* 237. *Hall. helv. n.* 397. *Scop. carn. n.* 880.
Barba Jovis pumila villoſa, flore globoſo purpureo. *Garid. aix.* 55. *t.* 13. *Quer. hiſp.* 3. *t.* 50.
Aſtragalus incanus tomentoſus, pallido globoſo flore, italicus. *Barr. ic. t.* 722.
Aſtr. purpureus. *Dalech. hiſt.* 1347.—monſpeliano candidior, &c. *Bauh. hiſt.* 2. 339.
Leaves pinnate, equal; head terminal, one-ranked, flowers oblique.

4. Anthyllis cornicina.
Lin. ſpec. 1012. *ſyſt.* 654. *Reich.* 3. 434. *Lamarck dict.* 1. *p.* 203. *Cavan. hiſp. n.* 42. *t.* 39. *f.* 2.
Leaves pinnate, unequal; heads ſolitary.

[5. Anthyllis lotoides.
Lin. ſpec. 1012. *Reich.* 3. 435. *Lamarck ibid. n.* 4. *Cavan. hiſp. n.* 43. *t.* 40.
Leaves three-parted; calyxes priſmatic, faſcicled, the length of the legumes.

6. Anthyllis Gerardi.
Lin. ſyſt. 654. *Reich.* 3. 435. *mant.* 100. *Ger. prov.* 490. *t.* 18.
Leaves pinnate, unequal, peduncles lateral, longer than the leaf, heads leafleſs.

7. Anthyllis quinqueflora. *Five-flowered Anthyllis.*
Lin. ſuppl. p. 325. *ſyſt.* 654.
Leaves ternate, linear; head five-flowered.

8. Anthyllis involucrata.
Lin. ſyſt. 654. *Reich.* 3. 435. *mant.* 265.
Ononis involucrata. *Berg. cap.* 213.
Sub-herbaceous; leaves ternate, petiolate, ſtipuled, ſword-ſhaped; flowers in a head.

** *Shrubby.*

9. Anthyllis linifolia.
Lin. ſyſt. 654. *Reich.* 3. 436. *mant.* 265.
Leaves ternate, ſeſſile, ſword-ſhaped; flowers in a head.]

10. Anthyllis Barba Jovis. *Silvery Anthyllis* or *Jupiter's Beard.*
Lin. ſpec. 1013. *Reich.* 3. 436. *hort. cliff.* 371. 1. *upſ.* 221. *Sauv. monſp.* 237. *Mill. fig. t.* 41. *f.* 2. *Gærtn. fruct.* 2. 308.
Barba Jovis. *Bauh. pin.* 397. *Bauh. hiſt.* 1. 385. *Rivin. tetr. t.* 4. *f.* 1.
Leaves pinnate, equal, tomentoſe; flowers in a head.

11. Anthyllis heterophylla.
Lin. ſpec. 1013. *Reich.* 3. 436.
Leaves pinnate, the floral leaves ternate.

[12. Anthyllis viſciflora.
Lin. ſuppl. p. 325. *ſyſt.* 654.
Leaves digitate-pinnate, calyxes ſhaggy.]

13. Anthyllis cytiſoides. *Downy-leaved Anthyllis.*
Lin. ſpec. 1013. *Reich.* 3. 436. *Gouan hort.* 362. *illuſtr.* 47.
Cytiſus. 6. *Cluſ. hiſt.* 1. *p.* 96.
Spartium latifolium parvo flore. *Barr. ic.* 1182.
Leaves ternate, unequal; calyxes woolly, lateral.

14. Anthyllis hermanniæ. *Lavender-leaved Anthyllis.*
Lin. ſpec. 1014. *Reich.* 3. 437.
Barba Jovis cretica. *Rivin. tetr. t.* 4. *f.* 2.
Spartium ſpinoſum. *Alp. exot. t.* 26.
Leaves ternate, ſub-peduncled, calyxes naked.

15. Anthyllis Erinacea. *Prickly Anthyllis.*
Lin. ſpec. 1014. *Reich.* 3. 437.
Erinacea. *Cluſ. hiſt.* 1. *p.* 107. *hiſp. t.* 214.
Spinoſe, leaves ſimple.

[16. Anthyllis tragacanthoides.
Billard. ic. ſyr. 2. 16. *t.* 9. *Rauw. itin.* 281. *Mor. hiſt. app. ſ.* 2. *t.* 25.
Tragacanthæ alterum genus. *Dalech. hiſt. app. p.* 32. *vol.* 2.
Shrubby: leaves pinnate tomentoſe, petioles ſpineſcent, flowers in racemes.

17. Anthyllis indica.
Loureiro cochinch. 429.
Shrubby: leaves pinnate equal ſmooth: racemes oblong ſubterminating.]

DESCRIPTIONS, *&c.*

1. This is an annual plant with trailing branches, which ſpread flat on the ground. The leaves grow by fours at each joint; or rather, as Linneus expreſſes it, they are pinnate with four leaflets inſtead of five, the loweſt leaflets wanting its oppoſite. The flowers come out in cluſters on the ſides of the ſtalks, having large ſwelling calyxes, out of which the extreme parts of the petals do but juſt appear; theſe are of a yellow colour, and are ſucceeded by ſhort pods incloſed within the calyx. [This ſpecies has the ſtamens really diadelphous, and not all connate, as in moſt of the others[h].]

It is a native of the ſouth of France, Spain, Portugal, Italy and Sicily, where it is a weed in their arable land. It flowers with us in july, and ripens its ſeeds in ſeptember. [It was cultivated in 1640, by Parkinſon;[i]] but the flowers having little beauty, this plant is ſeldom permitted to have a place, except in botanic gardens.

2. [Stems round, pubeſcent. The leaves have five or ſix pairs of leaflets, pubeſcent with hairs cloſe to the ſurface. Flowers ſeſſile, about twenty in a head. Calyx membranaceous, contracted at the mouth and bilabiate. Wings folded in with the keel, and longer than it; their claws very long. Bractes under the heads ſubpalmate; at the baſe of the peduncles briſtle-ſhaped[k].

Linneus obſerves, that in Oeland, where the ſoil is a red calcareous clay, the flowers of *Anthyllis Vulneraria* are red; but that in Gotland, where the ſoil is white, the flowers alſo are white: ours are yellow.] Mr. Miller affirms, that having cultivated them many years, he found that they never altered from ſeeds: that the leaves of the yellow-flowering Kidney-Vetch are much narrower than thoſe of the red, and have generally one or two pairs of leaflets more in each; that the heads of flowers are ſingle in this, whereas the red has double heads; and that the root is perennial in our wild ſort, whereas the other ſeldom laſts longer in gardens than two years, although on poor land it will ſometimes continue three years.

[It is a native of moſt parts of Europe, and flowers from may to july.

β. The Scarlet-flowering Kidney-Vetch, is alſo found wild in ſeveral parts of Europe.] Mr. Miller received the ſeeds from Spain and Portugal; [Mr. Ray ſays, that it is common in Italy; and we have it in Wales, both in Pembrokeſhire, where it was firſt found by Edw. Llwyd, and the iſle of Angleſea, where Dillenius obſerved it; alſo in the iſle of Man.

The *Anthyllis Vulneraria* is recommended as an excellent paſturage for ſheep; and Mr. Young informs us, that it abounds greatly in the beſt meadows of the Pyrenees: at the ſame time he ſays, that the produce is not large[l]. With us the whole plant is dry, and looked upon as aſtringent. This, however, is owing to its affecting dry calcareous ſoils : cultivated in a rich ſoil, it would doubtleſs become more ſucculent, though it would probably never rival ſeveral other leguminous plants. It has been confounded, by agricultural writers, with Bird's-foot Trefoil (Lotus Corniculata), and with Liquorice-Vetch (Aſtragalus glycyphyllos).

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[h] Linneus.
[i] Hort. kew.
[k] Relh. cant.
[l] Annals, vol. 15. p. 584.

3. Root perennial. Stem ſhrubby, ſimple, ſcarcely a foot long, proſtrate. Leaves pinnate, ſilky and hoary on both ſides : leaflets from ten to twenty pairs, either ſeſſile or on very ſhort petioles, oblong-lanceolate, acute, ſmall and quite entire. Peduncles erect or nearly ſo, villoſe, three or four inches in length, ending in a ſingle cloſe head of flowers, immediately under which is an involucre conſiſting uſually of about five leaves, cut into narrow-lanceolate acute hoary ſegments, the length of the flowers, and from two to nine in number. Calyx funnel-ſhaped, not inflated ; the tube green ; the ſegments ſubulate, nearly equal, longer than the tube, erect, purple, with long hairs ; the two upper ones rather leſs deeply cut than the other three. Standard of the corolla obovate, obtuſe, entire, pointing ſideways, pale with red-purple ſtreaks, ſpreading at top, converging below, and ending abruptly in a narrow claw ; wings fleſh-coloured ſtreaked with purple, obtuſe, erect : keel ovate, very ſmall, with a very ſlender double claw, blood-red at the tip, the reſt pale greeniſh. Filaments diadelphous. Germ linear, cylindric, ſmooth : ſtyle ſubulate, bowed inwards. Legume ſmooth, the length of the calyx, containing few ſeeds of which one only ripens, in july[m]. Native of the ſouth of France, Switzerland, Auſtria, Carniola, Italy, and Spain.

4. Stems herbaceous, round, very hairy, as is alſo the whole plant, ſeldom erect but almoſt always proſtrate. Leaves alternate, conſiſting of five or ſeven pinnules, which are unequal the upper one being longeſt, and ſeſſile. Stipules reſembling the pinnules, but ſhorter. Flowers about ten in a head, which is leafy at the baſe. Corolla pale yellow, a little longer than the calyx ; banner plaited, entire, ſickle-ſhaped below on both ſides, with a very ſharp claw ; keel furniſhed with two briſtles at bottom. Filaments truly diadelphous. Germ oblong-bowed. Legume ſhort, bent into a ſemicircle, with the outer rim membranaceous. Seeds ovate, frequently four. It is annual, and flowers in may and june[n].

Linneus adds, that the ſtem is branching, ſeven or eight inches high. Peduncles axillary, the length of the leaves. Heads of flowers both lateral and terminating, round, hairy.]

According to Miller, when it flowers early in the ſummer, it commonly decays ſoon after the ſeeds are ripe ; whereas thoſe plants which flower later in the ſeaſon, and do not perfect ſeeds, will abide another year.

[Native of Spain.

5. This is a hairy, procumbent plant. Stems herbaceous, round, half a foot high, ſomewhat erect when they flower. Leaves alternate, diſtant, ternate ; leaflets ovate, villoſe, dark green, ſoft. Stipules two, like the leaflets. Flowers frequently nine in a head. Common peduncles axillary, ſolitary, longer than the leaf. At the baſe of the head there is a ſingle ternate leaf without ſtipules. Calyx villoſe, with a priſmatic tube, pale yellow, ending in five reddiſh briſtles, four on the banner, and the fifth below the keel. Corolla of a full ſulphur colour : banner ovate, channelled, with the border bent back on each ſide, and covering the wings and keel, which are ſhorter ; the claw is the length of the calyx and tapers gradually : wings and keel concave, and coaleſcent from their baſe to the tip of the calyx, ſo that the corolla conſiſts of two petals only : a ſhort little membrane ſurrounds the baſe of it. Legume bowed, roundiſh, a little longer than the calyx, brown. Seeds ovate, ten or near that number. Caſpar Bauhin calls it a *Lotus* ; and Lamarck is of opinion that it rather belongs to that genus[o]. Bauhin obſerves, that it has crooked pods reſembling crow's or raven's claws[p]. The foregoing ſpecies having pods of the ſame ſhape, induced Linneus to give it the trivial name of *cornicina*.

Linneus remarks, that the ſide leaflets are united at the baſe into one wedge-ſhaped leaf, and that the middle one is ſubſeſſile ; that the head has only five or ſix flowers ; that the tenth ſtamen is diſtinct ; that it has ſo much the habit of the other ſpecies as not to merit being made a diſtinct genus ; and that it is an annual plant. Native of Spain.

6. Stems many, proſtrate, ſmooth. Leaves alternately pinnate, ſublinear. Stipules the ſize of the leaves. Annual. Grows wild on the ſea-ſhores of Provence[q].

7. Height ſeven inches, branching, riſing. Leaves petiolate ; lobes obtuſe, hairy. Peduncles terminal, two inches long. Flowers ſubpedicelled. Bractes three, lanceolate, the length of the flowers. Calyx hairy. Corollas yellow. The tenth ſtamen ſeparate[r]. A native of the Cape of Good Hope.

8. Murray heſitates whether this may not be the ſame with *Ononis* 14[s]. The ſiſter of *A. fruticoſa*, but the folioles ſhorter. Stem herbaceous procumbent, ſhaggy, a foot high. Branches erect, ſimple, floriferous. Leaflets lanceolate, hairy : ſtipules of the ſame ſize with them. Heads roundiſh, involucred, with two three-parted bractes, ſcarcely longer than the flowers, which are yellow[t]. A native of the Cape of Good Hope.

9. Stem eight feet high, ſhrubby, round, equal : branchlets hoary. Leaves remote : leaflets ſword-ſhaped or long lanceolate, nearly equal, ſcarcely pubeſcent, narrower at the baſe : no ſtipules. Heads terminal, ſubgeminate, peduncled, roundiſh, involucred, with various ternate bractes, white with down, the length of the flowers which are yellow : calyxes ſeſſile, white with down[u].]

10. The tenth ſpecies is the *Barba Jovis*, or *Jupiter's Beard*, by many called *Silver Buſh*, from the whiteneſs of its leaves. It is a ſhrub which often grows ten or twelve feet high, and divides into many lateral branches, with winged leaves, compoſed of an equal number of narrow leaflets, which are very white and hairy ; the flowers are produced at the extremities of the branches, collected into ſmall heads : theſe are of a bright yellow colour, and appear in june ; ſometimes they are ſucceeded by ſhort woolly pods, containing two or three kidney-ſhaped ſeeds ; which, except the ſeaſon proves warm, do not ripen in this country. [A native of the ſouth of France, Spain, Portugal, Italy and the Eaſt. It was cultivated in 1640[x].

11. An under-ſhrub, procumbent, round, hoary, ſub-pubeſcent. Leaves have eight pairs of leaflets, with an odd one, lanceolate, acute, ſilky. Bractes ſeſſile, remote, lanceolate, rather obtuſe. Peduncles ſhort, terminated with three leaflets, and uſually with two flowers, which are ſeſſile, and minute[y].] Theſe are not ſucceeded by ſeeds in this country. Grows naturally in Portugal and Spain.

[12. Stems ſeven inches long, proſtrate. Leaves petiolate, leaflets linear, ovate, ſmooth, unequal ; two ſeſſile oppoſite ; three petiolate, between the two others ; the ſide ones ternate ; the middle one pinnate ; with five lobes. Peduncles leafleſs, the length of the leaves. Head five or ſix-flowered. Calyxes viſcous. Corollas yellow, twice as long as the calyx[z]. Obſerved at the Cape of Good Hope by Sparrman.]

13. Is a low ſhrub, ſeldom riſing above two feet high, but ſends out many ſlender branches, with hoary leaves, which are ſometimes ſingle, but generally have three oval leaflets, the middle one being longer than the other two ; the flowers are yel-

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[m] Jacquin and Haller.

[n] Cavanilles.

[o] Cavanilles

[p] Pin. 332.

[q] Linn. mant.

[r] Linn. ſuppl.

[s] Linn. ſyſt.

[t] Linn. mant.

[u] Ibid.

[x] Park. theatr.

[y] Linneus.

[z] Linn. ſuppl.

low, and come out from the ſide of the branches, three or four joined together, having woolly calyxes; but theſe are rarely ſucceeded by ſeeds in England. [According to Linneus the branches are wand-like, as in the Spartiums, round, nappy, white. Leaves ſubſeſſile, elliptic-lanceolate, ſoft, nerves riſing, the middle one double the ſize of the other two, and petiolate; the lower ones often ſimple. Flowers axillary, ſeſſile, uſually two. Calyxes oblong, cylindric, white-villoſe. Corollas yellow: banner reflex on the ſides, and emarginate at the tip. All the ſtamens connate. A native of Spain and about Montpellier. Cultivated in 1759, by Mr. Miller[a].]

14. This ſhrub grows five or ſix feet high, the branches are garniſhed with oblong, ternate leaves; the flowers, which are yellow, are produced in ſmall cluſters on the ſide of the branches; theſe appear in july and auguſt, but are not ſucceeded by ſeeds in this country. [Calyxes ſcarcely ſwelling, but the habit the ſame with the foregoing. Flowers four, on ſeparate very ſhort peduncles. Branches ending in a ſpine[b].] Grows naturally in Greece, Crete, and alſo in Paleſtine: this was formerly in ſome of the Engliſh gardens, but the ſevere winter of 1739-40 deſtroyed moſt (if not all the plants) in this country, ſince which time I have not ſeen it.

15. The height of this ſhrub is nine or ten feet, and it has the appearance of one ſort of Gorſe or Whin. [It is covered with ſpines; at the origin of the branches, an ovate ſcale; leaves oblong-ovate, nappy, three generally next the flowers[c]. It grows naturally in Spain and Portugal; and was cultivated in 1759, by Mr. Miller[d].

16. Stem ſhrubby, a ſpan high. Leaflets twenty-two to thirty-two, ovate, acute, ſeſſile, tomentoſe. Stipules entire. Flowers purple, ſeſſile, on a common axillary peduncle, longer than the leaves. Calyx ſupported by a ſcale, the two lateral leaflets ſtipulaceous, filiform, tomentoſe; when adult purple-veined. Banner of the corolla reflex-compreſſed, ſcarcely longer than the wings and keel; wings ſemicordate, with a filiform oblong claw; keel bowed in a little, cleft at the baſe. Filaments diadelphous, bowing inwards. Germ ſomewhat villoſe; ſtyle ſcarcely longer than the ſtamens; ſtigma globoſe. Legume ſubovate, flatted above, ſomewhat villoſe. Seeds three or four, kidney-ſhaped. Native of Mount Lebanon[e].

17. A large ſhrub, with an upright ſtem, and ſcandent, unarmed branches. Leaves unequally pinnate; leaflets ovate, quite entire. Calyx red. Corolla white. Legume ſhort, with two kidney-ſhaped ſeeds. Native of the mountains of Cochinchina[f].]

PROPAGATION AND CULTURE.

1. The ſeeds ſhould be ſown on a bed of light earth in april, where the plants are to remain, and will require no other care, but to thin them to the diſtance of two feet, and to keep them clean from weeds. Or if they are permitted to ſcatter on the ground, they will come up with the firſt warmth of ſpring.

2. The ſecond and following herbaceous ſpecies may alſo be propagated by ſeeds, ſown either in the autumn or ſpring: thoſe which are ſown in the autumn, will riſe the following ſpring, and more certainly grow, than thoſe which are ſown in the ſpring, which ſeldom grow the ſame year. When the plants come up, they muſt be kept clean from weeds, and where they are too cloſe together, they muſt be thinned. The following autumn, they ſhould be tranſplanted to the places where they are to remain.

10. The tenth, and ſeveral other of the ſhrubby ſorts may be propagated either by ſeeds or cuttings; if by ſeeds, they ſhould be ſown in the autumn, in pots filled with light earth, and placed under a frame in winter, to protect them from froſt. The following ſpring the plants will riſe, and when they are ſtrong enough to remove, they ſhould be each planted in a ſmall pot, filled with light earth, and placed in the ſhade, till they have taken new root; after which, they may be put along with other hardy exotic plants, in a ſheltered ſituation, till october, when they muſt be removed into ſhelter. Theſe plants are always houſed in winter, yet ſome of them will live abroad three or four years, when they are planted againſt a wall with a ſouth-weſt aſpect. They may alſo be propagated by cuttings, which may be planted during any of the ſummer months, obſerving to water and ſhade them till they have taken root; when they ſhould be planted in pots, and treated in the ſame manner as thoſe which are raiſed from ſeed.

11. and 14. May be propagated by cuttings, in the ſame manner as the tenth.

15. Will live in the open air in mild winters, but hard froſt will deſtroy it. It is propagated by ſeeds only.

ANTHYLLIS. See *Arenaria. Aſpalathus. Camphoroſma. Creſſa. Ebenus. Polycarpon. Polycnemum. Salſola. Teucrium.*

ANTHYLLIS valentina. See *Frankenia.*

ANTHYLLOIDES. See *Salſola.*

ANTICHOLERICA. See *Sophora.*

[ANTICHŎRUS. (*In the accented catalogue of names given by the Lichfield Society, the accent is placed on the antepenultima, as if it were derived from χοϱος; but if it be derived from χωϱος, then it ſhould be placed on the penultima.*)

Lin. gen. Reich. n. 508. *Schreb.* 640. *Juſſ.* 290.
Claſſ. 8. 2. Octandria Monogynia.
Nat. order of *Columniferæ.*——*Tiliaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved, very much expanded; *leaflets* lanceolate, acuminate, deciduous.

COR. *Petals* four, obovate, obtuſe, the length of the calyx.

STAM. *Filaments* ſetaceous, erect, ſhorter than the corolla: *anthers* roundiſh.

PIST. *Germ* ſuperior, ovate: *ſtyle* cylindric, the length of the ſtamens: *ſtigma* obtuſe.

PER. *Capſule* ſubulate, four-celled, four-valved.

SEEDS very many, truncate, placed over each other in four rows.

ESSENTIAL CHARACTER.

Cal. four-leaved. *Pet.* four. *Capſ.* ſuperior, ſubulate, four-celled, four-valved. *Seeds* very many.

SPECIES.

1. Antichorus depreſſus.
Lin. ſyſt. 359. *Reich.* 2. 154. *mant.* 64.

DESCRIPTION, &c.

It reſembles the *Corchorus*, and is a ſmall procumbent annual plant. Stems round, three or four inches long, alternately branching, growing cloſe to the ground. Leaves alternate, petioled, oval, groſsly ſerrate, ſmooth, ſomewhat plaited. Stipules ſubulate. Flowers axillary, two together, oppoſite, on very ſhort thickiſh peduncles, yellow. Bractes two, on the upper ſide of the peduncle. Fruits nodding, cloſely reflected under the ſtem. A native of Arabia[g].]

[ANTIDESMA. (*From αντι pro and δεσμὸς, vinculum. Excellent for making ropes.*)

Lin. gen. n. 1110. *Reich.* 1216. *Schreb.* 1518. *Gærtn.* 39. *Burm. Juſſ.* 443.
Claſſ. 22. 5. Dioecia Pentandria.

GENERIC CHARACTER.

* *Male.*

CAL. *Perianth* five-leaved: *leaflets* oblongiſh, concave.

COR. none.

STAM. *Filaments* five, capillary, longer than the calyx, equal: *anthers* roundiſh, ſemibifid.

* *Female.*

CAL. as in the male, permanent.

COR. none.

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[a] Hort. kew.
[b] Lin. ſpec.
[c] Ibid.
[d] Hort. kew.
[e] Billardiere.
[f] Loureiro.
[g] Lin. mant.

Pist. *Germ* ſuperior, ovate; *ſtyle* none; *ſtigmas* five, obtuſe.

Per. *Drupe* roundiſh, one-celled, crowned with the ſtigmas, and having a furrowed ſhell.

Seed none.

ESSENTIAL CHARACTER.

Male. *Cal.* five-leaved. *Cor.* none. *Anthers* ſemibifid.

Female. *Cal.* five-leaved. *Cor.* none. *Stigmas* five. *Berry* cylindric, one-ſeeded.

SPECIES.

1. Antideſma alexiteria.
Lin. ſpec. 1455. *Reich.* 4. 249. *fl. zeyl. n.* 357.
Arbor indica, &c. *Pluk. amalth. t.* 339. *f.* 1.
Noela-tali. *Rheed. mal.* 4. *t.* 56. *Raii hiſt.* 1606. (*male.*) *Pet. muſ.* 621. *Raii dendr.* 27.

2. Antideſma acida.
Retz. obſ. 5. *p.* 30. *n.* 87.
Leaves obovate, ſpikes ſolitary.

3. Antideſma ſcandens.
Loureiro cochinch. 617.
Leaves palmate ſerrate, ſtem climbing.

DESCRIPTIONS, &c.

1. It is a middle-ſized tree, with leaves reſembling thoſe of the lemon. Flowers in racemes. Fruit red, and acid like the barberry. Common in Malabar, is an evergreen, and continues to bear fruit to the age of ſeventy years; the fruit is eſteemed for its pleaſant cooling qualities. A decoction of the leaves is reputed to be an antidote againſt the bite of ſerpents. The bark is uſed for making ropes[h].]

2. Spikes of flowers ſolitary, either axillary or terminating very ſhort lateral branches. Calyx five-toothed. The female flowers have commonly three reflex ſtyles. Native of the Eaſt-Indies[i].

3. Stem ſhrubby, long, branched, climbing without tendrils, having no ſpines. Leaves ſmooth, petioled, ſcattered. Filaments of the male flowers ſhort, terminated by erect anthers, gaping at the tip. Native of China near Canton[k].

Antirrhea. See *Cunninghamia.*]

ANTIRRHĪNUM. (Ανθιῤῥινον *Theophr. and Dioſc.* ἀντὶ *æqualis, and* ῥὶν *naſus Lin. Quod fructu ſit vituli narium ſimile. Ray.*)
Lin. gen. n. 750. *Reich.* 808. *Schreb.* 1007. *Tournef.* 75. *Gærtn.* 53. *Juſſ.* 120. *Mill. dict.* Linaria *and* Aſarina *Tourn.* 76. *Juſſ.* 120. *Mill. dict.* Elatine *Dill. gen.* 6. Dodartia *Mill. dict.*
Snap-dragon. Calves-ſnout. Toad-flax.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ.*

GENERIC CHARACTER.

Cal. *Perianth* five-parted, permanent: *diviſions* oblong, the two lower more gaping.

Cor. monopetalous, ringent: *tube* oblong, gibbous; *limb* bilabiate: *upper lip* bifid, reflex on the ſides; *lower* trifid, obtuſe: *palate* convex, uſually cloſed by a prominency between the lips, produced from the under lip; the throat being concave beneath. *Nectary* at the baſe of the corolla produced downwards, prominent.

Stam. *Filaments* four incloſed under the upper lip, nearly of the ſame length with the corolla, yet two are ſhorter: *anthers* converging.

Pist. *Germ* roundiſh: *ſtyle* ſimple, of the length and in the ſituation of the ſtamens: *ſtigma* obtuſe.

Per. *Capſule* roundiſh, obtuſe, two-celled, of different form and aperture in the different ſpecies.

Seeds very many. *Receptacles* reniform, ſolitary, affixed to the partition.

Obs. Nectary *and* Pericarp *very different in this genus.*
Linaria T. *has a long, ſubulate nectary; a capſule gaping equally.*
Antirrhinum T. *has an obtuſe nectary, ſcarcely prominent; a capſule gaping obliquely at the top, unequal at the baſe.*
Elatine Dill. *has a ſubulate nectary; the capſule in gaping depoſits a fold on each ſide.*
A. bellidifolium and canadenſe, *have an open mouth without any palate.*
Some ſpecies have the rudiment of a fifth ſtamen, which is barren.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* with the baſe produced downwards and nectariferous. *Capſ.* two-celled.

SPECIES.

* *Leaves angular.*

1. Antirrhinum Cymbalaria. *Ivy-leaved Toad-flax.*
Lin. ſpec. 851. *ſyſt.* 554. *Reich.* 3. 125. *hort. cliff.* 323. 1. *upſ.* 175. *Hudſ. angl.* 271. *With.* 645. *Pollich pal. n.* 589. *Scop. carn. n.* 270. *Hall. helv. n.* 339. *Curtis lond.* 1. 45.
Linaria Cymbalaria. *Mill. dict.*
Lin. hederaceo folio glabro, ſeu Cymbalaria vulgaris. *Tournef. inſt.* 169. *Garid. aix.* 287. *Gouan. monſp. p.* 100. *Villars dauph.* 2. 434. *Rivin. mon. t.* 86. 2. *Mor. hiſt. ſ.* 5. *t.* 14. *f.* 30. *Ger. emac.* 529. 6. *Park.* 682. 1. *Matth.* 1184. *Lob. obſ.* 337. 2. *ic.* 1. 615. 1. *Bauh. hiſt.* 3. 685. *Raii hiſt.* 759. 36.
Leaves heart-ſhaped, five-lobed, alternate; ſtalks procumbent.

[2. Antirrhinum piloſum. *Hairy-leaved Toad-flax.*
Lin. ſyſt. 554. *Reich.* 3. 125. *mant.* 249. *Jacqu. obſ.* 2. *p.* 28. *t.* 48.
Cymbalaria alpina. *Tournef. inſt.* 169.
Leaves kidney-ſhaped, very hairy, alternate; ſtalks procumbent.]

3. Antirrhinum Elatine. *Sharp-pointed Toad-flax* or *Fluellin.*
Lin. ſpec. 851. *Reich.* 3. 126. *hort. cliff.* 323. 3. *upſ.* 175. *Hudſ. angl.* 271. *With.* 646. *Pollich pal. n.* 590. *Hall. helv. n.* 340. *Scop. carn. n.* 772. *Fl. dan.* 426. *Curtis lond.* 1. *t.* 46. *Krock. ſileſ. n.* 987. *Villars dauph.* 2. 434.
Linaria Elatine. *Mill. dict. Raii hiſt.* 759. 35.
Elatine folio acuminato in baſi auriculato, flore luteo. *Bauh. pin.* 253. *Mor. hiſt. ſ.* 5. *t.* 14. *f.* 28. *Blackw. t.* 170.
Elatine altera. *Ger.* 501. 2. *emac.* 625. 2. *Dod. pempt.* 42.
Elat. folio acuminato. *Park.* 553. 2.
β. Elat. folio acuminato flore cœruleo. *Bauh. pin.* 253. 3.
Leaves haſtate, alternate: ſtalks procumbent.

4. Antirrhinum ſpurium. *Round-leaved Toad-flax* or *Fluellin.*
Lin. ſpec. 851. *Reich.* 3. 126. *hort. cliff.* 323. 4. *upſ.* 175. *Hudſ. angl.* 272. *With.* 646. *Pollich palat. n.* 591. *Hall. helv. n.* 341. *Curtis lond.* 3. 37. *Krock. ſileſ. n.* 988. *t.* 25. *Villars dauph.* 2. 434. *Lour. cochinch.* 383.
Linaria ſpuria. *Mill. dict.*
Elatine folio ſubrotundo. *Bauh. pin.* 252. *Park.* 553. 1. *Mor. hiſt. ſ.* 5. *t.* 14. *f.* 27. *Rivin. t.* 86. 1. *Raii hiſt.* 759. 34.
Veronica fœmina ſeu Elatine. *Ger.* 501. 1. *emac.* 625. 1. *Dod. pempt.* 42. *Cam. epit.* 462.
Leaves ovate, alternate; ſtalks procumbent.

[5. Antirrhinum cirrhoſum. *Tendrilled Toad-flax.*
Lin. ſyſt. 554. *Reich.* 3. 126. *mant.* 249. *Jacqu. hort. t.* 82.
Linaria. *Till. piſ. t.* 38. *f.* 2.
Leaves haſtate, alternate: ſtems ſpreading: petioles every where tendrilled.

6. Antirrhinum ægyptiacum. *Egyptian Toad-flax.*
Lin. ſyſt. 555. *ſpec.* 851. *Reich.* 3. 127.
Leaves haſtate, alternate; ſtem erect, very branching, peduncles ſtiffiſh.]

** *Leaves oppoſite.*

7. Antirrhinum triphyllum. *Three-leaved Toad-flax.*
Lin. ſpec. 852. *Reich.* 3. 127. *hort. cliff.* 324. 5. *upſ.* 174. *Sauv. monſp.* 165. *Murr. prodr.* 163. *Gærtn. fruct.* 1. 249.
Linaria triphylla. *Mill. dict. Raii hiſt.* 752. 3. *Park. theat.* 457. *n.* 3. *Bauh. hiſt.* 3. 458. *f.* 3. *Sabb. hort. rom.* 3. *t.* 4.
Lin. ſicula latifolia triphylla. *Bocc. ſic.* 44. *t.* 22. hiſpanica. *Cluſ. hiſt.* 1. 320.
Leaves ternate, ovate.

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[h] Hort. mal.

[i] Retz.

[k] Loureiro.

[8. Antirrhinum triornithophorum.

Lin. ſpec. 853. *Reich.* 3. 127. *hort. cliff.* 324. 6.

Linaria americana maxima purpureo flore. *Herm. lugdb. t.* 377. *Raii hiſt.* 1884.

Lin. flore purpureo americana. *Riv. mon.* 84. 1.

Leaves in fours, lanceolate: ſtem erect, branching; flowers peduncled.]

9. Antirrhinum purpureum. *Purple Toad-flax.*

Lin. ſpec. 853. *ſyſt.* 555. *Reich.* 3. 128. *mant.* 416. *hort. upſ.* 174. *cliff.* 498. 13. *Curtis mag. t.* 99. *Gærtn. fruct.* 1. 249.

Linaria purpurea. *Mill. dict.*—magna *Bauh. hiſt.* 3. 460. *f.* 1.. *Raii hiſt.* 756. 19.—odorata *Bauh. pin.* 213. 10.—altera *Dod. pempt.* 183. *Ger. emac.* 551. 3.

Lin. flore purpureo minore. *Riv. mon. t.* 85. *f.* 1.

Leaves quaternate, linear: flower-bearing ſtem erect, ſpiked.

[10. Antirrhinum verſicolor. *Spiked-flowered Toad-flax.*

Lin. ſyſt. 555. *Jacqu. miſcell.* 2. *p.* 336. *icon. rar. t.* 116.

Ant. linarioides. *Lin. ſpec.* 853. *Reich.* 3. 140.

Leaves linear-lanceolate: the lower ones ternate; ſtem erect, ſpiked.]

11. Antirrhinum repens. *Creeping Toad-flax.*

Lin. ſpec. 854. *Reich.* 3. 128. *Guett. ſtamp.* 2. *p.* 204. *Hudſ. angl.* 273. *With.* 647. *Allion. pedem. n.* 235.

Linaria repens. *Mill. dict.*

Lin. anguſtifolia flore cinereo ſtriato. *Dill. elth. t.* 163. *f.* 197.

L. cœrulea fol. brevioribus & anguſtioribus. *Raii ſyn.* * 282.

Leaves linear, crowded, below quaternate; calyxes equalling the capſule.

12. Antirrhinum monſpeſſulanum. *Montpellier Toad-flax.*

Lin. ſpec. 854. *ſyſt.* 555. *Reich.* 3. 128. *Hudſ. angl.* 272. *With.* 647. *Sauv. monſp.* 47. *Villars dauph.* 2. 436.

Linaria monſpeſſulana. *Mill. dict.*

Lin. capillaceo folio, odora. *Bauh. pin.* 213. *prod.* 106. *n.* 4. *Dill. elth.* 199.

Lin. caryophyllata albicans. *Park. theat.* 458. *n.* 5.

Lin. odorata monſpeſſulana. *Bauh. hiſt.* 3. *p.* 459. 1. (good.) *Raii. ſyn.* * 282. *hiſt.* 756. 20.

Leaves linear-filiform ſucculent, ſcattered, crowded; ſtem erect; ſpur ſhorter than the calyx.

[13. Antirrhinum ſparteum. *Branching Toad-flax.*

Lin. ſpec. 854. *Reich.* 3. 129. *Curt. mag. t.* 200. *Cavan. hiſp.* 19. *n.* 30. *t.* 32.

Leaves awl-ſhaped, channelled, fleſhy; the lower ones ternate; ſtem panicled, and corollas very ſmooth.

14. Antirrhinum bipunctatum. *Dotted-flowered Toad-flax.*

Lin. ſpec. 853. *Reich.* 3. 129. *Sauv. monſp.* 165. *Cavan. hiſp. n.* 31. *t.* 33. *f.* 1.

Linaria lutea parva annua. *Bauh. hiſt.* 3. 457. *Raii hiſt.* 755. 12.

Lin. lutea moravica Cluſii. *Park. theat.* 462. *n.* 6.

Leaves linear, ſmooth: the lower ones quaternate: ſtem erect, panicled: flowers ſpike-headed.]

15. Antirrhinum triſte. *Dark-flowered Toad-flax.*

Lin. ſpec. 853. *ſyſt.* 555. *Reich.* 3. 130. *hort. cliff.* 498. 14. *Curtis magaz.* 74.

Linaria triſtis. *Mill. dict. fig. t.* 166. *f.* 1.

Lin. triſtis hiſpanica. *Dill. elth.* 201. *t.* 164. *f.* 199.

Lin. hiſpanica procumbens. *Mart. dec.* 35. *f.* 2.

Leaves linear, ſcattered, the inferior ones oppoſite; nectaries awl-ſhaped; flowers ſubſeſſile.

[16. Antirrhinum ſupinum. *Procumbent Toad-flax.*

Lin. ſpec. 856. *ſyſt.* 556. *Reich.* 3. 130. *mant.* 417. *Sauv. monſp.* 48. *Villars dauph.* 2. 438.

Linaria hiſpanica 5. *Cluſ. hiſt.* 1. *p.* 321.—pumila hiſpanica. *Park. theat.* 460. *f.* 1. *Raii hiſt.* 754. 8.

Leaves ſubquaternate, linear; ſtalk diffuſed; flowers racemed, ſpur ſtraight.

17. Antirrhinum arvenſe. *Yellow Corn Toad-flax.*

Lin. ſpec. 855. *Reich.* 3. 130. *hort. upſ.* 174. *Hudſ. angl.* 273. *With.* 647. *Pollich pal. n.* 593. *Leers herb. n.* 490. *Krock. ſileſ. n.* 989.

Linaria arvenſis cœrulea. *Bauh. pin.* 213. *prod.* 107. *n.* 5. *Dill. elth. t.* 163. *f.* 198. *Raii hiſt.* 756. *n.* 21.

Leaves ſublinear, the lower ones quaternate; calyxes hairy, viſcid; flowers ſpiked, ſtem erect.]

18. Antirrhinum peliſſerianum. *Violet-coloured Toad-flax.*

Lin. ſpec. 855. *Reich.* 3. 131. *mant.* 416. *Guett. ſtamp.* 2. *p.* 204. *Villars dauph.* 2. 436. *Sauv. monſp.* 166. *Sabb. rom.* 3. *t.* 4.

Linaria annua, &c. *Vaill. par.* 118. *Magn. monſp.* 159. *t.* 158. *Barrel. ic.* 1162.

Lin. peliſſeriana. *Mill. dict.*

Stem-leaves linear, alternate; root-leaves lanceolate, ternate; flowers corymbed.

[19. Antirrhinum ſaxatile. *Rock Toad-flax.*

Lin. ſpec. 855. *ſyſt.* 556. *Reich.* 3. 131. *mant.* 416. *Amæn* 4. 277.

Linaria maritima minima viſcoſa, foliis hirſutis, floribus luteis. *Mor. hiſt.* 2. *p.* 499.

Leaves lanceolate-linear, ſcattered, villoſe, the inferior quaternate: ſtem decumbent; flowers ſpiked.

20. Antirrhinum viſcoſum. *Clammy Snap-dragon.*

Lin. ſpec. 855. *Reich.* 3. 132. *Amæn.* 4. 319.

Root-leaves quaternate, lanceolate; ſtem-leaves linear, alternate; calyxes villoſe, approximating the ſtem.]

21. Antirrhinum multicaule. *Many-ſtalked Toad-flax.*

Lin. ſpee. 856. *Reich.* 3. 132. *hort. cliff.* 324. 7.

Linaria multicaulis. *Mill. dict.*

Lin. ſicula multicaulis, molluginis folio. *Bocc. ſic.* 38. *t.* 19. *f.* 1. *Raii hiſt.* 753. 5.

Leaves quinate, linear, fleſhy: flowers headed.

[22. Antirrhinum glaucum.

Lin. ſpec. 856. *Reich.* 3. 132. *Amæn.* 4. 277. *Cavan. hiſp. n.* 32. *t.* 33. *f.* 2.

Linaria foliis confertis linearibus carnoſis. *Hall. Goett.* 306.

Lin. maritima, foliis ſucculentis. *Buxb. cent.* 4. *p.* 23. *t.* 37.

Leaves quaternate, awl-ſhaped, fleſhy; ſtems erect; flowers ſpiked.]

23. Antirrhinum alpinum. *Alpine Toad-flax.*

Lin. ſpec. 856. *ſyſt.* 556. *Reich.* 3. 132. *mant.* 417. *Curtis mag. p.* 205. *t.* 207. *Sauv. monſp.* 165. *Jacqu. auſtr.* 1. *t.* 58. *Hall. helv. n.* 338. *Scop. carn. n.* 767. *Krock. ſileſ. n.* 991. *Villars dauph.* 2. 438.

Linaria alpina. *Mill. dict.*

Lin. 3. ſtiriaca. *Cluſ. hiſt.* 1. *p.* 322.

Lin. quadrifolia ſupina. *Bauh. pin.* 213. *Ger. emac.* 553. 8.—alpina *Park. theat.* 461. *f.* 5.—purpurea parva *Bauh. hiſt.* 460. *f.* 2. *Raii hiſt.* 757.

Leaves quaternate, linear-lanceolate, ſea-green; ſtem diffuſe; flowers racemed, with a ſtraight ſpur.

[24. Antirrhinum bicorne. *Horned Toad-flax.*

Lin. ſpec. 856. *Reich.* 3. 133. *Amæn.* 6. *p.* 88. *Burm. afr.* 211. *t.* 75. *f.* 3. (Linaria.)

Leaves oppoſite, ovate-oblong, ſerrate; ſtem erect, flowers racemed, capſules two-horned.

25. Antirrhinum villoſum.

Lin. ſpec. 852. *Reich.* 3. 133. *Barr. ic.* 597.

All the leaves oppoſite, ovate, villoſe; ſtems ſimple; flowers oppoſite, lateral.

26. Antirrhinum origanifolium.

Lin. ſpec. 852. *Reich.* 3. 133. *Pluk. alm. t.* 137. *f.* 1.

Leaves moſtly oppoſite, oblong; flowers alternate.

27. Antirrhinum pinnatum.

Lin. ſyſt. 556. *ſuppl.* 280.

Leaves oppoſite, pinnatifid; ſtem erect, flowers racemed.].

*** *Leaves alternate.*

28. Antirrhinum minus. *Leſſer Toad-flax.*

Lin. ſpec. 852. *Reich.* 3. 134. *hort. cliff.* 324. 10. *ſuec.* 558. *Gærtn. fruct.* 1. 249. *Hudſ. angl.* 272. *With.* 648. *Curtis lond.* 5. 7. *Hall. helv. n.* 335. *Fl. dan. t.* 502. *Pollich pal. n.* 592. *Scop. carn. n.* 769. *Krock. ſileſ. n.* 990. *Riv. mon.* 85. 2.

Ant. minimum repens. *Ger. emac.* 549. 5.

Ant. arvenſe minus. *Bauh. pin.* 212. 6. *Raii hiſt.* 760. 37.—minimum. *Bauh. hiſt.* 3. 465. 1.

Ant. ſylveſtre minimum. *Park.* 1334. 2.

Ant. tertium. *Camer. epit.* 922. *Lob. ic.* 406. 1. *Matth.* 1198.

Leaves moſtly alternate, lanceolate, obtuſe: ſtem very much branched, diffuſe.

29. Antirrhinum dalmaticum.

Lin. ſpec. 857. *Reich.* 3. 134.

Linaria dalmatica. *Mill. dict.*

Lin. maxima foliis lauri dalmatica. *Bauh. hiſt.* 3. 458. *f.* 2. *Buxb. cent.* 1. *p.* 95. *t.* 24.—latifolia dalmatica. *Park. theat.* 456. *n.* 1. *Raii hiſt.* 754. 9.

Leaves alternate, heart-ſhaped, ſtem-claſping.

30. Antirrhinum hirtum. *Hairy Toad-flax.*

Lin. ſpec. 857. *Reich.* 3. 134. *Jacqu. miſc.* 2. *p.* 334. *icon. rar.* 117. *Gouan illuſtr.* 38. 3.

Linaria villoſa. *Mill. dict. n.* 10.

Leaves lanceolate, ſhaggy: flowers ſpiked, the upper leaf of the calyx largeſt.

31. Antirrhinum geniſtifolium. *Broom-leaved Toad-flax.*

Lin. ſpec. 858. *Reich.* 3. 135. *Jacqu. auſtr.* 3. *t.* 244. *Hall. helv. n.* 337. *Allion. pedem. n.* 243. *Krock. ſileſ. n.* 992. *Villars dauph.* 2. 439.

Linaria geniſtæ folio glauco, flore luteo. *Herm. par. app.* 9. *Dill. elth. t.* 164. *f.* 200. *Raii ſuppl.* 391.

Lin. pannonica 1. *Cluſ. hiſt.* 1. *p.* 321.

Lin. geniſtifolia. *Mill. dict. n.* 14.

Leaves lanceolate, acuminate: panicle wand-like, flexuoſe.

[32. Antirrhinum junceum. *Ruſh-ſtalked Toad-flax.*

Lin. ſpec. 858. *Reich.* 3. 135. *amæn.* 4. 277. *D'Aſſo aragon. n.* 564.

Leaves linear, alternate: ſtem panicled, wand-like; flowers racemed.]

33. Antirrhinum Linaria. *Common Yellow Toad-flax.*

Lin. ſpec. 858. *Reich.* 3. 135. *mat. med.* 155. *ſuec.* 557. *Gærtn. fruct.* 1. 248. *Hudſ. angl.* 273. *With.* 648. *Lightf. ſcot.* 328. *Hall. helv. n.* 336. *Curtis lond.* 1. *t.* 47. *Pollich pal. n.* 594. *Scop. carn. n.* 768. *Allion. ped. n.* 242. *Krock. ſileſ. n.* 993. *Villars dauph.* 2. 439. *Lour. coch.* 383.

Linaria lutea vulgaris. *Ger.* 440. *emac.* 550. 1. *Raii hiſt.* 752. 1. *Bauh. hiſt.* 3. 456. 2.

Lin. vulgaris. *Mill. dict. n.* 1. *Park.* 458. 1. *Blackw. t.* 115. *Rivin. t.* 83. *f.* 1. *Mor. hiſt. f.* 5. *t.* 12. *f.* 10. *Dod. pempt.* 183. 1. *Lob. obſ.* 222. 2. *ic.* 1. 406. 2.

Leaves lanceolate-linear, crowded; ſtem erect: ſpikes terminal, ſeſſile; flowers imbricate.

[34. Antirrhinum linifolium.

Lin. ſpec. 858. *Reich.* 3. 136.

Linaria conſtantinopolitana, &c. *Tournef. cor.* 9. *Buxb. cent.* 1. *p.* 16. *t.* 25. *f.* 2. (*bad.*)

Leaves lanceolate, three-nerved, flowers racemed, peduncles diſtant ſhorter than the bracte.]

35. Antirrhinum chalepenſe. *White-flowered Toad-flax.*

Lin. ſpec. 859. *Reich.* 3. 136. *hort. upſ.* 174. *Gouan. illuſtr.* 38. 4.

Linaria chalepenſis. *Mill. dict. n.* 12. *Mor. hiſt. f.* 5. *t.* 35. *f.* 9.

Lin. annua, &c. *Triumf. obſ. t.* 87. *f.* 2. *Raii hiſt.* 1884.

Lin. floſc. albis. *Rivin. t.* 83. *f.* 2.

Leaves linear-lanceolate, alternate; flowers in racemes; calyxes longer than the corolla; ſtem erect.

[36. Antirrhinum reflexum.

Lin. ſpec. 857. *Reich.* 3. 137.

Linaria puſilla, &c. *Raii hiſt.* 755. *n.* 15.

Leaves ovate, ſmooth; peduncles axillary, fruitbearing, elongate, recurved; ſtem procumbent.

37. Antirrhinum pedunculatum.

Lin. ſpec. 857. *Reich.* 3. 137.

Leaves linear, remote; flowers panicled; peduncles longer than the leaf, ſtiff and upright.

38. Antirrhinum Lagopodioides.

Linn. ſuppl. 279. *ſyſt.* 557.

Leaves ſcattered, ſoft, recurved at the tip; ſpikes ovate, villoſe.

**** *Leaves none.*

39. Antirrhinum aphyllum.

Lin. ſuppl. p. 280. *ſyſt.* 557.

A capillary ſcape.]

***** *Corollas gaping* or *tailleſs.*

40 Antirrhinum majus. *Great Toad-flax* or *Snap-dragon.*

Lin. ſpec. 859. *Reich.* 3. 137. *hort. upſ.* 175. *cliff.* 324. 12. *mat. med.* 156. *Gærtn. fruct.* 1. 249. *Hudſ. angl.* 274. *With.* 650. *Hall. helv. n.* 333. *Rivin. mon. t.* 82. *f.* 1. *Scop. carn. n.* 773. *Krock. ſileſ. n.* 994. *Villars dauph.* 2. 440. *Raii hiſt.* 760. 1, 2. *Dod. pempt.* 182. *Bauh. hiſt.* 3. 462. *Ger. herb.* 438. 1, 2. & 439. 3. *emac.* 549. 1, 2, 3. *Park. par.* 269. *t.* 267. *f.* 5.

α. Ant. majus, rotundiore folio. *Bauh. pin.* 211.

A. latifolium. *Mill. dict. n.* 4. *Raii hiſt.* 760. *n.* 2.

Common Snap-dragon.

β. Ant. majus alterum, folio longiore. *Bauh. pin.* 211. *Mill. dict. n.* 3. *fig. t.* 42. *Berg. phyt.* 2. *t.* 19. *Raii hiſt.* 760. 1.

Long-leaved Snap-dragon.

γ. floribus ruberrimis: palato aureo-punctato.

Scarlet-flowered Snap-dragon.

δ. floribus plenis. *Double-flowered Snap-dragon.*

Corollas tailleſs, flowers in ſpikes, calyxes rounded.

41. Antirrhinum Orontium. *Small Toad-flax* or *Calves Snout.*

Lin. ſpec. 860. *Reich.* 3. 138. *hort. upſ.* 176. *cliff.* 324. 11. *ſuec.* 559. *Gærtn. fruct.* 1. 249. *Hudſ. angl.* 274. *With.* 650. *Curtis lond.* 4. 45. *Hall. helv. n.* 334. *Scop. carn. n.* 774. *Gouan. monſp. p.* 101. *n.* 9. *Pollich pal. n.* 595. *Rivin. mon. t.* 82. 2. *Krock. ſileſ. n.* 995. *Villars dauph.* 2. 441.

Ant. anguſtifolium ſylveſtre. *Bauh. hiſt.* 3. 464. *Raii ſyn.* 383. *hiſt.* 760. *Beſl. eyſt. æſt.* 1. *t.* 9. *f.* 3.

Ant. minus. *Ger. emac.* 549. 4.

Ant. ſylveſtre medium. *Park.* 1334. 1.

Corollas tailleſs, flowers ſubſpiked, calyxes longer than the corolla.

[42. Antirrhinum papilionaceum.

Lin. ſyſt. 557. *Reich.* 3. 138. *mant.* 86.

Corollas tailleſs, flowers axillary, calyxes papilionaceous, leaves fleſhy.]

43. Antirrhinum Aſarina. *Heart-leaved Toad-flax.*

Lin. ſpec. 860. *Reich.* 3. 139. *hort. cliff.* 323. 2.

Hedera ſaxatilis. *Ger. emac.* 856. 2. *Raii hiſt.* 567.

Aſarina procumbens. *Mill. dict.*

Aſarina. *Lob. ic.* 601. *Bauh. hiſt.* 3. 856. *Mor. hiſt.* 3. 432. *n.* 1. *f.* 11. *t.* 21. *f.* 1. *Sabb. hort. rom.* 3. *t.* 3.

Corollas tailleſs, leaves oppoſite, heart-ſhaped, crenate; ſtems procumbent.

[44. Antirrhinum molle. *Woolly-leaved Toad-flax* or *Snap-dragon.*

Lin. ſpec. 860. *Reich.* 3. 139. *Lour. cochinch.* 383.

Corollas tailleſs, leaves oppoſite, ovate, tomentoſe, ſtems procumbent.

45. Antirrhinum unilabiatum.

Lin. ſyſt. 558. *ſuppl.* 279.

Corollas tailleſs, with two calluſes; leaves alternate, pinnate; ſtem panicled.]

****** Corollas gaping.

46. Antirrhinum bellidifolium. *Daiſy-leaved Toad-flax.*

Lin. ſpec. 860. *Reich.* 3. 139. *hort. cliff.* 498. 15. *ſyſt.* 558. *mant.* 417. *Sauv. monſp.* 67. *Gouan. illuſtr. p.* 39. *Hall. helv. n.* 342. *Villars dauph.* 2. 442.

Linaria bellidis folio. *Bauh. pin.* 212. *prodr. t.* 106. *Raii hiſt.* 758. *n.* 32. *Bauh. hiſt.* 3. 459. *f.* 2.

Linaria purpurea odorata. *Ger. herb.* 440. *emac.* 550. 2. *Park. parad.* 267. *f.* 3.

Dodartia Linaria. *Mill. dict.*
Root-leaves tongue-ſhaped, toothed, marked with lines; ſtem-leaves parted, quite entire.

[47. Antirrhinum canadenſe. *Canada Toad-flax.*
Lin. ſpec. 861. *Reich.* 3. 140. *Gron. virg.* 67. 94.
Leaves linear, alternate, lower lip ſpreading out flat.
New Species.

48. Antirrhinum micranthum. *Small-flowered Toad-flax.*
Cavan. hiſp. 51. *n.* 77. *t.* 69. *f.* 3.
Stem herbaceous upright, lower leaves in fours, upper ones alternate, flowers very ſmall, ſpur ſhort interior.

49. Antirrhinum reticulatum. *Reticulate Toad-flax.*
Smith ic. rar. faſc. 1. *t.* 2.
Leaves linear channelled ſcattered, thoſe on the radical ſhoots generally in fives, calyx hairy, flower-ſtalks ſhorter than the bractes.

50. Antirrhinum pygmæum. *Dwarf Toad-flax.*
Gouan. illuſtr. 37. 1. *Mich. piſ. t.* 38. *f.* 2. *Mor. hiſt.* 2. 503. (Linaria.)
Leaves ſagittate, peduncles capillaceous.

51. Antirrhinum ærugineum.
Gouan. illuſtr. 38. 2. *D'Aſſo aragon. n.* 563.
Linaria tenuifolia æruginei coloris. *Bauh. pin.* 212.
——— hiſpanica ſecunda. *Cluſ. hiſt.* 1. 320.
Lower leaves in fours linear, flowers in racemes, the upper leaflet of the calyx twice as long as the reſt.

52. Antirrhinum hexandrum.
Forſt. fl. auſtr. n. 235.
Leaves oppoſite cordate-ovate ſerrate, peduncles axillary one-flowered.

DESCRIPTIONS, *&c.*

1. Root perennial, fibroſe, inſerting itſelf ſo into the crevices of walls and rocks as ſcarcely to be eradicated. Stalks numerous, growing in a tuft, creeping at bottom, branched, round, purpliſh and ſtringy. Leaves roundiſh, ſhining, ſomewhat fleſhy, ſome oppoſite, others alternate, frequently purpliſh: lobes of the lower ones blunt, upper acute, the ſmalleſt only three-lobed. Petioles long, grooved above. Peduncles from the axils, one-flowered, round, a little longer than the petioles. Tube of the corolla ſhort: the upper lip purple with two deeper veins; ſegments of the lower whitiſh; the palate yellow; the mouth or entrance into the tube villoſe and ſaffron-coloured. Nectary purple, conical, the length of the calyx. Germ purple. Capſule wrinkled, opening at top into ſeveral ſegments. Seeds black, roundiſh, wrinkled like the nut of the walnut. The whole plant is ſmooth, and has a diſagreeable ſmell[a]. It varies with a white flower[b]. Linneus has a fancy that this plant might be produced from the impregnation of Antirrhinum Elatine by the pollen of Campanula hæderæfolia. It grows wild on old walls at Baſil, Baden, and many other towns of Switzerland, where however, Haller ſays, it was unknown in the time of Cherler. In Germany, as at Heidelberg: Haerlem in Holland: alſo about Paris, and moſt of the towns in the ſouth of France. It is a native of Italy; from whence it came to us, according to Miller, and is now common on the walls in and near London, that are within reach of the Thames; as on the Temple walls, *&c.* and on thoſe of the phyſic garden at Chelſea; whence it probably originated about London. Dr. Richardſon remarked it in the quarries about Darford in Yorkſhire: and it has long grown upon the walls about the old manor-houſe at Dry Drayton in Cambridgeſhire; alſo at Burleigh by Stamford, *&c.* Johnſon (in Gerard) calls it *Italian Baſtard Navelwort*, and does not hint at its being wild in his time. Parkinſon, a few years after ſays, that it groweth naturally in divers places of our land. It is one of the plants adapted to the ornament of rock-work, which it will cover, if moiſt, with a thick tapeſtry; and flowers from june to october.

2. The leaves are kidney-ſhaped, the edge divided into nine or ten obtuſe, crenulate lobes. This is found on the Alps, and is of the ſame ſize with the foregoing, of which Linneus ſuppoſed it to be the daughter; but the whole is very hairy[c].

3. Root annual, whitiſh. Stems numerous, round, a little branched, in the young plants nearly upright, in the old ones trailing, frequently two feet long or more. Leaves petiolate, the lower ones roundiſh and oppoſite, the next indented and alternate, thoſe which follow, moſtly haſtate. Peduncles axillary, alternate, ſingle, pendulous. Calycine leaflets much pointed. Corolla yellow: tube very ſhort: ſegments of the upper lip purple underneath. Nectary ſubulate, the length of the ſegments of the calyx. Valves of the capſule on falling off leave a large hole, in each ſide of the capſule. Seeds black, and wrinkled: from eight to ten in each cavity. The whole plant is hairy. It is more bitter than the other ſorts, and the expreſſed juice of the plant, or the diſtilled water, is affirmed to check foul ulcers[d]. It varies with blue flowers[e]. This grows wild in corn-fields, in Italy, Carniola, Switzerland, France, Germany, and England; flowering with us from july to october.

4. This differs from the laſt, in having all the leaves ovate, or roundiſh, ſometimes ſlightly toothed; and the ſpur ſhorter than the body of the corolla[f]. The upper lip is yellow; the under purple. It is rather a larger plant; the ſtems are more branched, and the leaves are more hairy. It is found among corn, and flowers at the ſame ſeaſon with the foregoing. Ramſpeck and Stehelin obſerve, that the ſame remarkable variation occurs in the flowers of this ſpecies, as in that of the Linaria. (33.) and Hudſon makes the ſame remark both of this and the foregoing ſpecies. It grows wild in the fields of Germany, England, France, and Italy. Linneus makes it a queſtion, whether this ſpecies might not be produced from the impregnation of A. Cymbalaria by the pollen of A. Elatine.

5. Stems filiform, very branching, purple, thinly pubeſcent, rather ſtiff. Leaves petiolate, the petioles embracing the next branches like tendrils. Peduncles lateral, axillary, capillary, ſtiff, longer than the leaves, purple, one-flowered. Capſule globoſe. Calyx ſhorter than the capſule and narrower[g]. Corollas blueiſh with a whitiſh palate, ſpotted with purple[h]. According to Linneus, this is the daughter of *A. Elatine*, with the corolla ſix times leſs, the leaves four times leſs, not hairy: calyxes ſhorter; ſpur ſtraight[i]. A native of Egypt. Annual. Introduced in 1777, by Joſeph Nich. de Jacquin, M. D.[k]

6. This reſembles the third ſpecies. Stems wand-like, ſcarcely pubeſcent. Leaves heart-ſhaped, the angles of the lower one with two teeth on each ſide; of the upper with one only. Corollas like thoſe of the *Elatine*, yellow, without the dark ſpot, but with a purpliſh, dotted palate. Upper lip emarginate, pale. Spur blueiſh, recurved, the length of the flower. The peduncles, when the flowers are off, grow ſtiff, like ſpines[l]. This is an Egyptian plant, as its name implies. Introduced in 1771, by M. Richard[m].]

7. This is an annual plant, which riſes with an upright branching ſtalk near a foot and half high, with oval, ſmooth, gray leaves, placed often by threes, and ſometimes by pairs oppoſite at the joints; the flowers grow in ſhort ſpikes at the top of the ſtalks; they are ſhaped like thoſe of the common ſort, but have not ſuch long tubes: they are yellow, with ſaffron-coloured chaps. This ſort flowers in july and auguſt, the ſeeds ripen in the autumn, and the plants ſoon after decay. It grows naturally about Valentia and in Sicily. There is a variety of this, *Linaria tryphilla cærulea* of Bauhins pinax. (p. 212.) whoſe flowers have a purple ſtandard and ſpur, which make a pretty appearance in a garden. The leaves of this are longer than thoſe of the yellow. Mr. Miller alſo mentions a third variety, which he makes

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[a] Curtis. [b] Linn.

[c] Jacq. [d] Curtis. [e] Bauh. pin. 253. and Ray hiſt. 759. [f] Woodward, M. S. [g] Linn. mant. [h] Linn. ſyſt. [i] Linn. mant. [k] Hort. kew. [l] Linn. ſyſt. [m] Hort. kew.

a diſtinct ſpecies, under the name of *Linaria luſitanica*. It has ſpear-ſhaped, ſmooth leaves, placed ſometimes by fours round the ſtalk, and at others by oppoſite pairs; the ſtalks are terminated by large purple flowers with long ſpurs, ſtanding upon footſtalks. This grows naturally in Spain and Portugal. It flowers in july, but ſeldom ripens ſeeds in England. [This ſpecies was cultivated in 1640[n].

8. The upper lip of the corolla is arched. The plant is the height of a man[o]. Leaves five, four, or three; ſeſſile. Flowers purple, and very large[p]. A native of Portugal and America.

9. Root perennial. Stem two feet high, round, ſmooth. Leaves ſmooth, marked with three nerves underneath, ſpreading, alternate: the lower verticillate. Racemes terminal, ſimple, erect, long; with pedicels longer than the flower. Calyx minute. Corolla all purple, paler without, with the palate pubeſcent at the edge: ſpur the length of the corolla, bending outwards[q]. Capſule ſubglobular. Seeds three-ſided-angular, or a little compreſſed; the angles acute, margined, ſmooth, vermicularly wrinkled between them; colour of ſmoke[r]. Native of Italy. Ray remarked it about Naples, and particularly at the foot of Veſuvius. It was cultivated in 1648, in the Oxford garden, and flowers from july to ſeptember[s].

10. It reſembles common Toad-flax, (n. 33.) but the ſtems are narrower. Flowers racemoſe, the upper lip whitiſh, not yellow; in other reſpects very like thoſe of the Toad-flax[t]. A native of the ſouthern countries of Europe. Introduced in 1777, by Monſ. Thouin[u].]

11. This has a perennial root, from which ariſe ſeveral ſtalks near two feet high, which branch out on every ſide, with narrow leaves growing in cluſters towards the bottom, but upwards they are ſometimes by pairs, and at others ſingle. The flowers are produced in looſe ſpikes at the end of the ſtalks; they are of a pale blue colour, appear in june and july, and the ſeeds ripen in autumn. [The flowers have no ſcent[x]. According to Allioni, this differs but little from the next. The flower of that is rather leſs, and beſides two bearded yellow lines, which run along the throat on the lower lip, it has two diſtinct yellow ſpots at the origin of the beard. In this, the flower is every where ſtriated with purple lines: the branches are alſo more wand-like and crowded. The leaves are rather leſs in the following ſpecies[y]. A native of Italy, France, and England: as in Hertfordſhire, and about Henley in Oxfordſhire.]

12. This has a perennial root, from which ariſe many branching ſtalks near two feet high, with very narrow leaves growing in cluſters, and of a grayiſh colour. The flowers are produced in looſe ſpikes at the end of the branches; they are of a pale blue, and have a ſweet ſmell. Theſe appear in june; and there is often a ſucceſſion of flowers on the plants till winter. [Bractes lanceolate, one at the baſe of each peduncle. Corolla pale blue, with darker ſpots: ſpur nearly as long as the body of the corolla. Calyx very ſmall, ſegments acute[z]. In its wild ſtate it is ſeldom more than a foot high, and ſcarcely ever branches: the flowers are larger, and ſmell very ſweet in the mountains, ſmaller and without ſcent in the plains. Hudſon thinks this does not differ ſpecifically from the foregoing. It grows wild about Montpellier, and other places in the ſouth of France; and near Penryn in Cornwall. Cultivated in 1748, by Mr. Miller[a].

13. Stem a foot high, quite ſmooth, panicled, erect, but not very ſtiff, with wand-like branches. Primordial leaves, before the ſtalk ſhoots up, ternate, oblong; the reſt alternate, awl-ſhaped, channelled, ſmooth, fleſhy, ſtraight. Flowers racemoſe: calyxes ſmooth; (rather ſomewhat villoſe) corollas yellow; palate ſmooth, with a tinge of red in the retuſe elevation of the palate. It differs from the next ſpecies in having pedunculate flowers, three times greater; and in the whole plant being much larger[b]. According to Mr. Curtis, it is a hardy annual of ſmall ſtature, flowering moſt part of the ſummer: and deſerves to be more generally cultivated. Some regard it as a biennial, but as ſeeds of it ſown in the ſpring flower in the enſuing ſummer, and as the plant dies when it has ripened its ſeeds; there appears more propriety in conſidering it as an annual. It will flower earlier if the ſeeds are ſown in autumn. The upper part of the ſtalk, as well as the leaves of the calyx are beſet with viſcous hairs, in which reſpect it does not perfectly accord with Linneus's deſcription[c]. Cavanilles however affirms, that the ſtems and the whole plant are ſmooth. Found in Spain, by Loefling; very common about Madrid, in a dry ſandy ſoil, flowering in may and june. Introduced in 1772, by M. Richard[d].

14. Stem ſeven inches high, (from four to eight inches, glaucous, *Cavan.*) with ſtiff branches ſtanding at right angles with it. Leaves lanceolate, ſeſſile, flat, ſpreading, ſcarcely fleſhy, almoſt ſmooth. Flowers ſubſpiked, few, ſeſſile, (about five, on ſhort peduncles, *Cavan.*) Corollas yellow, (white, according to Cavanilles) with two tawney ſpots in the ſmooth palate toward the upper lip, which is two-parted, folded back, lanceolate and erect[e]. Inner part of the throat yellow, brown ſpots on the lower lip; ſpur long, pale purple[f]. It grows wild in the corn fields of France, Spain, and Italy; flowering in may and june. Annual. Introduced in 1777, by M. Thouin[g].

15. Stems ſeveral, ſmooth, eight or nine inches long, uſually decumbent. Leaves rather fleſhy, convex, glaucous. Head before flowering, like the *arvenſe*, (n. 17); the calyx and bractes only pubeſcent. Corolla the colour of *Lotus jacobæus*, (very dark purple) with the ſpur ſtreaked: it often varies of an aſh, yellow, or lighter purple. Mr. Curtis deſcribes it as of a fine rich brown inclining to purple. Capſule ſhaped like the human ſkull[h]. A native of Spain.] Introduced in 1727, by Sir Charles Wager, from Gibraltar ſeeds. It flowers during moſt of the ſummer months.

16. [It has the ſpur reflex. Leaves almoſt filiform, as in the *Sparteum*, (n. 13.) but the racemes ſtiff and ſtraight: upper leaf of the calyx longer than the others[i]. It is like the former, but the ſtem not ſmooth[k]. A native of France and Spain, growing in ſandy grounds. Cultivated in 1728, by Mr. Miller[l].

17. Flowers in looſe ſpikes, ſeſſile, with a reflex bracte, very ſmall, ſpur recurved. Leaves ſmooth[m]. Stems ſeveral, a ſpan high, ſeldom riſing to a foot, upright, branched. Grows wild in the ſandy corn-fields of Italy, France, Germany, and England: annual; flowering with us in july and auguſt. It varies in the colour of its flowers, blue and yellow.

18. Root annual. Stem ſix or eight inches high, erect, round, very ſmooth, branching a little. Leaves very remote, rather fleſhy, ſmooth; the radical or lower ones three or four together. Flowers in a head, or corymb, ſmall: calyx erect, not cloſe, but with diſtant diviſions. Corolla purple, with a white palate marked with obſcure veins, purple; the upper lip longeſt: ſpur ſtraight, as long or longer than the corolla[n]. A native of France and Italy. Cultivated in 1640[o].

19. Root perennial. Stems aſcending. Leaves acute, pubeſcent, viſcid, ſpreading at the tip. Calyx villoſe: corolla full yellow, with two orange ſpots on the palate, and two at the opening of the corolla[p]. A native of Spain.

20. An erect plant the ſtature of n. 18. but the flowers the ſize of n. 33[q]. A native of Spain. Annual. Introduced in 1786, by M. Thouin[r].]

21. This is an annual plant, from whoſe root

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[n] Park. theatr. [o] Linn. [p] Herm. [q] Lin. mant. [r] Gærtner. [s] Hort. kew. [t] Linn. [u] Hort. kew. [x] Linn. [y] Allion. ped. [z] Woodw. M. S. [a] Hort. kew.

[b] Lin. ſpec. [c] Curt. mag. 200. [d] Hort. kew. [e] Linn. [f] Cavanilles. [g] Hort. kew. [h] Linn. [i] Linn. ſpec. [k] Linn. ſyſt. [l] Hort. kew. [m] Linn. ſpec. [n] Linn. [o] Park. theatr. [p] Linn. mant. [q] Linn. [r] Hort. kew.

ariſe many ſtalks which are lax, ruſhy, very ſlender, and about a foot high: on their lower part, they have five very narrow, linear, obtuſe leaves at each joint, but upwards they are ſometimes by pairs and ſometimes ſingle: the ſtalks are divided into many ſmall branches, with little yellow flowers, coming out ſingly, at a diſtance from each other: theſe appear in july and the ſeeds ripen in auguſt. There are two varieties, one with a deep yellow, and the other with a ſulphur-coloured flower. A native of Sicily [and the Levant. It was cultivated in 1731, by Mr. Miller[s].

22. An annual plant, the ſpur ſtreaked with blue. It is very nearly allied to the foregoing[t]. Stems round, branched. Leaves linear, oblong, thick, almoſt awl-ſhaped, glaucous; the lower ones in fours, the upper alternate, nearly equal to the internodes. Corolla yellow, with the ſpur paler, but ſmaller than in A. bipunctatum[u]. Native of the ſouth of Europe and the Levant.

23. Root perennial. Stems ſlender, branching at bottom, growing thicker towards the top, from two to ſeven inches long, aſcending, round and ſmooth. Leaves quite entire, without veins, and thick, the loweſt ſmaller, and in fours; the upper ones ſolitary, or two oppoſite, or ſometimes three. Flowers in a cloſe raceme at the ends of the ſtalks: they are very elegant, of a fine violet purple colour, with a rich gold-colour in the middle; and are in blow moſt part of the ſummer. Native of the Alps, in moiſt rocky places. It has a bitter diſagreeable taſte[x].

24. Stem herbaceous, ſmooth, a foot and half high, ſquare, branched: lower leaves ovate-oblong: upper lanceolate, ſmooth, ſeſſile, deeply and remotely ſerrate: racemes terminal: flowers blue, with a yellow mouth; ſpur ſhort. Capſule ovate compreſſed, bifid, with the lobes divaricate[y]. A native of the Cape of Good Hope, annual, and introduced in 1774. by Mr. Francis Maſſon[z].

25. Leaves minute, ſhorter than the peduncles. The whole plant very thickly haired[a]. Obſerved in Spain by Alſtroemer. Perennial. Introduced in 1786, by Sir Francis Drake, Bart.[b] It is not the *Linaria villoſa* of Miller: this being deſcribed with white flowers, whereas his have them yellow.

26. A polymorphous plant, varying with ovate and lanceolate leaves. Perhaps produced from the twenty-eighth, from which it is diſtinguiſhed by woody branches; by all the ſtem-leaves being oppoſite, the floriferous ones alternate: the flowers of this are twice the ſize of the other[c]. Annual. Growing wild on the Pyrenees, and near Marſeilles. Introduced in 1785, by Lee and Kennedy[d].

27. Found at the Cape, by Thunberg.

28. The loweſt leaves, for three pairs only, oppoſite[e]. The whole plant is ſoft, villoſe, and viſcid. Flowers from the axils on ſimple peduncles. Leaves of the calyx long, narrow. Corolla ſmall, with a bent ſpur, half the length of the flower; tube and upper lip violet; beard and chin whitiſh: throat cloſed with an orange pile of hairs. Capſule oval, opening with two holes[f]. Annual, growing wild in corn-fields, dry paſtures, on walls, *&c.* in moſt parts of Europe, and flowering from june to ſeptember.]

29. This riſes with a ſtrong woody ſtalk, three feet high, having ſmooth, ſpear-ſhaped leaves, placed alternately, and ſitting cloſe to the ſtalk. The flowers are produced at the end of the branches in ſhort looſe ſpikes; theſe are of a deep yellow colour, much larger than thoſe of the common ſort, and ſtand upon ſhort foot-ſtalks. It flowers in july, but the ſeeds very rarely ripen in England, ſo that the plants are ſeldom ſeen in any gardens here. [According to Linneus, the flowers proceed from the axils of the leaves, are ſolitary and peduncled. A native of Crete, alſo of Armenia, whence it was known to Caſpar Bauhin, in 1594.]

30. This is an annual plant, which riſes with a ſingle ſtalk, about a foot and half high, with hairy, ſpear-ſhaped leaves, ſitting cloſe to the ſtalk, and placed alternately. The flowers grow on the top of the ſtalks in looſe ſpikes; they are of a pale yellow colour, with a few dark ſtripes, and the chaps are of a gold colour; the upper ſegment of the calyx is much larger than the lower. The flowers are as large as thoſe of the common ſort; they appear in july, and the ſeeds will in warm ſeaſons ripen in autumn in England. [According to Linneus, this has a few, ſimple ſtems, ſeven inches high, not branching. Leaves like thoſe of Lavender. Flowers in a cloſe ſpike, of the colour and ſize of the common Toad-flax, (n. 33:) the upper leaf of the calyx twice as large as the reſt. A native of Spain. Mr. Miller affirms that he received the ſeeds of it from Dr. Hortega of Madrid; in the Kew catalogue it is ſaid to have been introduced in 1777, by Mr. John Hyacinth de Magellan.]

31. This is a biennial (perennial) plant, which riſes with an upright, branching ſtalk from three to four feet high, having ſpear-ſhaped, alternate leaves, ending in acute points, and of a grayiſh colour. The flowers are produced at the end of the branches, in looſe panicles; they are of a bright yellow colour. [According to Allioni the leaves are fleſhy, long, elliptic-lanceolate, firm, with three nerves underneath. Stems diffuſely branching, with the branches almoſt horizontal and ſubdividing. Flower like that of Toad-flax, (n. 33) only yellow where that is whitiſh, and rather ſmaller. The principal difference between them is, that in the common ſort, the ſtem is upright, branching only towards the top; the branches erect, generally ſimple, the leaves linear, and glaucous underneath. He thinks this difference is trifling, and ſuch as may be only owing to a difference of ſoil. It is a native of Siberia, Lower Auſtria, Switzerland, Dauphiné, and Piedmont. Cultivated in 1732, by James Sherard, M. D.[g]

32. Height half a yard. Stems round, ruſh-like, ſmooth. Lower leaves generally oppoſite, upper alternate. Segments of the calyx nearly equal. Spur ſhort. Upper lip of the corolla white with blue ſtreaks; lower pale yellow[h]. Found in Spain by Loefling. Introduced in 1780, by M. Thouin[i].

33. Root perennial, hard, woody, creeping. Stems ſeveral, from one to two feet high, full of leaves, round and ſmooth. Leaves pointed, ſmooth, blueiſh, growing without order. Flowers yellow, with the palate orange, villoſe; in a thick terminal ſpike. Nectary long, awl-ſhaped. Upper ſegment of the calyx a little longer than the reſt; the two lower ones gaping wideſt. Capſule cylindric, ſplitting at top into ſeveral equal diviſions[k]. It grows wild in Europe on banks by road-ſides, and in dry paſtures; flowering from june to auguſt. In Worceſterſhire it is called *Butter and eggs*. Gerard names it Wild Flaxe, Tode Flaxe, and Flaxe-weede. It has theſe appellations from the ſimilitude of the leaves to thoſe of Flax. It abounds in an acrid oil, that is almoſt empyreumatic. Given inwardly, it excites a nauſea, purges, and provokes urine. It is recommended in hydropical caſes, but Haller and others do not much approve of it. The juice mixed with milk, is a poiſon to flies. The diſtilled water or juice of the plant, put into the eyes, is ſaid to take away inflammations: but it is moſt approved, uſed as a cataplaſm, with lard, in the piles[l].

It has frequently two or more ſpurs to one flower. In Sweden it has been found with a regular corolla, five nectaries, and five ſtamens. It is plain that this is only a monſtrous variety, becauſe the plant differs in no other reſpect from the common one, becauſe it never produces ſeed; and becauſe flowers of both kinds have been found on the ſame ſtem. This beautiful monſter has been obſerved by Leers, *&c.* in Germany, and by Mr. Hudſon near London:

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[s] Hort. kew. [t] Linn. [u] Cavanilles. [x] Jacquin. [y] Linn. amæn.
[z] Hort. kew. [a] Linn. ſpec. [b] Hort. kew. [c] Linn. ſpec.
[d] Hort. kew. [e] Linn. ſpec. [f] Haller.

[g] Hort. kew. [h] D'Aſſo. [i] Hort. kew. [k] Curtis.
[l] Ray, Haller, Curtis, Allioni, &c.

It is figured in Knip. cent. 9. n. 9. The genus has evidently a tendency towards this variation, ſince it has been remarked alſo in the firſt, third, and fourth ſpecies. In the Amænitates academicæ, vol. 1. there is a diſſertation on this variety, under the name of *Peloria*, with a figure.

34. Stems round, erect, ſmooth; branches alternate. Leaves remote, ſmooth, very ſharply pointed. Raceme ſtraight, long. Bractes lanceolate, often longer than the flower. Peduncles the length of the ſpur. Calyxes acute, ſhort; corollas yellow, with the palate villoſe within: ſpur long, the length of the flower[m]. On the ſea-coaſts of Italy. Perennial.]

35. This is an annual plant, which riſes with a branching ſtalk, two feet high, having very narrow lanceolate leaves placed alternately. The flowers are produced ſingly all along the branches the greateſt part of their length; they are ſmall, white, and have very long ſpurs. This flowers in july, and the ſeeds ripen in autumn. Grows naturally in Sicily. [Italy, and near Montpellier. It was cultivated in 1680, in the Oxford garden[n].

36. Root annual. Stems filiform, procumbent, ſix or ſeven inches high. Leaves ſub-petiolate, remote, ſometimes alternate, ſometimes two oppoſite, ſometimes three or four together, blueiſh, of the ſhape of thoſe of Knot-graſs, but leſs. Peduncles ſolitary, one-flowered, the length of the leaves; but after the time of flowering twice as long, and bent towards the ground. Calyx acuminate; corolla white, with a yellow mouth, and very long ſlender ſpur, equalling the length of the flower. Capſule globoſe, opening before the ſeed is ripe[o]. Common in vineyards and gardens about Meſſina, flowering in may and june; and found in Barbary, by Brander.

37. Stems ſix or ſeven inches high, woody and very branching. Leaves lanceolate, ſmooth, like thoſe of Knot-graſs. Peduncles ſtraight and ſtiff three times as long as the leaves. Calyx ſmooth. Corollas yellow, ſtreaked on the outſide with blue[p]. Obſerved in Spain, by Alſtroemer.

38. Stems herbaceous, ſcarcely a foot high, erect, ſoft, with alternate branches towards the top. Leaves lanceolate-linear, erect, with reflex edges, ſoft and pale. Spikes terminal and ſolitary. Calyxes crowded, equal, like thoſe of *Lagopus*. Corollas ſmall, yellow; upper lip pale: the palate has two orange ſpots within[q]. A native of Siberia.

39. This is a very ſingular plant, and has no appearance of an herb, but would rather be taken for a *Splachnum* (a kind of moſs) and is not bigger than that. It has not even any radical leaves[r]. Found near the Cape of Good Hope, by Thunberg.

40. Root biennial. Stem from a foot or eighteen inches to two and even three feet in height, upright, round, ſolid, ſmooth at bottom, but pubeſcent higher up. Leaves lanceolate or ovate, blunt, the lower moſtly oppoſite, the upper inclined to be alternate. Flowers in a ſpike, pointing one way, large and handſome, on a very ſhort, hairy peduncle, ſupported by a ſhort, concave, acuminate bracte[s]. Nectary obtuſe, ſcarcely prominent. Capſule obliquely opening at top, unequal at the baſe[t]: vulgarly compared in ſhape to a calf's head. The tops of the ſtalks and the calyxes are uſually viſcid.

Linneus makes two varieties of this ſpecies: α. with the ſtem erect, and ovate leaves. β. with the ſtem diffuſed and wand-like, the leaves lanceolate. The varieties are ſet down here from the catalogue of the royal garden at Kew.] Miller has made four ſpecies out of this. 1. *Antirrhinum majus*, n. 3. which is our variety β. 2. *A. latifolium*, n. 4. which is our variety α. The leaves of this, he ſays, are much broader, the flowers larger, and the ſpikes longer. He received the ſeeds from the iſlands of the Archipelago; and it is much more ſpecious than the firſt. 3. *A. italicum*, n. 5. with long, narrow, hairy leaves, large flowers, and a ſhorter ſpike. 4. *A. ſiculum*. Annual; ſeldom more than a foot high; leaves very narrow and ſmooth; flowers white with a dark bottom, coming out ſingle from the axils on long peduncles.

The differences in the colour of the flowers are endleſs. The moſt known are red, yellow, purple, white; red with white or yellow mouths, white and red, yellow and red, yellow and white, purple and white, purple with yellow mouths figured by Miller, t. 42, ſcarlet dotted with gold-colour, &c. The flowers are alſo ſometimes double; and there is a variety with variegated leaves. [Native of the ſouthern countries of Europe, in hedges and on rocks and ruins. With us on walls, on Dover cliffs, between Northfleet and Graveſend, &c. but not originally of this country. It flowers in june and july.

In Ruſſia they expreſs an oil from the ſeeds, little inferior to oil of olives[u].

41. This reſembles the great Snap-dragon in many reſpects. The ſtem is erect, hairy, and branching, but ſeldom more than a foot high. Leaves lanceolate, very entire. Flowers few, ſcattered, ſeſſile, or on very ſhort peduncles, axillary. Calyx very wide, the two lower leaves ſtraighter, and leſs than the others; all lengthening after the falling of the flower. Corollas bright-purple, with a little yellow (ſometimes white:) ſpur very ſhort. The capſule opens with three holes, the firſt of which is in the upper cell, and has three ſcales ſtanding up below: in the lower cell are two ſcales on one ſide, and one on the other[x]. This capſule is much ſhorter than the calyx, and when it opens reſembles the ſkull of an ape. It is a poiſonous plant[y]: and is ſufficiently diſtinguiſhed from the great Snap-dragon, in being ſmaller and annual, and by having long pointed leaves to the calyx. A native of England, and moſt parts of Europe, growing in corn-fields, and vineyards, eſpecially in a light ſoil. It flowers in july and auguſt.

42. Leaves alternate, on ſhort petioles, ovate, or obovate, quite entire. Flowers ſolitary on ſhort peduncles. Calyx five-leaved, the upper leaf largeſt, heart-ſhaped, almoſt the length of the corolla; the others ſub-lanceolate, half the length of the corolla: upper lip of the corolla bifid, with the edges reflex on the ſides; the lower broader, trifid, nearly equal[z]. A native of Perſia.]

43. This is a low, trailing, annual plant; the branches extend little more than a foot each way, and are weak, ſo that unleſs they are ſupported, they lie upon the ground; theſe have leaves like thoſe of Ground-ivy, which grow by pairs; at the wings of the leaves the flowers come out ſingly on each ſide the ſtalk; they are ſhaped like thoſe of Snap-dragon, but have a long tube; are of a worn-out purple colour at the top; but below of an herbaceous colour. Theſe come out in june, and the ſeeds ripen in ſeptember. [According to Linneus, the ſtems are proſtrate, hanging down. Leaves obtuſely lobate, or deeply crenate, hairy. It is a native of Italy and the ſouth of France; and was cultivated in 1699, by Jacob Bobart[a].

44. This has the ſtems proſtrate, brittle. Stem-leaves oppoſite, very ſoft. Peduncles longer than the calyx. Corollas villoſe, white with a yellow palate; the upper lip ſtreaked with red[b]. A native of Spain. Cultivated in 1748, by Mr. Miller[c].

45. Found near the Cape, by Thunberg.]

46. This is a biennial, or at moſt a triennial plant, which frequently periſhes ſoon after the ſeeds are ripe. [Stem erect, two feet high, branching, terminated with a long thin ſpike. Stem-leaves ſmall and three-parted, ſometimes five-parted, very different from the broad, ſerrate, radical ones. Bractes one-flowered, linear, long, ſometimes trifid. Flowers very ſmall, on ſhort peduncles, in a very

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[m] Linn. ſpec. [n] Hort. kew. [o] Linn. Ray. [p] Linn. ſpec. [q] Linn. ſuppl. [r] Ibid. [s] Ray hiſt. [t] Lin. gen.

[u] Villars dauph. [x] Haller. [y] Linn. [z] Linn. mant. [a] Hort. kew. [b] Linn. ſpec. [c] Hort. kew.

long raceme, containing frequently an hundred flowers. Segments of the calyx almoſt capillary. Corolla blue, nodding, quinquefid, two of the diviſions erect, three nodding; throat open without any palate: ſpur ſhort, bent back; anthers reflex, dark blue[d]. Habit different from that of the *Antirrhina*, hence Ray determined it not to be a genuine ſpecies of *Linaria*. Miller makes it a ſpecies of *Dodartia*[e]. A native of Spain, Italy, and the ſouth of France: alſo found near Geneva by M. de Sauſſure. It was cultivated in 1629[f].

47. Root fibroſe, annual. Stem erect, filiform, a foot high, ſcarcely branching. Leaves remote, ſmooth. Raceme terminal, with few flowers, placed alternately, and on peduncles. Calyx ſharp: upper lip of the corolla ſhort, reflex; lower larger, ſpreading, hanging down: ſpur awl-ſhaped. A native of Virginia and Canada[g].

48. Root annual. Stems upright, wand-like, round, glaucous, red near the baſe, naked towards the top, very ſmooth, as is alſo the whole plant. Leaves ovate-lanceolate, acute, ſeſſile, obſcurely three-nerved. Flowers diſtant, ſolitary, ſubſeſſile, axillary, terminating the ſtem. Calyx deeply five-parted, with linear-ſpatulate, ciliate ſegments. Corolla leaſt of all the ſpecies, a little longer than the calyx, blue with a white palate; upper lip bifid, erect, lower trifid. Capſule globoſe-ovate, opening at top into ſix ſegments. Seeds numerous, kidney-ſhaped, compreſſed, ſurrounded with a little black membrane. Native of Spain near Madrid. It flowers there in march and april[h]. Cavanilles is of opinion that this is different from *Linneus's A. arvenſe*, which has a poſterior ſpur and revolute leaves.

49. Root perennial, branched. Stems herbaceous, erect, branched, leafy, round, glaucous, ſmooth. Radical ſhoots proſtrate, leafy, ſhort. Leaves on the ſtem rather obtuſe, entire, naked, glaucous; thoſe on the radical ſhoots ſhorter and more obtuſe, in whorls, five together, ſometimes four or ſix, very rarely alternate in the lower part of the ſhoot. Flowers racemoſe, terminating the ſtem and branches, variable in colour, very beautiful but without ſcent. Peduncles alternate, ſimple, ſingle-flowered, moderately ſpreading, hairy, a little viſcid. Bractes ſolitary, ſpreading, reaching to the top of the calyx, lanceolate, hairy, ſometimes membranaceous at the edge. Calyx-leaves unequal, lanceolate, pointed, keeled, membranaceous on the edge, a little viſcid. Corolla thrice as long as the calyx: ſpur conical, acute, a little curved, twice the length of the peduncle, pale yellow ſtreaked: upper lip erect; ſegments acute, divaricate, ſtreaked, before expanſion purple, then blood-red, afterwards violet-coloured, paler and downy on the back: lower lip ſhort, deep red, the middle ſegment ſmalleſt: palate large, two-lobed, bright yellow beautifully reticulated with red veins, ſmooth externally, but marked on the inſide with two hairy lines running along the throat. Stigma bifid, acute. Capſule twin, ſmooth, pale brown, ſhorter than the calyx. Seeds numerous, ſmall, angular, black, rugged.

This ſpecies may be thus diſtinguiſhed from *A. junceum* and *viſcoſum*, which have alſo whorled leaves on the radical ſhoots. *A. junceum* is much ſmaller than the other two, and almoſt entirely ſmooth: bractes ſmooth, and only one-third the length of the peduncle; calyx very ſlightly downy; corolla yellow with an orange-coloured palate; leaves ſcarcely more than three in each whorl.—*A. viſcoſum* is very like our plant in habit, as well as in the hairineſs of its calyxes and peduncles; but it is diſtinguiſhed by its filiform peduncles, preſſed cloſe to the ſtem, and twice as long as the bractes: the corolla alſo is entirely deep yellow.

It was diſcovered in Algiers by Profeſſor Desfontaines of Paris, who ſent it to the royal garden, whence the ſeeds were communicated to Dr. Smith, by Monſieur Thouin[i]. Mr. Fairbairn raiſed ſeveral plants from them at Chelſea, in 1788.

50. This has the appearance of *Convolvulus arvenſis*, but is much ſmaller. Stems wand-like proſtrate, very ſlender, ſmooth and weak, with alternate, remote, filiform branches, bent this way and that. Leaves ſcarcely half an inch long, and a third of an inch broad. Petioles nearly equal to the leaves. Peduncles axillary, ſolitary, one-flowered, capillary, patulous, twice or three times as long as the leaves. Calyxes only half the ſize of a grain of Millet, with acute ſegments. Corolla yellow, twice as large as the calyx. Spur length of the corolla, acute, recurved, yellow. Capſule globoſe[k].

51. This is an annual plant, with the appearance of *A. ſupinum*, from which however it differs very much, beſides being of double the ſize. Stems ſeveral, wand-like, glaucous, almoſt erect. The primary leaves, both next the ground, and at the bottom of the ſtem, linear-lanceolate, ſmooth, glaucous, ſhort, in fours; thoſe above are crowded, and at top alternate; the nearer they approach to the flowers the ſharper and longer they are. There are two and ſometimes three ſhort, alternate branches on the top of the ſtem. Raceme terminating, thick, on a long, naked peduncle, connecting about thirty flowers: pedicels very ſhort, hiſpid. Calyxes obtuſe, villoſe, and viſcid as in *A. arvenſe* & *ſupinum*, and of the ſame ſize. Corollas yellow, twice as large as in *A. ſupinum*; the upper and lower lip blueiſh violet colour; the palate rough, with crowded yellow hairs; the ſpur the length of the flower, ſcarcely recurved, variegated above with violet-coloured ſtreaks. The colour of the corolla probably varies, for according to Caſp. Bauhin it is *æruginеus*, or the colour of verdigriſe; and D'Aſſo deſcribes it as of a very dark purple, *atro-purpureus*. Capſules globoſe, only half the ſize of thoſe in *A. ſupinum*, which is remarkable, the flowers being twice as big. This ſpecies varies into what Linneus called *Peloria*, with from one to five ſpurs in different flowers on the ſame plant. It is a native of Spain[l].

52. Native of the iſland of Otaheite in the South Seas.

Mr. Miller has ſeparated *Linaria* from *Antirrhinum* on account of ſome difference in the ſpur of the nectary. The former has its name from the ſimilitude of the leaves to thoſe of *Linum* or *Flax*. Hence alſo our Engliſh names *Flax-weed* and *Toad-flax*. Dr. Stokes objects to the latter, as contrary to the Linnean rules for the conſtruction of generic names; and accordingly *Snap-dragon* is adopted in the Botanical Arrangement of Britiſh Plants. This appellation has the ſame origin with the Latin one, and is taken from the ſhape of the flower. Hence alſo the common yellow Toad-flax is called *Calves-ſnout*.]

PROPAGATION AND CULTURE.

1. *Ivy-leaved Toad-flax* will thrive in any ſoil or ſituation, ſo that where it is once eſtabliſhed, it will be difficult to root out, for the ſeeds will get into any joints of walls, &c. and there grow and propagate themſelves plentifully. The ſtalks alſo put out roots at their joints, and thus ſpread themſelves to a great diſtance.

3. 4. The ſeeds ripen in autumn, and ſhould be ſown, or permitted to ſcatter, at that time: if they are ſown in the ſpring, they ſeldom grow the ſame year. They are weeds in corn-fields, but are rarely ſeen among ſpring-ſown corn, in thoſe lands where they commonly grow.

7. The ſeeds of *Three-leaved Toad-flax* ſhould be ſown in the ſpring, on the borders of the flower-garden, where they are deſigned to remain; and when the plants come up, they ſhould be thinned where they are too cloſe, and kept clean from weeds. If ſome of the ſeeds are ſown in autumn upon a warm dry border, the plants will live through the winter, unleſs the froſt proves very ſevere; and will grow larger, flower earlier, and afford good ſeeds.

The broad-leaved Portugal variety is more tender, and ſhould have a dry ſoil and warm ſituation.

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[d] Haller. and Linneus. [e] Linn. ſpec. [f] Park. par. [g] Linneus. [h] Cavanilles. [i] Smith rar.

[k] Gouan. illuſt. [l] Ibid.

It is adviſeable to keep ſome of the plants in pots, that they may be removed into ſhelter in froſty weather. This may alſo be propagated by parting the roots.

9—12. The ſeeds of theſe ripen in the autumn, and if permitted to ſcatter, will produce plenty of young plants, without any farther care: they prefer a dry ſoil, and when they get upon old walls, they will come up, and continue much longer there than in the ground. They may alſo be increaſed by parting the roots.

13. May be ſown in ſpring, in the ſame manner as other hardy annuals; but it will flower earlier if raiſed in the autumn.

15. Is eaſily propagated by cuttings, in any of the ſummer months; if watered and ſhaded, they will ſoon take root, and may be afterwards planted in pots, filled with freſh, light undunged earth. Theſe muſt be removed into ſhelter in winter, but muſt have as much free air as poſſible in mild weather, and be only protected from ſevere cold: if they are placed therefore under a hot-bed frame, the plants will ſucceed much better than in a green-houſe, where they are apt to be drawn up too much.

18. The ſeeds ripen in the autumn, at which time they ſhould be ſown.

21. This alſo is propagated by ſeeds, which if permitted to ſcatter will come up without care, and produce flowers early in ſummer.

23. [May be propagated by cuttings, as well as ſeeds, which are not very plentifully produced with us. It ſucceeds beſt in a pot, or on rock-work; and is apt to be loſt, like other ſmall alpine plants, for want of proper treatment and care. It is elegant, and flowers during moſt of the ſummer[m].]

29. It is propagated by ſeeds, which ſhould be ſown early in the ſpring upon a border of light earth; and when the plants come up and are fit to remove, ſome of them ſhould be planted in pots filled with light ſandy earth, and placed in the ſhade till they have taken new root; then they may be expoſed with other hardy exotic plants till the end of october, when they ſhould be put into a common hot-bed frame, where they may be protected from hard froſt; but in mild weather they ſhould enjoy the free air, for theſe plants only require to be protected from hard froſt, for in mild winters they will live abroad without ſhelter, if they are upon a dry ſoil; therefore a part of them may be planted on a warm border of poor ſandy ſoil, where they will live through our common winters very well; and thoſe plants which grow in rubbiſh and are ſtinted, will endure much more cold than the others.

30. The ſeeds ſhould be ſown in the ſpring, upon a border of light earth, where the plants are deſigned to remain; and when they come up, they muſt be treated as *A. triphyllum*, n. 7.

31—35. If the ſeeds be permitted to ſcatter, the plants will come up the following ſpring, and require no other care, but to thin them, and keep them clean from weeds.

33. *Common Toad-flax* is ſeldom cultivated in gardens; for it is a very troubleſome plant to keep within bounds, the roots being very apt to ſpread. The flowers however make a pretty appearance, a few plants therefore might be allowed a place, eſpecially if the roots were confined in pots.

40. All the varieties of *Snap-dragon* are raiſed from ſeeds, which ſhould be ſown in a dry ſoil, not too rich, either in april or may; and in july the plants may be planted out into large borders, where they will flower the ſpring following; or they may be ſown early in the ſpring, for flowering the ſame autumn, but then they are not ſo likely to endure the winter; and if the autumn prove bad, they will not perfect their ſeeds. Any of the ſorts may be continued, by planting cuttings in the ſummer months, which will eaſily take root.

They are all pretty ornaments in a garden, and requiring very little culture, are rendered more acceptable. They are hardy plants, and will reſiſt the cold of our winters extremely well, eſpecially if they are planted on a dry, gravelly, or ſandy ſoil: for when they are planted in a rich moiſt ſoil, they will grow very luxuriant for a time, but are very ſubject to rot in autumn or winter; and are much more ſuſceptible of cold, than when they are in a dry, hungry, rocky ſoil; theſe plants will grow amongſt ſtones, or the joints of old walls, where they may be placed ſo as to render ſome abject part of a garden very agreeable, for they will continue in flower ſeveral months; and if the ſeeds are permitted to ſhed, there will be a continual ſupply of young plants, without any trouble.

Wherever theſe plants are deſigned to grow on walls, or on a rocky barren ſoil, the ſeeds ſhould be ſown the beginning of march, where they are deſigned to remain; for if the plants are firſt raiſed in a better ſoil, and afterward tranſplanted into thoſe places, they ſeldom ſucceed well. When the plants are come up, they will require no other culture but to keep them clear from weeds; and where they come up too thick, to pull ſome of them out, ſo as to give them room to grow. In july they will begin to flower, and will continue flowering till the froſt prevents them. Thoſe plants which grow on walls, will have ſtrong woody ſtems, which will continue two or three years or more, and are rarely hurt by froſt.

The variety with ſtriped leaves is propagated by ſlips and cuttings, which readily take root any time in the ſpring or ſummer.

41. and 28. Are ſeldom admitted into gardens; they are both annual plants, which come up from ſcattered ſeeds.

43. The ſeeds ſhould be ſown ſoon after they are ripe, or permitted to ſcatter; for when they are ſown in the ſpring they ſeldom grow. They ſhould not be tranſplanted, and require no other care but to keep them clean from weeds, and thin them where they grow too cloſe. As there is not much beauty in this ſpecies, two or three plants will be enough in a garden, for the ſake of variety.

46. This is propagated by ſeeds, which ſhould be ſown in autumn ſoon after they are ripe upon a border of light earth, where they are deſigned to remain. When the plants appear the following ſpring, they muſt be thinned, and kept clear from weeds, which is all the culture they require: the ſecond year they will flower and ſeed, after which the plants uſually decay; when the ſeeds are ſown in the ſpring, the plants never come up the ſame year.

[ANTITRAGUS. See *Crypſis*.

APACTIS. (Απακτος, *abductus*, from απαγω.)
Thunb. jap. 11. *Diſſ.* 66. *Schreb. gen. n.* 808. *Juſſ.* 432.

Claſſ. 11. 1. Dodecandria Monogynia.

GENERIC CHARACTER.

CAL. none.
COR. four-petalled. *Petals* roundiſh, crenate, concave, unequal: two oppoſite-broader.
STAM. *Filaments* from ſixteen to twenty.
PIST. *Germ* ſuperior: *ſtyle* one.

ESSENTIAL CHARACTER.

Cor. four-petalled. *Cal.* none.

SPECIES.

1. Apactis japonica. *Thunb. jap.* 191. *Lin. ſyſt.* 442.

DESCRIPTION.

A tree erect and very branching. Branches alternate, round, ſcabrous with dots, erect: branchlets ſimilar, the laſt frequent. Leaves on the branchlets alternate, petiolate, ovate, acute, ſerrate, entire at the baſe, nerved, ſmooth, paler underneath, an inch long. Petioles half round, furrowed, a quarter of an inch in length. The flowers in racemes at the ends of the branchlets. Racemes uſually ovate, as they advance becoming more oblong. Peduncle and pedicels villoſe-ſcabrous[a].

APALATOA. *See Cyclas.*]

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[m] Curtis magaz.

[a] Thunberg.

[**APARGIA.** (*The name of a plant in Theophraſtus, from* αργος *or* αργιος, *white.*)

Lin. gen. Schreb. 1232. *Scop. hiſt. nat. n.* 363. *Virea Adans. Scop. hiſt. nat. n.* 361. *Gærtn. t.* 159. *Leontodon Scop. carn. gen.* 318. *Hedypnois Hudſ. angl.* 340. *Taraxaconoides. Vaill. A. G.* 1721. 21.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Semifloſculoſæ. Cichoraceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* imbricate, oblong: *ſcales* ſeveral, linear, parallel, unequal, longitudinal, incumbent.

Cor. *Compound*, imbricate, uniform; *corollets* hermaphrodite, numerous, equal.

Proper monopetalous, ligulate, linear, truncate, five-toothed.

Stam. *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular.

Pist. *Germ* ſubovate. *Style* filiform, length of the ſtamens. *Stigmas* two, recurved.

Per. none. *Calyx* oblong, ſtraight.

Seeds ſolitary, oblong, ſtriated. *Down* ſeſſile, (in the central ſeeds ſomewhat ſtiped,) plumoſe; rays chaffy beneath.

Rec. naked, ſubvilloſe.

Obs. *Beſides the feathery rays of the down, in moſt ſpecies are obſerved others, which are acceſſory, very ſhort, and only ſubplumoſe or capillary.*

ESSENTIAL CHARACTER.

Cal. ſubimbricate, with linear, parallel, unequal ſcales. *Down* plumoſe, ſubſeſſile. *Recept.* naked, ſubvilloſe.

SPECIES.

1. Apargia hiſpida.

Leontodon hiſpidum. *Lin. ſpec.* 1124. *Reich.* 3. 634. *hort. cliff.* 386. *fl. ſuec. n.* 694. *Wither. arr.* 842. *Curtis lond.* 5. 56. *Scop. carn. n.* 977. *Pollich pal. n.* 737. *Fl. dan. t.* 862.

L. protheiforme D. *Villars dauph.* 88.

Hedypnois hiſpidum. *Hudſ. angl.* 340.

Virea *Adans. Scop. hiſt. nat. n.* 361.

Picris. *Hall. helv. n.* 25. *Sauv. monſp.* 388.

Taraxaconoides perennis & vulgaris. *Vaill. act.* 1721. *p.* 232.

Hieracium aſperum flore magno dentis leonis. *Bauh. pin.* 127. *prodr.* 66.

H. dentis leonis fol. hirſutum. *Ger. emac.* 303. 6.

H. caule aphyllo hirſutum. *Bauh. hiſt.* 2. 1037.

H. aſperum fol. & flor. dentis leonis bulboſi. *Park. theat.* 788. 4. 789. 798. 5, 8.

Dens leonis hirſutus, &c. *Raii ſyn.* 171. 3. *Pet. t.* 11. *f.* 9, 10.

The whole calyx upright; leaves lanceolate toothed, hiſpid with forked briſtles; ſcape one-flowered, naked.

2. Apargia hirta.

Leontodon hirtum. *Lin. ſpec.* 1123. *ſyſt.* 715. *Curtis lond. n.* 66. *Scop. carn. n.* 978. *Leers herborn. n.* 606. *Ger. prov.* 165. *Villars dauph.* 82.

Crepis hirta. *Lin. ſpec. ed.* 1. 799.

Picris hirta. *Allion. pedem. n.* 765.

Hedypnois hiſpidum β. *Hudſ. angl.* 340.

Leont. hiſp. β. *Wither. arr.* 843.

Taraxaconoides perennis hiſpida coronopi folio. *Vaill. act.* 1721. *p.* 178.

Dens leonis parvus hirſutus, caule aphyllo. *Mor. hiſt. ſ.* 7. *t.* 7. *f.* 14.

Hieracium pumilum ſaxatile aſperum præmorſa radice. *Bauh pin.* 128. *prodr.* 66. *fig. Raii ſyn.* 167. *Park. theat.* 798. *f.* 5.

H. parvum hirtum caule aphyllo. *Bauh. hiſt.* 2. 1038. *Raii hiſt.* 246. 9.

The whole calyx upright, ſmoothiſh; leaves toothed, rough with hairs which are undivided; ſcape ſmooth, without any floral leaf: outer ſeeds without down.

3. Apargia danubialis.

Scop. hiſt. nat. n. 363. *carn. n.* 983.

Leontodon danubiale. *Jacqu. vind.* 270.

L. haſtile. *Jacqu. auſtr.* 2. *t.* 164. *Lin. ſyſt.* 715.

L. protheiforme. *Villars dauph.* 87. *t.* 24.

Virea haſtilis. *Gærtn. fruct.* 2. 365.

Picris danubialis. *Allion. pedem. n.* 768. *t.* 70. *f.* 3. *Hall. helv. n.* 26.

The whole calyx upright, ſmooth; leaves toothed, ſmooth; ſcape one-flowered, almoſt naked.

4. Apargia tuberoſa.

Leontodon tuberoſum. *Lin. ſpec.* 1123. *Reich.* 3. 633. *Gouan. monſp.* 411.

Taraxaconoides chondrillæ folio hirſuto, aſphodeli radice. *Vaill. act.* 1721. *p.* 170.

Dens leonis aſphodeli bulbulis. *Bauh. pin.* 126.

Chondrilla altera dioſcoridis monſpelienſium. *Lob. ic.* 232.

Calyx acute hirſute, leaves runcinate ſcabrous.

5. Apargia autumnalis.

Leontodon autumnale. *Lin. ſpec.* 1123. *Reich.* 3. 633. *fl. ſuec. n.* 695. *Wither. arr.* 840. *Lightf. ſcot.* 433. *Relh. cant. n.* 567. *Scop. carn. n.* 981. *Pollich pal. n.* 736. *Leers herborn. n.* 604. *Gouan. illuſtr.* 56. *Krock. ſileſ. n.* 1268. *Hall. helv. n.* 28. (Picris.)

Hedypnois autumnale. *Hudſ. angl.* 341.

H. autumnalis. *Villars dauph.* 77.

Hieracium Chondrillæ folio glabro radice ſucciſa, majus. *Bauh. pin.* 127 & minus. 128.

H. minus. *Fuchſ. hiſt.* 320. *Dod.* 639. 4. *Matth.* 766.—præmorſa radice. *Bauh. hiſt.* 2. 1031. *Park. theat.* 794. 4. *Raii hiſt* 230. 1. *ſyn.* 164.—ſ. leporinum. *Ger. emac.* 296. 2. *Pet. brit. t.* 12. *f.* 1.

Apargia *Dalech. Lugd.* 562.

β. Hieracium præmorſum laciniatum. *Petiv. t.* 12. *f.* 2.

γ. H. fol. acuto minus. *Petiv. t.* 12. *f.* 3.

δ. H. fol. obtuſo minus. *Petiv. t.* 12. *f.* 4.

Stem branched almoſt naked, peduncles ſcaly, leaves lanceolate toothed quite entire ſmooth.

6. Apargia pyrenaica.

Hedypnois pyrenaica. *Villars dauph.* 77.

Picris ſaxatilis. *Allion. pedem. n.* 766. *t.* 14. *f.* 4. *Hall. helv. n.* 25. β.

Leontodon pyrenaicum. *Gouan illuſt.* 55. *t.* 22. *f.* 1, 2.

L. alpinum. *Jacqu. auſtr.* 1. *t.* 93. *Lin. ſyſt.* 715.

Peduncles ſcaly, leaves lanceolate with very few teeth, calyxes villoſe, root end-bitten.

7. Apargia Taraxaci.

Hedypnois Taraxaci. *Villars dauph.* 80. *t.* 26.

H. autumnale ε. *Hudſ. angl.* 341.

Picris Taraxaci. *Allion. pedem. n.* 769. *t.* 31. *f.* 1. *Hall. helv. n.* 27.

Hieracium Taraxaci. *Lin. ſpec.* 1125. *Reich.* 3. 637. *mant.* 458. *Retz. obſ.* 4. 30. *t.* 2. *Wither. arr.* 845. *Lightf. ſcot.* 435.

H. alterum minus. *Raii hiſt.* 246. 10.

Peduncles ſomewhat ſcaly at top, leaves entire or pinnatifid ſmooth, calyx woolly, root end-bitten.

DESCRIPTIONS, &c.

Theſe plants have been ſeparated from the genus *Leontodon*, on account of an eſſential difference in the calyx, down, and receptacle. Vaillant named them *Taraxaconoides*, from their ſimilitude to the *Taraxacum* or Dandelion, with which Linneus has placed them. Mr. Hudſon adopted an old name *Hedypnois*, from the Greek Ηδυπνοος, *breathing a pleaſant odour.* Schreber has preferred the ancient name *Apargia*, explained above.

1. Linneus ſays, that his plant has a linear bracte below the flower, which is not in the next ſpecies; that the florets of the circumference are greeniſh on the outſide; and that the down is ſeſſile and plumoſe. According to Scopoli, the involucre (or calyx) is imbricate and augmented at the baſe; the down ſeſſile and compound; the pits of the receptacle margined, or ſurrounded with a lacerated membrane[a].

Our Engliſh plant has the root end-bitten; the ſtem from ſix to ſixteen inches high; the leaves petioled, lanceolate, toothed, rough and ſomewhat hoary with hairs, which ſometimes have two or three points, and ſometimes are ſimple. Calyx imbricate, ſlightly hairy, the hairs ſimple, long and white; the ſegments of the calyx acute. Florets with a few hairs at the bottom of the border. Down longer than the tube of the florets, ſeſſile, white, with eleven large rays juſt longer than the ſeed, with as many intermediate ones. Seeds ſlender, rough, as long as the down[b]. It is very common in meadows and paſtures, where it flowers earlier than the other Hawkweeds, namely in may. The old writers call it *Rough Dandelion* or *Dandelion Hawkweed*[c].

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[a] Hiſt. nat. n. 361.

Monſ. Villars has taken much pains to ſettle the ſynonyms of this and the other ſpecies, and to extricate them from the confuſion under which they labour; with what ſucceſs, I have not leiſure to determine. He has united *Leontodon hiſpidum* and *haſtile* of Linneus, *L. danubiale* of Jacquin, and ſome others, in one ſpecies, which he has named *Leontodon protheiforme*. They have all, he ſays, perennial, oblique roots, almoſt creeping, end-bitten, and furniſhed with equal fibres; leaves couchant, toothed, ſinuated, pinnatifid, more or leſs enlarged at the end; the hairs uſually forked, like the letter y, but ſometimes ſimple; ſcapes two or three, channelled, bending at bottom, having one ſcale above the middle, and two or three ſmaller, blackiſh ones near the calyx: which enlarges ſuddenly, is truncate at the baſe, has but few ſcales, and is almoſt cylindric; florets ſpread out, large, greeniſh or reddiſh beneath, and of a bright yellow above; ſeeds ruſſet-coloured, ſtreaked, oblong; down or egret ſeſſile, having a tinge of ruſſet, brittle, plumoſe, with about ten ſimple hairs, ſhorter than the feathered ones, interpoſed between them, all united at the baſe; the receptacle has ſmall inequalities in form of ſcales, ſeparating the ſeeds at the baſe, but ſcarcely viſible[d].

He remarks that *Leontodon hiſpidum* is the moſt common; that the leaves are rough, of a green colour though they are covered with hairs, and varying extremely both in form and ſize.

The flowers open at four in the morning, and cloſe at three in the afternoon[e].

2. This very much reſembles the foregoing, but yet it is different. Peduncles and calyxes leſs hiſpid, nay almoſt ſmooth. Leaves ſtiffiſh, as it were dry to the touch, the central parts very much curled when dry, the ſegments oblique; the hairs undivided at the tip. Calyx nodding before flowering, channelled when the ſeeds are ripe; the outermoſt ſcales dilated on each ſide at the baſe, with a fold between. Florets of the circumference yellow underneath, not greeniſh. Down plumoſe[f].

Leers diſtinguiſhes this from the foregoing thus. Root end-bitten. Leaves yellowiſh green, longer and more crowded, when dry waved and crumpled; hairs moſtly ſimple, but if examined with a glaſs ſome will be found cloven at the point; teeth ſhorter, ſlanting upwards, not downwards, as in *L. hiſpidum*. Scape ſmooth, not ſo obviouſly ſtreaked; without any bracte. Flower ſmaller. Calyx ſmooth, except a few hairs at the baſe: ſcales thirteen, lanceolate, flattiſh, with as many very ſmall ones on the outſide, dilated at the baſe, and preſſed cloſe at top. Florets of the ray equal in number to the ſcales of the calyx, livid underneath, and at length yellow; the ſtigmas not projecting beyond the anthers: ſeeds thickiſh, whitiſh, ſcarcely rough, crowned with a ſhort many-toothed calycle, inſtead of an egret. Inner florets only half the ſize of theſe: the ſtigmas rolled back. Seeds ſlender, browniſh, rough: egret ſeſſile; but in the innermoſt on a very ſhort ſtipe; rays thirteen, lanceolate at the baſe, plumoſe outwards, with as many ſhorter, ſimple ones, placed between them.

It is thus deſcribed by Villars. Root perennial, thick, covered with blackiſh pellicles, deep, ſometimes end-bitten, but imperfectly, and always with few, long, thick fibres. Hence proceeds a bunch or two of hard leaves, from an inch to two inches in length, having two or three lateral ſinuſes, deep, almoſt triangular, between which are as many projections, either triangular or obtuſely three-lobed at the end, waved and crumpled on the upper ſurface, often reddiſh beneath; the hairs on them are white, ſimple, thick, pointed and diſtinct. Scapes from two to five, ſtraight, little hairy, from ſix to eight inches ſeldom a foot in height; terminated by one middle-ſized flower, which hangs down before it opens; calyx almoſt ſmooth, becoming nearly cylindric as it advances to maturity; florets red underneath; ſeeds rough, oblong; egret ſeſſile, plumoſe, white; receptacle moderately alveolate.

Villars is of opinion, that *L. hirtum* of Scopoli is not the ſame plant with his. Mr. Hudſon's plant, which he gives as a variety of *L. hiſpidum*, is thought by ſome not to be *L. hirtum* of Linneus and other foreign writers. Mr. Curtis however has deſcribed and figured the true plant. The whole of it, he ſays, is much ſmaller than the firſt ſpecies; the leaves ſpread more on the ground, and are of a darker colour; the flower-ſtalks are more numerous, leſs upright, not only nodding at top, but often irregularly curled, eſpecially in the young ones; beſet with long crooked hairs, particularly towards the bottom; never furniſhed with ſmall ſcales; the flower-buds and flowers themſelves much ſmaller in proportion, more reſembling thoſe of the fifth ſort; the uppermoſt leaves of the calyx ſmooth, and at the point and edges of a deep purple or blackiſh colour. The briſtles vary much in this and the foregoing ſpecies; but this may certainly be diſtinguiſhed by the outer ſeeds being deſtitute of down. The two plants cultivated in the ſame ſoil and ſituation continue widely different; and are rarely met with wild on the ſame ſpot. I dare not affirm that all who have deſcribed it, intended the ſame plant, and therefore I have kept their deſcriptions diſtinct.

According to Linneus this is a native of Germany, Switzerland, France, Spain, &c. Villars confines it to the ſouth of Europe, in hot, dry, rocky places: and Leers affirms that he found it in marſhy meadows, flowering in july. Mr. Curtis informs us that it is frequent on Hampſtead-heath, Barnes-common, and other commons about London.

3. This ſpecies reſembles the foregoing very much in habit and ſtature, but the whole of it is always ſhining, and not a ſingle briſtle is to be ſeen upon it, even with the microſcope, whereas *L. hirtum* abounds in ſimple briſtles. The leaves are ſometimes ſo deeply toothed as to approach thoſe of *L. Taraxacum* or common Dandelion. The ſcape has a ſmall ſtipule or two on it, and next the calyx it is ſlightly ſcaly. It is found in meadows in the iſlands on the Danube; and flowers in june[g].

4. Leaves bluntiſh, the lateral ſegments entire, not toothed, but curved towards the baſe. Scape one-flowered, a little hairy; but the calyx more ſo. Native of Tuſcany and the ſouth of France, in meadows[h].

5. Root perennial, the ſecond or third year dying at the end, and thus appearing as if bitten off. Stems upright or aſcending, frequently marked here and there with purpliſh blotches, ſlightly ſcored, ſmooth, twice and ſometimes thrice the length of the leaves, according to the ſoil; in a barren one only a ſpan high, ſomewhat branched, and the leaves notched; but in a rich ſoil two feet high, with the ſtem much branched. Leaves couchant, linear or linear-lanceolate, with bluntiſh teeth, ſome pointing forwards others backwards. Peduncles thickening upwards, moſtly forked, with lanceolate, keeled ſcales, preſſed cloſe, reſembling the outer ſcales of the calyx; which is obovate, beſet with tapering, long, blackiſh or brown hairs, and a ſmall quantity of cottony down, the outer ſcales much ſhorter, upright. Florets yellow on both ſides, the tubular part a little hairy. Style and ſtigmas beſet on the

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[b] With. Stokes, Woodw. M.S.

[c] Ray ſyn.

[d] Dauph. 92.

[e] Linneus.

[f] Ibid.

[g] Jacqu. vind.

[h] Linn. ſpec.

upper part with very ſhort, fine, white, briſtly hairs. Seeds compreſſed, ſtreaked, ſurmounted with an egret about the length of the ſeed, rather longer than the tube of the floret, plumoſe with extremely fine hairs, browniſh white, which colour readily diſtinguiſhes it from *Hypochæris radicata*, and others of the ſame tribe, which flower in the meadows at the ſame time. On the ſeeds of the circumference it is ſeſſile, but thoſe of the centre are ſometimes on a ſhort ſtipe[i].

Linneus remarks, that the flowers open at ſeven in the morning, and cloſe at three in the afternoon. It is difficult, he ſays, to determine, under what genus it ſhould be placed; ſince it differs from *Scorzonera* in its ſeſſile egret, from *Crepis* in its ſimple, imbricate calyx, from *Leontodon* in its ſeſſile plumoſe egret[k].

This ſpecies is ſubject to many variations: having the leaves ſmooth, or hairy; toothed, ſinuate-toothed, or pinnatifid, with the teeth quite entire; the calyx ſmooth or hirſute; the ſtem ſimple or branched, with one, two, three or more flowers, naked or ſcaly[l].

It is common in paſtures, flowering from july to october. According to the obſervations in the Amænitates Academicæ, horſes, goats, and ſwine eat it, but cows and ſheep refuſe it. Our old Engliſh writers name it *Yellow Devil's-bit, ſmall hare's Hawkweed*, or *ſmall Hawkweed with bitten roots.*

6. Root perennial, oblique, end-bitten. Leaves petioled, entire, lanceolate and blunt, ſpatulate, ſinuate, and as it were gnawn at the baſe, but in the reſt of their contour more ſlightly ſinuate, or merely toothed: commonly ſmooth, but ſometimes hairy, and even white with the ſimple hairs that cover them. Scape ſtraight, ſmooth and even, from two to four or five inches in length, firm, a little ſcored, naked and green (ſometimes purpliſh) at bottom, aſh-coloured, hairy, and covered with ſcales at top. Calyx aſh-coloured, more or leſs hairy, and exactly funnel-ſhaped. Florets bright yellow on both ſides, but darkeſt on the upper ſurface: they are leſs in number and narrower than in *Leontodon hiſpidum*. Seeds oblong, terminated by a ſeſſile, plumoſe egret. Receptacle quite naked, with a ſmall degree of convexity[m]. It differs from all the Linnean ſpecies, except *L. autumnale*, which it reſembles very much, in having the peduncles very much ſwollen and ſcaly[n]. Native of the ſouth of Europe.

7. Root perennial, oblique, almoſt creeping, end-bitten, large, with ſtrong fibres, longer than the plant itſelf. Primordial leaves oblong, entire, blunt: ſecondary toothed, becoming inſenſibly pointed and pinnatifid; they are ſmooth, reddiſh and duſky. Scape oblique, bowed down the length of the leaves (before flowering-time); at top dilating into a conical calyx which ſpreads very little; it has ſome ſcales at the baſe concealed by the thick ruſſet-coloured hairs which cover the whole calyx. Florets moderately large, not ſpreading much, yellow. Seeds oblong, angular, greeniſh-white, crowned by a ſeſſile egret compoſed of eighteen, equal, feathered rays, which are very white, and a little dilated at their baſe. Receptacle quite naked, without any veſtige of cells, ſuch as are in the firſt ſpecies[o].

Linneus, who placed it in the genus *Hieracium*, doubts whether it be a mule plant, or a new ſpecies. The leaves are ſo much like thoſe of *L. autumnale*, and the ſtem and flowers ſo exactly reſembling thoſe of *H. alpinum*, that if the ſtem and flower of the latter were added to the leaves of the former, it would be a fair ſpecimen of the plant before us. The leaves are lanceolate, ſmooth and toothed; ſome of the teeth ſhorter, others longiſh, often bent forwards. Scape with a few minute rudiments of leaves, thickening towards the flower, ſwelling at the end like the calyx, covered with brown hairs. It is entirely different from *L. aureum*, the calyx being very much imbricated, which can hardly be ſaid of that or *L. autumnale*[p].

This plant was gathered in 1753, in the mountains of Lapland, by Dan. Ch. Solander, L. L. D. It has ſince been obſerved in ſeveral parts of the ſouth of Europe, in mountainous ſituations; and with us, both in Wales and Scotland. It flowers in july.

Perhaps there may be other ſpecies which belong properly to this genus. Mr. Hudſon has inſerted *Crepis tectorum & biennis*, and *Picris hieracioïdes* under his genus *Hedypnois*. I was unwilling either to make too many innovations, or wholly to omit this new genus adopted by Schreber. They are moſtly common weeds in paſtures, and not of much known uſe.

Aparine. See *Aſperugo, Galium, Sherardia, Valantia, Utricularia.*

Aparines. See *Ammannia.*

Apate. See *Lactuca.*

Apeiba. See *Aubletia.*

Aphaca. See *Lathyrus.*]

[APHĂNES. ('Αφανὴς, not apparent; from its diminutive ſize.)

Lin. gen. n. 166. *Reich.* 178. *Schreb.* 223. *Gærtn.* 73. *Juſſ.* 337.

Percepier. *Dill. gen.* 3.

Claſſ. 4. 2. Tetrandria Digynia, or, Monandria Monogynia.

Nat. order of *Senticoſæ*. *Roſaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, permanent; *mouth* flat, eight-parted, (four-parted *S.*)

Cor. none.

Stam. *Filaments* four, (or one) erect, ſubulate, very ſmall, placed on the mouth of the calyx: *anthers* roundiſh, or, one twin.

Pist. *Germ* ovate: *ſtyle* filiform, the length of the ſtamens, inſerted into the baſe of the germ: *ſtigma* headed.

Per. none. *Calyx* containing the ſeeds in the bottom, converging at the mouth.

Seeds ovate, acuminate, compreſſed, the length of the ſtyle.

Obs. *It approaches very near to* Alchemilla—*differing only in having two ſtyles and two ſeeds.* G. *or, one ſtamen, one ſtyle and one ſeed.* Schreb. gen. 821.

ESSENTIAL CHARACTER.

Cal. eight-cleft. *Cor.* none. *Seeds* two, (or one,) naked.

SPECIES.

1. Aphanes arvenſis. *Parſley-piert.*

Lin. ſpec. 179. *ſyſt.* 167. *Reich.* 350. *ſuec. n.* 143. *Gærtn. fruct.* 1. 346. *Hudſ. angl.* 72. *With.* 167. *Gron. virg.* 17. *Hall. helv. n.* 1569. *Scop. carn. n.* 175. *Leers herb. n.* 122. *Villars dauph.* 2. 310. *Krock. ſileſ. n.* 249. *t.* 35.

Alchemilla Aphanes. *With.* 163.—minima montana. *Col. ecphr.* 146. *t.* 148.

Chærophyllo nonnihil ſimilis. *Bauh. pin.* 152. *Mor. hiſt. ſ.* 2. *t.* 20. *f.* 4. *Petiv. t.* 9. *f.* 12.

Percepier anglorum. *Ger. emac.* 1594. *Bauh. hiſt.* 3. 2. 74. 3. *Raii ſyn.* 159. *hiſt.* 209.

Polygonum ſelinoides. *Park.* 449.

DESCRIPTION, &c.

Stems many, ſlender, leafy, four inches long, round. Leaves roundiſh, three-parted, deeply laciniate: the lower ones petiolate; the upper ones ſeſſile, hoary beneath. Flowers herbaceous, axillary[a]. Calyx cut into eight ſegments. It varies with one piſtil and ſeed[b]; ſome botaniſts ſay it is always ſo. Hudſon gives it one piſtil and two ſeeds. Haller ſays it has often two ſeeds; and Leers that it never has that number. According to Gærtner, it has only one ſeed, in the gardens uſually, but in the wild plant conſtantly: and therefore does not deſerve to be ſeparated from the genus Alchemilla.—Villars affirms that the calyx is only four-cleft, and that there is one piſtil and one ſeed. It is a native of Europe, growing in fallow-fields and dry paſtures: annual: flowering from may to auguſt.—*Parſley-piert* is a ſtrange corruption from the

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[i] With. and Stokes.
[k] Linn. ſuec.
[l] Hudſon.
[m] Villars.
[n] Gouan.
[o] Villars.
[p] Linn. ſpec.
[a] Ray.
[b] Linn.

French *Percepier*, which name it acquired from its ſuppoſed lithontriptic qualities.]

Aphyllantes. See *Globularia*.

[APHYLLANTHES. (ἄφυλλος ἄνθος, *A flower without leaves.*)

Lin. gen. n. 408. *Reich.* 441. *Schreb.* 556. *Tournef.* 430. *Juſſ.* 44.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Tripetaloideæ*. *Junci* Juſſ.

GENERIC CHARACTER.

Cal. *Glumes* univalve, lanceolate, ſeveral, imbricate.

Cor. *Petals* ſix, ovate, ſpreading in the border: *claws* ſlender, erect, converging into a tube.

Stam. *Filaments* ſetaceous, ſhorter than the corolla, inſerted into the throat: *anthers* oblong.

Pist. *Germ* ſuperior, three-cornered, turbinate. *Style* filiform, the length of the ſtamens: *ſtigmas* three, oblong.

Per. *Capſule* turbinate, triangular, trilocular.

Seeds ovate.

Obs. *It differs from* Juncus *in the corolla only.*

ESSENTIAL CHARACTER.

Cor. ſix-petalled. *Filam.* inſerted into the throat of the corolla. *Capſ.* ſuperior. *Glume* of the *calyx* univalve, imbricate.

SPECIES.

1. Aphyllanthes monſpelienſis.

Lin. ſpec. 422. *Reich.* 2. 28. *hort. cliff.* 493. *Sauv. monſp.* 8. *Lob. adv.* 190. *Bauh. hiſt.* 3. *p.* 336.

Caryophyllus cæruleus monſpelienſium. *Bauh. pin.* 209. *Mor. hiſt. ſ.* 5. *t.* 25. *f.* 12.

DESCRIPTION, &c.

Root creeping. Culms naked, ſimple, ſurrounded at the baſe with ſheaths, like the ruſh. Glume two-valved, two-flowered; the proper glume alſo two-valved. Were it not for the corolla, it would be a ruſh[a]. It grows wild about Montpellier, and Nice, in barren paſtures and rocky places.

Aphyllanti affinis. See *Globularia*.

Aphyllon. See *Orobanche*.]

[APHYTEIA. (α *and* φυτος, *plantleſs: having neither root, ſtem, nor leaves.*)

Lin. gen. *Schreb. n.* 1104. *Amæn. acad.* 8. 312. *ſuppl.* 48. *Plant. aphyt.* 7.

Hydnora. *Thunb. act. holm.* 1775. 69. *and Diſſ.* 22.

Claſſ. 16. 1. Monadelphia Triandria.

GENERIC CHARACTER.

Cal. *Perianth* monophyllous, ſemitrifid, funnel-ſhaped, large, fleſhy, erect, permanent.

Cor. Rudiments of three petals, growing to the diviſions of the calyx; or rather none.

Stam. *Filaments* connate at bottom, ſhort: *anthers* convex, cordate, ſtriated.

Pist. *Germ* inferior: *ſtyle* thickiſh, ſhort: *ſtigma* three-cornered, channelled.

Per. Berry one-celled.

Seeds numerous, neſtling.

ESSENTIAL CHARACTER.

Cal. large, funnel-ſhaped, ſemitrifid. *Petals* three, inſerted into the throat of the tube in the calyx, and ſhorter than it.

SPECIES.

Aphyteia Hydnora.

Lin. ſyſt. 609. *n.* 1410. *Reich.* 3. 300. *ſuppl. p.* 301. *Diſſ. plant. aphyt. p.* 10. *f.* 1—6.

Hydnora africana. *Thunb. act. holm.* 1775. *p.* 69. *t.* 2. *and* 1777. *p.* 144. *t.* 4. *f.* 1, 2.

DESCRIPTION, &c.

A vegetable without leaves, ſtem, or root. Paraſitical, terreſtrial, conſiſting of a fructification only, as the *Lathræa clandeſtina*, which has many flowers, whereas this has only one, four inches over, ſeſſile, coriaceous, ſucculent. Calyx large, with an erect trifid border, as it were of double lacinias; the inſide painted of a white ſcutiform figure. Smell of the flower and ripe fruit not unpleaſant. Very agreeable to foxes and weaſels; and eaten both raw and roaſted by the Hottentots[b]. Firſt obſerved at the Cape of Good Hope, by Thunberg, in the parched ſandy plains, paraſitical at the root of *Euphorbia*.]

Apios. See *Glycine* and *Euphorbia*.

Apioscorodon. See *Crateva*.

APIUM. (From *Apes*, bees, becauſe theſe inſects are ſaid to delight in it; or, from *apex*, the head, which on ſome occaſions was crowned with this herb.)

Lin. gen. n. 367. *Reich.* 397. *Schreb.* 499. *Tournef.* 160. *Gærtn.* 22. *Juſſ.* 219.

Claſſ. 5. 2. Pentandria Digynia.

Natural order of *Umbellatæ* or *Umbelliferæ*.

GENERIC CHARACTER.

Cal. *Umbel univerſal* of fewer rays; *partial* of more. *Involucre univerſal* ſmall, of one or more leaflets; *partial* ſimilar: *proper perianth* obſolete.

Cor. *Univerſal* uniform: *floſcules* almoſt all fertile. *Proper*, petals roundiſh, inflex, equal.

Stam. *Filaments* ſimple: *anthers* roundiſh.

Pist. *Germ* inferior: *ſtyles* reflex: *ſtigmas* obtuſe.

Per. none. *Fruit* ovate, ſtriated, ſplitting in two.

Seeds two, ovate, ſtriated on one ſide, plane on the other.

Obs. A. Petroſelinum *is furniſhed with minute involucels.*

ESSENTIAL CHARACTER.

Fruit ovate, ſtriated. *Invol.* one-leafed. *Pet.* equal.

SPECIES.

1. Apium Petroſelinum. *Parſley.*

Lin. ſpec. 379. *Reich.* 725. *hort. cliff.* 108. *upſ.* 67. *mat. med.* 86. *Blackw. t.* 172. *Raii hiſt.* 448. 3. *Woodv. med. bot.* 205. *t.* 73. *Plenck, ic. t.* 218.

α. A. ſativum. *Riv. pent. t.* 88. *Common Parſley.*

β. A. criſpum. *Mill. dict. n.* 2. *Curled Parſley.*

γ. A. latifolium. *Mill. dict. n.* 3. *Large-rooted Parſley*, or *Hamburgh Parſley.*

A. hortenſe latif. maxima craſſiſſima ſuavi et eduli radice. *Boerh. ind.* 58.

Stem-leaflets linrar, involucels minute.

2. A. graveolens. *Smallage.*

Lin. ſpec. 379. *Reich.* 726. *hort. cliff.* 107. *mat. med.* 87. *fl. ſuec.* 262. *Hudſ. angl.* 129. *With.* 316. *Pollich pal. n.* 308. *Neck. gallob.* 152. *Allion. pedem. n.* 1334. *Hall. helv. n.* 784. *Fl. dan. t.* 790. *Plenck, ic. t.* 217.

Seſeli graveolens. *Scop. carn. n.* 360.

Selinon Theophraſti & Dioſcoridis.

A. paluſtre & officinarum. *Bauh. pin.* 154. *Raii hiſt.* 447. *ſyn.* 214. *Blackw. t.* 443. *Mor. hiſt. ſ.* 9. *t.* 9. *f.* 8. *Petiv. t.* 26. *f.* 12. *Park.* 926.

Eleoſelinum ſ. Paludapium. *Ger.* 862. *emac.* 1014.

β. A. dulce. *Mill. dict. n.* 5. *Upright Celeri.*

A. dulce, Celeri Italorum. *Tourn. inſt.* 305.

γ. A. rapaceum. *Mill. dict. n.* 6. *Celeriac*, or *turnep-rooted Celeri.*

δ. A. luſitanicum. *Mill. dict. n.* 7. *Portugal Celeri.*

A. luſit. maximum, folio trilobato, flore luteolo. *Boerh. ind.* 58. *n.* 10.

Stem-leaves wedge-ſhaped.

DESCRIPTIONS, &c.

1. [The ſtems of Parſley are round, ſmooth, ſtriated. Uſually there is one leaflet at the origin of the univerſal umbel, and an involucre of ſix to eight ſhort folioles fine almoſt as hairs to the partial umbel. Flowers pale yellow, regular: petals ſmall, long, narrow, acuminate, inflex. Seed ſhort, turgid.]

The common Parſley, which is generally cultivated for culinary uſe, [is a biennial plant, and is ſaid by Linneus to be found wild in Sardinia, by brooks.] This is the *Petroſelinum* of the officinal writers, and the ſecond ſpecies is the *Apium*.

The broad-leaved garden Parſley, mentioned by Caſpar Bauhin (pin. 153. n. 4.) and the round-leaved Portugal Parſley, mentioned by Tournefort (inſt. p. 105.) are only varieties of this; unleſs the ſeeds which I have received from different parts of Europe, under thoſe titles, have been wrong; for the plants which have riſen from thoſe ſeeds have always proved to be the common ſort.

[The roots of Parſley are ſometimes uſed in apozems, and ſuppoſed to be aperient and diuretic, but liable to produce flatulencies. When large quantities are diſtilled, two or three drams of eſſential oil ſeparate from two hundred pounds. The leaves are warmer, but leſs ſweet than the roots; they yield about ten drams of eſſential oil, from two hundred pounds. The ſeeds are warmer and more aromatic than any other part, and are accompanied with a conſiderable bitterneſs; they are accounted carminative, reſolvent, and diuretic, and are recommended in the German ephemerides for deſtroying cutaneous inſects in children. In diſtillation, three pounds yield above an ounce of eſſential oil[a]. Parſley is ſaid to be fatal to ſmall birds[b]. It has ſometimes been accuſed of cauſing epileptic ſymptoms, and of aggravating that complaint where it already exiſts: it has been ſaid alſo to injure the eyes. A cataplaſm of the leaves is reported to be reſolvent and diſcutient, if applied to glandular tumors: and alſo to be an efficacious remedy in curing the bites or ſtings of poiſonous inſects. According to ſome, the human calculus in a decoction of the leaves becomes friable, and hence the plant has been conſidered as of great efficacy in caſes of the ſtone.

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[a] Linn. ſpec.

[b] Linn. ſuppl.

For the diſtinction between this and Fool's-Parſley, ſee AETHUSA.

β. The ſureſt way to avoid any hazard, is to cultivate the curled Parſley;] which Mr. Miller affirms will remain conſtant, provided care be taken to ſeparate all the plants which have plain leaves, when ſeed is to be ſaved from them. [Columna informs us, that this variety is a native of Sardinia, and has been diſtributed from that iſland into the reſt of Europe.]

γ. *Large-rooted Parſley* is chiefly cultivated for its roots, which are now pretty commonly ſold in the London markets; the leaves have much longer footſtalks, and their ſubdiviſions are not ſo numerous as in the common Parſley; the leaflets are much larger, and of a darker green, ſo that it is eaſily diſtinguiſhed from the common ſort by its leaves, but the roots are ſix times as large as the common Parſley can be brought to with the utmoſt culture. I have ſown the ſeeds of both ſorts for ſeveral years on the ſame ſpot of ground, and have thinned the plants when young, to an equal diſtance, and given the ſame culture to both; but when their roots were taken up, thoſe of the common ſort were not larger than a man's little finger, but the others were as large as full grown carrots, and were very tender and ſweet, whereas the others were ſtringy and ſtrong; this ſort was many years cultivated in Holland, before the Engliſh gardeners could be prevailed on to ſow it. I brought the ſeeds of it from thence in 1727, and would then have perſuaded ſome of the kitchen-gardeners to make trial of it, but they refuſed to accept of it, ſo that I cultivated it ſeveral years before it was known in the markets. It is now however more familiar to us; and the roots are much eſteemed in ſoups: in Holland they have long brought the roots to market in bunches, as we do young carrots; they call it *Petroſeline Wurtle*, and are very fond of it in their Water-Souché. It is in ſeaſon with us from july to chriſtmas, or march, according to the ſeaſon.

2. [Stem ſmooth, ſhining, deeply furrowed. Leaves alternate, radical, pinnated, ternate, pinnas trifid, gaſh-ſerrate, ſhining, ſmooth: upper leaves ternate, ſubſeſſile. Umbel ſubſeſſile or peduncled, with about fifteen unequal rays at each axilla, ſupported by a trifid leaf. Univerſal involucre often wanting. Corollas ſmall, white. Seeds very ſmall.

Ditches and marſhes, flowering from july to ſeptember. Biennial.

The freſh roots, eſpecially in their native watery places, are fetid, acrid, and ſuppoſed to be noxious. By drying, they loſe the greateſt part of their ill flavour, and become ſweetiſh. In this ſtate they have been employed in apozems, as aperients and diuretics. The ſeeds have been ſometimes uſed as carminatives and aperients. They have a moderately ſtrong grateful ſmell, and a warm bitteriſh taſte[c].]

Mr. Miller affirms that he cultivated Smallage forty years, to try if by art it could be brought to the ſame goodneſs as Celeri; but all that he could do was to bring it to a larger ſize, and by earthing to give it a whiteneſs: it would not grow tall, nor riſe with a ſtraight ſtem, but ſent out many ſuckers near the root, and after it was blanched, retained its ſtrong, rank taſte. [In more ſouthern climates however this change has been effected with ſucceſs; and Ray affirms that Celeri left to itſelf, will return after ſome years to Smallage.

β. Smallage, as improved by culture, has taken the Italian name of *Celeri*, and in this ſtate is reckoned not only wholeſome, but ſerviceable for ſtrengthening the ſtomach and aſſiſting digeſtion. It is a good antiſcorbutic, but ſaid to be hurtful to perſons prediſpoſed to epileptic complaints. The expreſſed juice, taken to the quantity of ſix ounces, in the beginning of the ſhaking fit, is ſaid to conquer an intermittent by exciting ſweat. The juice is alſo eſteemed efficacious in calculous caſes, like that of Parſley. The blanched ſtalks have a ſweetiſh warm taſte, without any of the bad flavour of the wild plant. It is ſcarcely neceſſary to mention, that they are in great requeſt in ſoups, for ſtewing, and as a raw ſalad herb, from auguſt to chriſtmas, or even march, if the winter be not too ſevere, or if the beds be covered with ſtable muck or haulm in caſe of hard froſt. The London gardeners cultivate two varieties; 1. the hollow Celeri, which has been long known; and 2. the ſolid, which is of later introduction, and is preferred by ſome, for ſoups and ſtewing; but is not ſo proper for the main winter crop, becauſe it will not endure the froſt ſo well as the other; nor for the market gardener, becauſe it is very brittle, and eaſily breaks in waſhing and bunching up for the market. Celeri, though a biennial, will run to ſeed the ſame year, if ſown very early. The ſeeds of this are much inferior in aromatic flavour to thoſe of Smallage.]

γ. Turnep-rooted Celeri was ſuppoſed to be a degenerate variety from the common ſort, but I cannot agree to this opinion; for from many years trial I have never found it vary. The leaves of this are ſhort, when compared with thoſe of the other, and ſpread open horizontally; the roots grow as large as the common Turneps. The difference which I have obſerved to ariſe from the culture, has been only in the ſize of the roots; thoſe on rich ground which were properly cultivated were much larger than thoſe on poorer land, but the leaves and outward appearance of the plants were never altered.

δ. I received the ſeeds of Portugal Celeri from the Royal garden at Paris, many years ſince, where it had been long preſerved, and maintained its difference; and from more than twenty years experience of cultivating it in the garden at Chelſea, I have found the caſe to be the ſame.

PROPAGATION AND CULTURE.

1. The *Common* and *Curled Parſley* muſt be ſown early in the ſpring, for the ſeeds remain a long time in the earth, the plants ſeldom appearing in leſs than from four to ſix weeks after the ſeeds are ſown. This ſort is generally ſown in drills by the edges of borders in the kitchen-gardens near London, becauſe it is much eaſier to keep it clear from weeds, than if the ſeeds are ſown promiſcuouſly on a border, and the Parſley is much ſooner cut for uſe: but when the roots are deſired for medicinal uſe, then the ſeeds muſt be ſown thin: and when the plants are come up, they ſhould be hoed out ſingle, as is practiſed for Carrots, Onions, *&c.* obſerving alſo to cut up the weeds: if this be obſerved, the roots will become fit for uſe by july or auguſt, and continue ſo till ſpring.

The common Parſley is, by ſome ſkilful perſons, cultivated in fields for the uſe of ſheep, it being a ſovereign remedy to preſerve them from the rot, provided they are fed twice a week for two or three hours each time with this herb; but hares and rabbets are ſo fond of it, that they will come from a great diſtance to feed upon it; and in countries where theſe animals abound, they will deſtroy it, if it is not very ſecurely fenced againſt them.

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[a] Lewis.　[b] Bergius.　[c] Lewis.

The beſt time for ſowing it in the fields is about the middle or latter end of february: the ground ſhould be made fine, and the ſeeds ſown pretty thick, in drills drawn at about a foot aſunder, that the ground may be kept hoed between the drills, to deſtroy the weeds, which, if permitted to grow, will ſoon overrun the Parſley. One buſhel of ſeed will ſow an acre of land.

γ. *Large-rooted Parſley* may be cultivated by ſowing the ſeeds in good ground early in the ſpring; and in april, when the plants are up, cut them out with a hoe (as is practiſed for young Carrots) to about five or ſix inches ſquare, and keep them conſtantly clean from weeds; and in july the roots will be fit to draw for uſe, and may be boiled and eaten as young Carrots; and are very palatable and wholſome, eſpecially for thoſe who are troubled with the gravel.

But if theſe plants are cut out, to allow them more room, if the ſoil is good, the roots will grow to the ſize of a middling Parſnip, by ſeptember.

2. Smallage being a common weed by the ſide of ditches and brooks of water, in many parts of England, is ſeldom cultivated in gardens; but if any perſon is willing to propagate it, the ſeeds ſhould be ſown ſoon after they are ripe, on a moiſt ſpot of ground; and when the plants come up, they may be either tranſplanted in a moiſt ſoil, or hoed out, and left ſix or eight inches aſunder, where they may remain for good.

β. γ. The ſeeds of the two ſorts of Celeri ſhould be ſown at two or three different times, the better to continue it for uſe through the whole ſeaſon, without running up to ſeed. The firſt ſowing ſhould be in the beginning of march, upon a gentle hot-bed; the ſecond may be a fortnight or three weeks after, which ought to be in an open ſpot of light earth, where it may enjoy the benefit of the ſun; the third time of ſowing ſhould be the end of april, or beginning of may, which ought to be in a moiſt ſoil: and if expoſed to the morning ſun only, it will be ſo much the better, but it ſhould not be under the drip of trees.

The ſeeds which are ſown in the hot-bed will come up in about three weeks or a month after ſowing, when the plants ſhould be carefully cleared from weeds; and if the ſeaſon prove dry, they muſt be frequently watered; and in about a month or five weeks after it is up, the plants will be fit to tranſplant: you muſt therefore prepare ſome beds of moiſt rich earth, in a warm ſituation, in which you ſhould prick theſe young plants, at about three inches ſquare, that they may grow ſtrong; and if the ſeaſon ſhould prove cold, the beds muſt be covered with mats, to ſcreen the plants from morning froſts, which would retard their growth: you muſt alſo obſerve, in drawing theſe plants out of the ſeed-beds, to thin them where they grow too thick, leaving the ſmall plants to get more ſtrength before they are tranſplanted; by which means one and the ſame ſeed-bed will afford three different plantings, which will accordingly ſucceed each other for uſe.

You muſt obſerve, if the ſeaſon prove dry, to keep the plants diligently watered after they are tranſplanted, as alſo to clear the ſeed-beds from weeds; and after every drawing, keep them duly watered, to encourage the ſmall plants left therein.

The middle of may ſome of the plants of the firſt ſowing will be fit to tranſplant for blanching; they ſhould be planted in a moiſt, rich, light ſoil, upon which the firſt planted Celeri will often grow to be twenty inches long in the clean blanched parts, which upon a poor or dry ſoil ſeldom riſes to be ten inches.

The manner of tranſplanting it is as follows: after having cleared the ground of weeds, you muſt dig a trench by a line about ten inches wide, and ſix or ſeven inches deep, looſening the earth in the bottom, and laying it level; the earth that comes out of the trench ſhould be equally laid on each ſide the trench, to be ready to draw in again to earth the Celeri as it advances in height. Theſe trenches ſhould be made at three feet diſtance from each other; then place the plants in the middle of the trench, at about four or five inches diſtance, in one ſtraight row, having before trimmed the plants, and cut off the tops of the long leaves; when they are planted you muſt obſerve to cloſe the earth well to their roots, and to water them plentifully until they have taken freſh root; after which it will be needleſs, except in dry ſoils, or very dry ſeaſons: as theſe plants advance in height, you muſt obſerve to draw the earth on each ſide cloſe to them, being careful not to bury their hearts, nor ever to do it but in dry weather, otherwiſe the plants will rot.

When the plants have advanced a conſiderable height above the trenches, and all the earth, which was laid on the ſides, has been employed in earthing them up; you muſt then make uſe of a ſpade to dig up the earth between the trenches, which muſt alſo be made uſe of for the ſame purpoſe, continuing from time to time to earth it up, until it is fit for uſe.

The firſt of your planting out will, perhaps, be fit for uſe by the beginning of july, and will be ſucceeded by the after plantations; and if the latter ſowings are rightly managed, there will be a ſucceſſion of Celeri for uſe till april; but you ſhould obſerve to plant the laſt crop in a drier ſoil, to prevent its being rotted with too much wet in winter; and alſo if the weather ſhould prove extremely ſharp, you will do well to cover your ridges of Celeri with ſome Peas-haulm, or ſome ſuch light covering, which will admit the air to the plants; for if they are covered too cloſe, they will be very ſubject to rot; by this means you may preſerve your Celeri in ſeaſon a long time, but you muſt remember to take off the covering whenever the weather will permit. By this method of covering the Celeri, the froſt being kept out of the ground, it may be always taken up for uſe when it is wanted. The Celeri, when fully blanched, will not continue good above three weeks or a month before it will rot or pipe: therefore, in order to continue it good, you ſhould have at leaſt ſix or ſeven different ſeaſons of planting; and if it be only intended to ſupply a family, there need not be much planted at each time.

The other ſort of Celeri, which is commonly called *Celeriac*, is to be managed in the ſame manner as is directed for the Italian Celeri, excepting that this ſhould be planted upon the level ground, or in very ſhallow drills, for this plant ſeldom growing above eight or ten inches high, requires but little earthing up; the great excellency of this being in the ſize of the root, which is often as large as ordinary Turneps. It ſhould be ſown about the middle of march, upon a rich border of earth, and, in dry weather, conſtantly watered, otherwiſe the ſeeds will not grow: when the plants are large enough to tranſplant, they ſhould be placed eighteen inches aſunder, row from row, and the plants ſix or eight inches diſtant in the rows; the ground muſt be carefully kept clean from weeds, but this ſort will require but one earthing up, which ſhould not be performed until the roots are nearly grown: both theſe ſorts of Celeri delight in a rich, light, moiſt ſoil, where they will grow to a much larger ſize, and will be ſweeter and tenderer than on a poor or dry ground.

The beſt method to ſave ſeed of upright Celeri, is to make choice of ſome long good roots, which have not been too much blanched, and plant them out at about a foot aſunder in a moiſt ſoil, early in the ſpring; and when they run up to ſeed, keep them ſupported with ſtakes, to prevent their being broken down by the winds: and in july, when the ſeed begins to be formed, if the ſeaſon ſhould prove very dry, it will be proper to give ſome water to the plants, which will greatly help their producing good ſeeds. In auguſt theſe ſeeds will be ripe, at which time the plants ſhould be cut up, in a dry time, and ſpread upon cloths in the ſun to dry; then beat out the ſeeds, and preſerve them dry in bags for uſe.

Apium Macedonicum. See *Bubon.*

Apium petræum and montanum. See *Athamanta.*

Apium pyrenaicum. See *Crithmum.*

[APLŪDA. (The name of the chaff, *&c.* that flies off from grain. Milii & panici, & ſeſamæ purgamenta. Plin.)

Lin. gen. n. 1147. *Reich.* 1253. *Schreb.* 1571. *Schænanthus Scheuchz.* 118. *t.* 3. *f.* 2. *Gærtn. t.* 175. *Juſſ.* 33.

Claſſ. 23. 1. Polygamia Monoecia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

Cal. *Involucre common* univalve : *valve* ovate, concave, terminated by a very ſhort point or leaflet, two-flowered, the *inferior flower* ſeſſile in the ſhort, ovate, truncate, hollow *baſe,* which is continued into oppoſite, glumaceous, linear, flat, vertical *footſtalks,* (one at each ſide of the flower ;) on *one* of theſe ſits the *ſuperior flower* ; on the other a very ſhort rudiment of a flower.

* *Flower inferior* hermaphrodite, almoſt entirely lying hid between the footſtalks.

Cal. *Involucre proper* univalve ; *valvelet* lanceolate, compreſſed, rigid, double-toothed at the tip, ſmooth, embracing the flower with its margins beneath ; oppoſite to the common involucre.

Glume one-flowered, two-valved : *valvelets* membranaceous, tranſparent, ſhorter than the involucre : the *exterior* navicular, gibbous on the back, keeled, contracted towards the tip, acuminate ; the *interior* ventricoſe, ſomewhat ſharp, ſmaller.

Cor. *Glume* bivalve, membranaceous, extremely thin, tranſparent : *valve* exterior navicular, compreſſed, ſmooth, hyaline : gibbous on the back, bifid, acute, awned below the tip, hid within the exterior valve of the calyx, and ſhorter than it ; the interior lanceolate, flat, acute, doubled together at each margin, the exterior rather longer. *Nectary* very ſmall, two-leaved, truncate-rounded, hyaline.

Stam. *Filaments* three, capillary. *Anthers* linear, bifid on each ſide.

Pist. *Germ* oblong, ſmall. *Styles* two, capillary, upright, longer than the germ. *Stigmas* oblong, villoſe, ſpreading, protruded on each ſide from the flower.

Per. none. *Corolla* cheriſhes the ſeed, gapes and drops it.

Seed ovate-oblong, compreſſed, ſmooth.

* *Flower ſuperior* ſmaller.

Cal. *Glume* two-flowered, two-valved : *valves* lanceolate, broadiſh, flat, ſharp, nervoſe, nearly equal. One *floſcule* female, (within the inner valve of the calyx ;) the other male or neuter.

Cor. of the *Female : glume* bivalve : *valves* membranaceous, hyaline ; the *exterior* ventricoſe, cornered, ſharp-pointed ; the *interior* lanceolate, narrower, ſhorter, obtuſe.

Of the *Male : glume* bivalve : *valves* lanceolate, membranaceous, hyaline : the *exterior* ſomewhat ventricoſe, ſharp ; the *interior* narrower, ſhorter.

Nectary in both as in the inferior flower.

Stam. of the *male* as in the inferior flower.

Pist. of the *female* as in the inferior flower.

Per. and Seed of the *female* as in the inferior flower.

Obs. *Sometimes each floſcule of the ſuperior flower is male.* S.

ESSENTIAL CHARACTER.

Calyx. *Glume* common, bivalve : *female* floret ſeſſile, *males* peduncled.

Male. *Cal.* none. *Cor.* bivalve. *Stam.* three.

Female. *Cal.* none. *Cor.* bivalve. *Style* one. *Seed* one, covered.

SPECIES.

1. Apluda mutica.

Lin. ſpec. 1486. *Reich.* 4. 311. *Gærtn. fruct.* 2. 466.

Leaves lanceolate, all the flowers awnleſs.

2. Apluda ariſtata.

Lin. ſpec. 1487. *Reich.* 4. 311. *Amæn. acad.* 4. *p.* 303.

Schoenanthus avenaceus, &c. *Scheuchz.* 119.

Leaves lanceolate ; male flowers awnleſs, one at the end ſeſſile and awned.

3. Apluda Zeugites. *Mountain Reed Graſs.*

Lin. ſpec. 1487. *Reich.* 4. 311. *Amæn. acad.* 5. *p.* 412. *Swartz obſ.* 384.

Zeugites arundinaceus, &c. *Brown. jam.* 341. *t.* 4. *f.* 3.

Leaves ovate : male flowers awnleſs, one at the end ſeſſile and awned.

4. Apluda digitata.

Lin. ſyſt. 906. *ſuppl. p.* 434.

Spikes digitate, flowers pointing one way.

DESCRIPTIONS, *&c.*

1. Culms very long, weak, ſmooth ; joints ſwelling : leaves long, flat, petiolate, or attenuated towards the ſheath into a petiole. Panicle narrow, ſmall ; coming out of the ſides from the ſheaths of the leſſer leaves, like the Andropogon[a]. A native of India.

2. Culms a foot long, ſmooth, joints inflected. Leaves ſcabrous petiolate. Racemes terminal and lateral, from each axilla. Flowers by threes on the ſame pedicel ; the middle ſeſſile, with a long twiſted awn at the baſe of the corolla ; the other two unequal ſitting on a chaffy pedicel[b]. A native of India.

3. Culm from one to two feet in height, filiform, jointed, ſubdivided, round, ſheathed, ſmooth, tinged with browniſh red. Leaves ſubpetioled, acute, nerved, netted, very ſmooth, bright green. Petioles filiform, from the cloven tip of the ſheaths, which are lax, without any ligule, ſtriated, broader at the joints. Panicle diffuſed, few-flowered, racemules capillary, ſpreading. Florets pedicelled, ſmall. Common glume ovate, retuſe, half-embracing a ſeſſile female floret, and male ones pedicelled. The firſt has no calyx. Glume of the corolla bivalve ; outer valve keeled, acute ; inner ovate-lanceolate, awned. Awn terminating, capillary, only half the length of the glume. Stamens none. Germ oblong. Style ſimple, but bifid above the glume. Stigmas villoſe, long, white. Seed oblong. Male flowers two, ſhort, half the ſize of the other, on a pedicel the length of the female floret, riſing from the glumes of it. Calyx none. Glume of the corolla bivalve, valves equal, acuminate, awnleſs. Filaments three, the length of the valves. Piſtil none[c].

Native of Jamaica. Browne ſays, that he found this curious little plant at the cold ſpring, in the mountains of New Liguanea, growing in a rich ſhady ſoil. He calls it *Mountain Reed-graſs.*

4. A lofty Eaſt-Indian graſs diſcovered by Thunberg.]

APOCȲNUM. *Αποκυνον, Dioſc.* (*ἀπὸ κυνὸς, becauſe it is ſuppoſed to kill dogs.*)

Lin. gen. n. 305. *Reich.* 322. *Schreb.* 426. *Tournef.* 20. *Juſſ.* 146.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Contortæ. Apocineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted, acute, ſhort, permanent.

Cor. monopetalous, bell-ſhaped, ſemiquinquefid : diviſions revolute. *Nectary* of five glandular, oval corpuſcles, ſurrounding the germ.

Stam. *Filaments* very ſhort : *anthers* oblong, erect, acute, bifid at the baſe, converging.

Pist. *Germs* two, ovate ; *ſtyles* ſhort ; *ſtigma* roundiſh, bifid at the tip, muricate, glued to the anthers.

Per. *Follicles* two, long, acuminate, one-valved, one-celled.

Seeds numerous, very ſmall, crowned with a long down. *Receptacle* ſubulate, very long, rough, free.

ESSENTIAL CHARACTER.

Cor. bell-ſhaped. *Nectaries* five, alternate with the ſtamens.

SPECIES.

1. Apocynum androſæmifolium. *Tutſan-leaved Dog's-bane.*

Lin. ſpec. 311. *Reich.* 1. 606. *hort. cliff.* 80.

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[a] Linn. ſpec. [b] Amæn. acad. [c] Swartz. obſ.

Roy. prodr. 411. 1. *Dod. mem. t.* 59. *Bocc. ſic.* 35. *t.* 16. *f.* 3. *Mor. hiſt.* 3. 609. *n.* 16. *f.* 15. *t.* 3. *f.* 16. *Raii hiſt.* 1089. 13.
Stem ſtraightiſh, herbaceous, leaves ovate ſmooth on both ſides, cymes terminating.

2. Apocynum cannabinum. *Hemp Dog's-bane.*
Lin. ſpec. 311. *Reich.* 1. 606. *Ait. hort. kew.* 1. 303. *Kalm. itin.* 3. 258. *engl. edit.* 1. 131. & 2. 131. *Gron. virg.* 28. *Mor. hiſt.* 15. 3. 14 *Raii hiſt.* 1089. 10. *Pluk. alm. t.* 13. *f.* 1. & *t.* 260. *f.* 4.
Stem ſtraightiſh herbaceous, leaves oblong, cymes lateral longer than the leaf.

[3. Apocynum hypericifolium. *St. John's-wort-leaved Dog's-bane.*
Ait. hort. kew. 1. 304.
A. ſibiricum. *Lin. ſyſt.* 258. *Jacqu. hort.* 3. 37. *t.* 66.
Stem ſtraightiſh herbaceous, leaves oblong cordate ſmooth, cymes ſhorter than the leaf.]

4. Apocynum venetum. *Spear-leaved Dog's-bane.*
Lin. ſpec. 311. *Reich.* 1. 607. *hort. cliff.* 80. *Sauv. monſp.* 133. *Roy. prodr.* 411. 2. *Pallas itin.* 3. 676.
Tithymalus maritimus purpuraſcentibus floribus. *Bauh. pin.* 291.——venetus. *Park. theat.* 185. 2. *Raii hiſt.* 866.
Eſula rara e Lio Venetorum inſula. *Lob. hiſt.* 201.
—— veneta maritima. *Ger. emac.* 502. 16.
Stem ſtraightiſh herbaceous, leaves ovate-lanceolate.

[5. Apocynum minutum. *Petty Dog's-bane.*
Lin. ſyſt. 258. *ſuppl.* 169.
Stem proſtrate, leaves haſtate.

6. Apocynum filiforme. *Thread-leaved Dog's-bane.*
Lin. ſyſt. 258. *ſuppl.* 169.
Stem proſtrate herbaceous, leaves filiform, flowers umbelled.]

7. Apocynum fruteſcens. *Shrubby Dog's-bane.*
Lin. ſpec. 312. *Reich.* 1. 607. *fl. zeyl. n.* 114. *Burm. zeyl.* 23. *t.* 12. *f.* 1. *Roy. prodr.* 412. 3.
Stem erect ſhrubby, leaves lanceolate-oval, corollas acute villoſe at the throat.

8. Apocynum reticulatum. *Net-leaved Dog's-bane.*
Lin. ſpec. 312. *Reich.* 1. 607. *Roy. prodr.* 412. 4. *Loureiro cochinch.* 167.
Olus crudum minus. *Rumph. amb.* 5. 75. *t.* 40. *f.* 2.
Stem twining perennial, leaves ovate veined

[9. Apocynum lineare. *Linear-leaved Dog's-bane.*
Lin. ſyſt. 258. *ſuppl.* 169.
Stem twining herbaceous, leaves linear flat, umbels axillary compound.

10. Apocynum triflorum. *Three-flowered Dog's-bane.*
Lin. ſyſt. 258. *ſuppl.* 169.
Stem twining herbaceous, leaves lanceolate, umbels axillary two or three-flowered.

11. Apocynum Juventas. *Renovating Dog's-bane.*
Lour. cochinch. 167.
Stem twining ſhrubby, leaves ovate hairy, racemes dichotomous.

12. Apocynum alterniflorum. *Alternate-flowered Dog's-bane.*
Lour. cochinch. 168.
Stem climbing ſhrubby, leaves ovate acuminate ſmooth, axils alternate umbelliferous.

13. Apocynum africanum. *African Dog's-bane.*
Lour. cochinch. 168.
Stem ſuberect ſhrubby, leaves ovate-oblong, peduncles two or three-flowered.]

Mr. Miller enumerates ſix other ſpecies.

14. Apocynum ſcandens. *Climbing Dog's-bane.*
Dict. n. 5.
A. ſcand. fol. citrii, ſiliquis maculatis. *Plum. cat.* 2.
Leaves oblong-cordate ſtiff, flowers lateral, ſtem ſhrubby twining.

15. Apocynum nervoſum. *Nerved-leaved Dog's-bane.*
Dict. n. 9.
Leaves ovate nerved, cymes lateral, flowers yellow large, tube very long, ſtem ſhrubby climbing.

16. Apocynum cordatum. *Heart-leaved Dog's-bane.*
Dict. n. 10.
A. ſcand. fol. oblongis acuminatis, flor. amplis patulis & luteis. *Houſt. M.S.S. Mill. fig. t.* 44. *f.* 1.
Leaves oblong-cordate pointed ſeſſile, flowers lateral, ſtem climbing.

17. Apocynum villoſum. *Villoſe-flowered Dog's-bane.*
Dict. n. 11.
A. ſc. amplo fl. villoſo luteo, ſiliquis tumidis anguloſis. *Houſt. M.S.S. Mill. fig. t.* 44. *f.* 2.
Leaves cordate ſmooth, flowers villoſe lateral, on long peduncles, ſtem climbing.

Apocynum ſpecioſiſſimum, n. 4. is Echites ſuberecta.
Apocynum obliquum, n. 8. is Echites umbellata.

DESCRIPTIONS, &c.

1. Root perennial. Stems about three feet high, upright. Leaves oppoſite. Theſe, and the ſtems, abound with a milky juice, which flows out when they are broken. Corollas white, with the nectaries of a purpliſh caſt. [According to Boccone, they are pale red with a tinge of purple; and Royen mentions that the flowers are pendulous.

Boccone affirms, that flies are deſtroyed if they alight on the flowers of this plant. The French inhabitants of Canada call it *Herbe à la puce*; and ſay, that it is noxious to ſome perſons, but harmleſs to others. Kalm relates, that he ſaw a ſoldier, whoſe hands were bliſtered all over, merely from plucking it; whereas he frequently rubbed his own hands with the juice, without feeling any inconvenience[a].

It is native of Virginia as well as Canada; and flowers from july to ſeptember. It was cultivated in 1731, by Mr. Miller[b]; but was in the Chelſea garden much earlier, for Mr. Ray mentions its being there in 1688, under the name of *Apocynum flore Lilii convallium purpuraſcente.*]

2. Roots perennial, creeping. Stems brown, about two feet high. Leaves ſmooth, in pairs, abounding with a milky juice, like the former. Towards the upper part of the ſtem, the flowers come out from the wings of the leaves, in ſmall bunches; they are of an herbaceous white colour, and being ſmall, make no great appearance; this therefore is ſeldom admitted into gardens, except for the ſake of variety. It flowers with the foregoing; and is a native of the ſame countries.

[The Indians of North America prepare the ſtalks of this ſpecies, as we do hemp, and make twine, bags, fiſhing-nets and lines, and linen for their own wear[c].

It was cultivated here in 1699, by the Ducheſs of Beaufort[d].

3. Root perennial, creeping. Stems annual, upright, round, branched, a foot and half in height, filled with a white pith. Leaves oppoſite, ſharpiſh, quite entire, ſubſeſſile; the upper ones on the extreme twigs petioled, not revolute. Peduncles umbelled, terminating. Flowers ſmall, inodorous. Leaflets of the calyx oblong, concave, erect, green. Corolla white, longer than the calyx. Between the filaments a roundiſh, green gland. The whole plant is ſmooth, and abounds in milk[e].

It is a native of North America; was cultivated in 1756, by Mr. Miller; and flowers in june and july[f].]

4. Root perennial, creeping. Stems about two feet high. Leaves oppoſite, ſmooth. The flowers grow erect, at the top of the ſtems in ſmall umbels, and are much larger than the former ſorts. It varies with purple, and with white flowers, and they ſhow themſelves in july and auguſt. It is a native of the iſlands in the Adriatic ſea, near Venice; but is ſuppoſed to have been originally brought from ſome other country. [It was cultivated in 1690, in the royal garden at Hampton-court[g].

5. Stems filiform, ſeldom climbing, ſcarcely ſeven inches long. Leaves oppoſite, ſcarcely petioled. Peduncle alternate, longer than the leaf, lateral, umbelled. Umbel ſimple, with about ſix flowers;

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[a] Travels, vol. 3. p. 26. engl. edit. [b] Hort. kew. [c] Kalm. [d] Hort. kew. [e] Jacquin. [f] Hort. kew. [g] Ibid.

pedicels ſhorter than the peduncle. Found at the Cape of Good Hope, by Montin[h].

6. Found at the Cape, by Thunberg[i].

7. Leaves oppoſite, petioled, ſmooth, quite entire. Peduncles from the axils, oppoſite; oppoſitely branched[k]. Corolla ſalver-ſhaped. Leaves uſually acuminate[l].]

Stem woody, five or ſix feet high, dividing into ſeveral branches. Flowers in looſe bunches, ſmall and of a purple colour; never ſucceeded by pods in this country.

Native of the Eaſt Indies, Ceylon, and the coaſt of Guinea.

8. This plant has a twining ſtem, by which it riſes to a conſiderable height. [The leaves are dark green, very ſhining, with a beautiful net of milky veins[m].

Native of the Eaſt Indies, and Cochinchina. Mr. Miller cultivated it, by ſeeds from Profeſſor Van Royen.

9. 10. Found at the Cape of Good Hope, by Thunberg.

11. Stem ſlender, hairy, red, milky; from a large, fleſhy, round, undivided root. Leaves oppoſite, quite entire. Flowers greeniſh-yellow, minute: ſegments of the calyx oblong, hairy, ſpreading: of the corolla lanceolate, three times the length of thoſe of the calyx. The nectary is compoſed of five converging lobes, with five barren, upright filaments. Anthers five, ſeſſile, ſhaped like ſcales, adhering to the baſe of the nectary. Germ longiſh, two-lobed. Stigma ſeſſile, concave, bifid. Native of Cochinchina; uſually procumbent.

The phyſicians of the country fancy the root of this plant to refreſh the animal ſpirits to ſuch a degree, as by a long uſe of it to endow old age with all the ſtrength and vigour of youth. The Chineſe have the ſame opinion with reſpect to their *Ho xeu u*, which they ſuppoſe to be the ſame plant, but that is not certain[n].

12. Stem long, branching. Leaves quite entire, flat, oppoſite, petioled. Flowers pale, inodorous. Leaflets of the calyx lanceolate, erect. Corolla longer than the calyx. The nectary is compoſed of ten oblong, upright lobes, placed on the tube of the corolla, preſſing the ſtamens to the ſtigma. Native of the iſlands near Canton, in China[o].

13. Stem eight feet high, with climbing branches. Leaves blunt, quite entire, thick, ſmooth, ſmall, oppoſite. Flowers pale, about three together, lateral. Calyx half-five-cleft, with acute, erect ſegments. Segments of the corolla lanceolate, contorted, reflex. The nectary is compoſed of five awl-ſhaped, appreſſed corpuſcles, with five coloured glands between them. Style ſingle, ſubulate, equal to the ſtamens; with an acute, bifid, erect ſtigma. Native of the coaſt of Zanguebar, in Africa, on a ſandy plain[p].]

14. Was diſcovered by father Plumier, in ſome of the French iſlands in America. It was afterwards found by the late Mr. Robert Millar, ſurgeon, growing plentifully near Carthagena, in New Spain, from whence he ſent the ſeeds, which ſucceeded in ſeveral gardens. This plant has twining ſtalks, by which it mounts to the top of very tall trees, and ſtiff, oblong, heart-ſhaped leaves, which are ſmooth, and of a ſhining green colour, being of the ſame thickneſs with thoſe of the Citron-tree. The flowers are produced in ſmall cluſters from the ſides of the branches, and are of an herbaceous colour, ſo do not make any great appearance. Theſe appear in auguſt and ſeptember, but are not ſucceeded by pods in this country.

15. Has a climbing woody ſtalk, and riſes to a conſiderable height, by the ſupport of neighbouring trees. The leaves grow by pairs oppoſite; they are ovate, ending in a ſharp point, and have many tranſverſe nerves from the midrib. The flowers come out from the wings of the leaves, each ſtanding upon a ſeparate long foot-ſtalk; they are large, of a bright yellow colour, with very long tubes, ſpreading open wide at the top; theſe are ſucceeded by long compreſſed pods, which have borders on one ſide filled with long channelled ſeeds, which are crowned with long plumes of ſoft down. This ſort grows naturally at Carthagena, in New Spain, from whence I received the ſeeds.

16. 17. Were diſcovered at La Vera Cruz, in New Spain, in the year 1729, by the late Dr. William Houſtoun, who ſent their ſeeds to England. Theſe plants have both climbing ſtalks, by which they mount to the tops of the talleſt trees. In England they have climbed over the plants in the ſtoves, and riſen to upward of twenty feet high. The ſixteenth ſort has produced flowers in England ſeveral times, but the ſeventeenth, which grows more luxuriantly than the other, never had any appearance of flowers.

The down of theſe plants is in great eſteem in France, for ſtuffing eaſy chairs, and making quilts, which being warm, and extremely light, are very proper covering for perſons afflicted with the gout. The French call it Delawad; and in the ſouthern parts of France, where ſome of the ſorts will thrive in the open air, and perfect their ſeeds, there are many plantations made of theſe plants for the ſake of the down.

As many of theſe ſorts grow plentifully in the uncultivated lands in Jamaica, this cottony down might be eaſily procured from thence in plenty, and might probably become a vendible commodity in England, if once it were to become a faſhionable furniture: eſpecially as the plants require no cultivation, and the only trouble is to collect the down, which, in ſome of the ſorts with large pods, is produced in great quantity, and may be collected with little trouble.

PROPAGATION AND CULTURE.

1. 2. 3. Theſe are propagated by parting the roots in march, before they put out new ſtems. They are hardy enough to thrive in the open ground, but the ſoil ſhould be light and dry, otherwiſe the roots are apt to rot in winter. They flower in july, and their ſtems decay to the root in autumn, ſeldom ripening their ſeeds. The ſecond ſort ſpreads ſo much by its creeping roots as to be troubleſome in a garden.

4. Will live in the open air, provided it be planted in a warm ſituation, and dry ſoil; for although the ſoil in which it grows wild near Venice be moiſt, yet in this country the roots will rot in winter, when they are in a wet ground. The beſt time to remove this ſort is in ſpring, juſt before new ſtalks begin to puſh out.

7, *&c.* The other ſpecies are tender, and muſt be conſtantly kept in the hot-houſe, plunged in the tan-bed. They may be propagated by cuttings during the ſummer months: theſe ſhould be laid to dry in the ſtove, three or four days before they are planted:—or by ſeeds, procured from their native places, for they rarely produce any in England. Theſe ſhould be ſown in pots filled with light ſandy earth, and plunged into the tan-pit: they will appear in a month or five weeks, and ſhould then be watered ſparingly. They muſt be kept conſtantly in the tan-bed; and as they advance in height, will require larger pots; but care muſt be taken not to overpot them; for unleſs their roots are confined, the plants will not thrive. The ſecond year, the plants will generally flower, if they have been ſkilfully managed, in july or auguſt. Some of theſe make a fine appearance; and the leaves, being of a beautiful green, and keeping on the plant all the year, are an ornament to the ſtove at all ſeaſons.

APOCYNUM. See *Aſclepias*, *Ceropegia*, *Cynanchum*, & *Echites*.

[APONOGETON.

Linn. ſuppl. 32. *ſyſt.* 353. *gen. Schreb. n.* 835. *Thunb. nov. gen.* 72. *Juſſ.* 19.

Claſſ. 11. 4. Dodecandria Tetragynia.

Nat. order of *Inundatæ? Naiades* Juſſ.

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[h] Linn. ſuppl.
[i] Ibid.
[k] Lin. zeyl.
[l] Royen.
[m] Ibid.
[n] Loureiro.
[o] Ibid.
[p] Ibid.

GENERIC CHARACTER.

Cal. none, except a ſpathaceous *ſcale* ſurrounding the outer ſide of the flower, ſimple, ſeſſile, ovate, obtuſe, entire, upright, ſmooth, coloured.

Cor. none.

Stam. *Filaments* eleven to nineteen, in the upper flowers fewer, inſerted between the ſpathe and the capſules, ſubulate, ſmooth, white, many times ſhorter than the ſpathe.

Pist. *Germs* uſually four, ſeldom three or five: *ſtyles* none; *ſtigmas* ſubulate, bent in.

Per. *Capſules* four, ſeldom three or five, ovate, ſubulate-acute, gibbous on the outſide, flat on the inner ſide, ſmooth, one-celled.

Seeds in each capſule three, affixed to the baſe of it, ſeſſile, obovate, very blunt, ſubcompreſſed, ſmooth.

ESSENTIAL CHARACTER.

Cal. an Ament. *Cor.* none. *Capſ.* three-ſeeded.

SPECIES.

1. Aponogeton monoſtachyon. *Single-ſpiked Aponogeton.*
Lin. ſuppl. 214. *ſyſt.* 353.
Saururus natans. *Lin. ſyſt. ed.* 13. 291. *Reich.* 2. 139. *mant.* 227.
Parva-Kelanga. *Rheed. mal.* 11. *p.* 31. *t.* 15.
Spike ſimple, leaves cordate-oval.

2. Aponogeton diſtachyon. *Broad-leaved Aponogeton.*
Lin. ſuppl. 215. *ſyſt.* 353. *Thunb. nov. gen.* 4. *fig. Ait. hort. kew.* 495.
Spike bifid, leaves linear-oblong, floating, bractes entire, flowers many-ſtamened.

3. Aponogeton anguſtifolium. *Narrow-leaved Aponogeton.*
Ait. hort. kew. 495.
Spike bifid, leaves linear-lanceolate, erect; bractes two-parted; flowers ſix-ſtamened.

DESCRIPTIONS, &c.

1. Root bulbous. Leaves very long, petioled, radical, quite entire, very ſmooth, ſwimming like *Potamogeton natans.* Scapes flaccid, obſcurely three-cornered. Spike hexangular, covered with a caducous ſpathe. Bractes inſtead of a corolla, two below each floret, ſmall, clavated, fleſhy, permanent. Stamens ſix, longer than the bractes. Germs three or four, oblong, acute: ſtyle ſcarcely ſhorter than the germs: ſtigma obtuſiſh. Obſerved by Koenig to be common in the fields that are flooded for rice in the Eaſt Indies[a].

2. Root bulbous. Leaves on very long petioles, radical, quite entire, very ſmooth, ſwimming. Spike imbricated within. Flowers white, alternate, erect, within an ovate bracte. Stamens vary from ſix to twelve. Piſtils three or four. The flowers have a moſt fragrant ſmell, and the bulbs are eaten roaſted. Found at the Cape of Good Hope, in brooks, by Thunberg[b]. This ſpecies is confounded with the third in the ſupplement, when it is ſaid, that the ſtamens vary from ſix to twelve. It flowers almoſt all the year, and was introduced in 1788 by Mr. Francis Maſſon[c].

3. Leaves narrower than in the foregoing, drawn to a point at each end. Rachis pale red. Flowers few. Bractes white, red at the baſe, parted almoſt to the baſe, ſo as to ſeem two: ſegments linear-oblong. Stamens ſix, only one-third or one-fourth of the length of the bractes. Styles three. A native of the Cape of Good Hope: introduced in 1788, by Mr. Francis Maſſon. It flowers almoſt all the year[d].

PROPAGATION AND CULTURE.

Theſe plants are inhabitants of the Greenhouſe or Cape ſtove; and may be increaſed by offsets from the bulbs.

Apple, Cuſtard. See *Annona.*
——— Love. See *Solanum.*
——— Mad. See *Solanum.*
——— Pine. See *Bromelia.*
——— Purple. See *Annona.*
——— Sour. See *Annona.*
——— Thorn. See *Datura.*
Apple Tree. See *Pyrus.*
——— Water. See *Annona.*
Apricot or Apricock. See *Prunus.*
Apsinthium. See *Artemiſia.*]

[AQUARTIA. (So named by Jacquin, in honour of his friend Benoit Aquart, merchant of Martinico, who aſſiſted him in his botanical reſearches.)
Lin. gen. n. 136. *Reich.* 142. *Schreb.* 176. *Jacqu. amer.* 15. *Juſſ.* 126.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Solaneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* monophyllous, permanent: *tube* bell-ſhaped: *limb* ſubquadrifid, expanding: two oppoſite diviſions obſolete.

Cor. monopetalous, rotate: *tube* very ſhort; *limb* quadrifid: *diviſions* linear, widely ſpreading.

Stam. *Filaments* ſhort: *anthers* erect, very large, linear.

Pist. *Germ* ovate: *ſtyle* filiform, declined, the length of the corolla: *ſtigma* ſimple.

Per. *Berry* globular, one-celled.

Seeds very many, compreſſed.

ESSENTIAL CHARACTER.

Cal. bell-ſhaped. *Cor.* wheel-ſhaped with linear diviſions. *Berry* many-ſeeded.

SPECIES.

1. Aquartia aculeata.
Lin. ſpec. 161. *ſyſt.* 153. *Reich.* 314. *Jacqu. amer.* 15. *t.* 12. *Ed.* 2. *pict. p.* 13. *t.* 15.

DESCRIPTION.

A perennial, aculeate plant; unarmed at top. Leaves alternate, ovate, obtuſe, petioled[a]. The ſtature of Solanum[b]. A native of South America.

Swartz is of opinion, that it is rather a ſpecies of *Solanum*, with four ſtamens to the flower; differing from it in number, in the ſegments of the corolla being linear, and the calyx bell-ſhaped; the habit however is quite the ſame[c].

It is thus deſcribed by Jacquin. Stem ſhrubby, four feet high, branched, upright, in habit approaching to *Solanum incanum*. The old branches are woody and ſmooth, armed with ſubulate, ſhort, ſcattered prickles; the younger ones unarmed and tomentoſe. Leaves ſubovate, quite entire, ſometimes ſlightly repand, tomentoſe, hoary, alternate, petioled, an inch in length. Peduncles one-flowered, lateral, ſolitary, very ſhort. Calyx tomentoſe, with the ſmaller ſegments ſometimes obſolete. Corolla white, inodorous. Fruit yellow, ſhining, the ſize of a pea, placed on the ſinus of the calyx. Native of St. Domingo; flowering and bearing ripe fruit there in october[d].]

Aquifolium. See *Ilex.*

[AQUILARIA. (From *Aquila*, an Eagle. In French, *Bois d'Aigle*, Eagle-wood. From its lofty ſituation.)
Lin. gen. Schreb. n. 1753. *Lamarck. Encycl.* 1. *p.* 49. 2. *p.* 610. *Cavanill. diſſ.* 7. *p.* 377. *t.* 224. *Juſſ.* 439.
Aloexylum. *Lour. cochinch.* 274.
Claſſ. 10. 1. Decandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, permanent. *Tube* bell-ſhaped. *Border* five-cleft: *clefts* ovate, acute, flat, ſpreading.

Cor. none.

Nectary one-leafed, pitcher-ſhaped, length of the tube of the calyx, half five-cleft: *clefts* bifid, obtuſe.

Stam. *Filaments* ten, alternate to the clefts of the nectary, and ſhorter than them. *Anthers* oblong, verſatile.

Pist. *Germ* ovate, on a very ſhort pedicel, ſuperior. *Style* none. *Stigma* ſimple.

Per. *Capſule* on a very ſhort pedicel, obovate, woody, two-celled, two-valved: with the *partition* contrary and bipartile.

Seeds ſolitary oblong.

ESSENTIAL CHARACTER.

Cal. five-cleft. *Cor.* none. *Nect.* pitcher-ſhaped, half-five-cleft, with bifid clefts. *Capſ.* ſuperior, woody, two-celled, two-valved. *Seeds* ſolitary.

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[a] Linn. ſuppl. [b] Ibid. [c] Hort. kew. [d] Ibid.

[a] Jacqu. [b] Lin. ſpec. [c] Obſ. p. 47. [d] Jacqu. amer.

SPECIES.

1. Aquilaria ovata.
Cavan. diſſ. 377. *t.* 224.
Aloexylum Agallochum. *Lour. cochinch.* 267.
Garo de Malaca. *Lamarck encycl.* 1. *p.* 49. & 2. *p.* 610.
Agallochum. *Rumph. amb.* 2. *t.* 10. *Berg. mat. med.* 961.
Leaves alternate, ovate, mucronate.

DESCRIPTION, *&c.*

It is a large tree, with the trunk and branches erect, and covered with a brown or gray bark, ſmooth except towards the ends of the twigs, which are villoſe. Leaves alternate about eight inches in length, quite entire, very ſmooth, ſomewhat coriaceous, having one branched nerve, and very fine veins; the petioles are ſhort and hairy. There are no ſtipules. Flowers terminating, on many-flowered peduncles. The wood of the tree is white and inodorous[a]. Allied to *Samyda*[b].

Native of the mountains of Malacca and Cochinchina.

The *aroma* of Aloes wood is a diſeaſe, cauſed by oleaginous particles ſtagnating and concreting in the inner parts of the trunk and branches into a reſin, by which means the natural appearance of the wood is altered as to colour, ſmell, *&c.* till at length the tree dies, and when ſplit the valuable reſin is taken out of it. No part of the tree is lacteſcent or poiſonous. All the true *Lignum Aloes* ſo called proceed from this tree, even the moſt valuable, which is commonly called *Calumbac,* and is found in the mountains of Champava, belonging to Cochinchina. The inferior ſpecies, or rather varieties are leſs rare, and are found in various places. There are other odorous woods, which by the unſkilful are called *Agallochum* and *Aloes Wood,* but which are widely different, and belong to other vegetables.

Perfumes from this wood are highly eſteemed by the oriental nations, and from the bark of the tree is made the common paper which the Cochinchineſe uſe for writing, in the ſame manner as in Japan from the bark of the Mulberry (Morus papyrifera). This perfume is ſaid to be good in Vertigo and Palſy: the powder reſtrains vomiting and fluxes, and particularly Lienteries; this it brings about, not by aſtringing, properly ſpeaking, but by its corroborating power[c].

It has the name of *Lignum Aloes,* or *Wood Aloe,* from its bitter taſte.]

AQUILEGIA. (*or* Aquilina, *from* Aquila, an Eagle; *becauſe the nectaries are fancied to reſemble an eagle's claws. Our Engliſh name* Columbine, *is derived from the reſemblance which the ſame parts bear, both in form and colour, in the wild ſtate, to the head and neck of a pigeon,* Columba.)
Lin. gen. n. 684. *Reich.* 741. *Schreb.* 934. *Tournef.* 242. *Juſſ.* 234. *Gærtn. t.* 118.
Claſſ. 13. 5. Polyandria Pentagynia.
Nat. order of *Multiſiliquæ* or *Corniculatæ. Ranunculaceæ* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. *Petals* five, lanceolate-ovate, flat, ſpreading, equal. *Nectaries* five, equal, alternate with the petals: *each* horned, gradually broader upwards, with an oblique mouth, aſcending outwardly, annexed inwardly to the receptacle; produced below into a long attenuated tube, with an obtuſe top.

STAM. *Filaments* thirty to forty, ſubulate, the outer ones ſhorter: *anthers* oblong, erect, the height of the nectaries.

PIST. *Germs* five, ovate-oblong, ending in ſubulate *ſtyles,* longer than the ſtamens: *ſtigmas* erect, ſimple. *Chaffs* ten, wrinkled, ſhort, ſeparate, and involving the germs.

PER. *Capſules* five, diſtinct, cylindric, parallel, ſtraight, acuminate, one-valved, gaping from the tops inward.

SEEDS very many, ovate, keeled, annexed to the gaping ſuture.

ESSENTIAL CHARACTER.

Cal. none. *Petals* five. *Nectaries* five, horned, between the petals. *Capſ.* five, diſtinct.

SPECIES.

[1. Aquilegia viſcoſa. *Clammy Columbine.*
Lin. ſyſt. p. 505. *n.* 684. 1. *Reich.* 2. 619. *mant.* 77. *Allion. pedem. n.* 1506. *Gouan. monſp. p.* 267. *n.* 2. *Magn. hort. monſp.* 21. *Gouan. illuſtr.* 32. *t.* 19.
Stem almoſt naked, with viſcid hairs, and one or two flowers; leaves ſubtrilobate.]

2. Aquilegia vulgaris. *Common Columbine.*
Lin. ſpec. 752. *ſyſt.* 505. *Reich.* 2. 619. *hort. cliff.* 215. *upſ.* 152. *mat. med.* 139. *ſuec. n.* 478. *Gærtn. fruct.* 2. 175. *Hudſ. angl.* 235. *With.* 562. *Hall. helv. n.* 1195. *Scop. carn. n.* 656. *Pollich pal. n.* 513. *Neck. gallob.* 234. *Allion. pedem. n.* 1507. *Fl. dan. t.* 695. *Mill. illuſtr.*
A. flore ceruleo. *Ger.* 935. 1. *emac.* 1093. 1.
A flore ſimplici. *Bauh. hiſt.* 3. 484. 1. *Raii hiſt.* 706. *ſyn.* 273. *Park.* 1367. 1. *Blackw. t.* 409. *Mor. hiſt. ſ.* 12. *t.* 1. *f.* 1.
α. A. hortenſis ſimplex. *Bauh. pin.* 144.
Single Garden Columbine.
β. A. hortenſis multiplex, flore magno. *Bauh. pin.* 144. *Raii hiſt.* 706. *Park. par.* 271. *n.* 2.
Double-flowered Columbine.
γ. A. hortenſis multiplex, flore inverſo. *Bauh. pin.* 144. *Raii hiſt.* 706. *n.* 4. *Park. par.* 271. *n.* 3.
Double inverted Columbine.
δ. A. flore roſeo multiplici. *Bauh. pin.* 145. *Raii hiſt.* 706. *n.* 3. *Park. par.* 272. *n.* 4.
Roſe Columbine.
ε. A. degener vireſcens. *Bauh. pin.* 145. *Raii hiſt.* 707. 5. *Park. par.* 272. *n.* 5.
ζ. A. ſtellata. *Raii hiſt.* 705. *Starry Columbine.*
Petals ſharp-pointed expanding in the form of a ſtar.
η. A. ſpecioſa. *Siberian Columbine.*
Nectaries blue, yellow at the tip.
Nectaries incurved.

3. Aquilegia alpina. *Alpine Columbine.*
Lin. ſpec. 752. *ſyſt.* 505. *Reich.* 2. 620. *Hudſ. angl.* 235. *With.* 563. *Gmel. ſib.* 4. 185. *Hall. helv. n.* 1196. *Allion. pedem. t.* 66. *n.* 1508.
A. montana magno flore. *Bauh. pin.* 144. *prodr.* 75. *hiſt.* 3. *p.* 484. *Raii hiſt.* 707.
Nectaries ſtraight, ſhorter than the lanceolate petal.

4. Aquilegia canadenſis. *Canadian Columbine.*
Lin. ſpec. 752. *Reich.* 2. 620. *hort. upſ.* 153. *Mill. fig. t.* 47. *Gron. virg.* 59. *Corn. canad. t.* 60. *Park. theat.* 1367. *n.* 1. *Mor. hiſt. ſ.* 12. *t.* 2. *f.* 4. *Raii hiſt.* 707. *n.* 8.
Nectaries ſtraight, ſtamens longer than the corolla.

[5. Aquilegia viridiflora. *Green-flowered Columbine.*
Lin. ſyſt. 505. *Murray in comment. gotting.* 1780. *p.* 8. *t.* 2. *Jacqu. collect.* 1. *p.* 35. *Retz. obſ.* 3. *p.* 34. *n.* 64.
Nectaries ſtraight, thickened and a little bent in at the tip; ſtamens nearly equal to the corolla.

DESCRIPTIONS, *&c.*

1. Root perennial. Stem a foot high at moſt, hiſpid with glutinous hairs, quite ſimple, or with only a ſingle branch or two. Petioles from an inch to three inches in length, with viſcid hairs like the ſtem, proceeding from wide, coloured, ſtem-claſping ſheaths. The firſt root-leaf palmate-three-lobed, the diviſions two-lobed or three-lobed; the other root-leaves, which are four or five in number, ternate, the leaflets equally petioled, blunt, digitate-three-parted; the lateral ſegments three-lobed or four-lobed; the middle ones always three-lobed. Stem-leaf one only, or ſeldom two, ternate; the leaflets quite entire, lanceolate, the middle one longeſt. Peduncles uſually two, one axillary, the other terminating, one-flowered. Nectary curved inwards. Capſules five, viſcid, with

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[a] Loureiro and Cavanilles. [b] Juſſieu. [c] Loureiro.

netted veins. It varies with a ſhort, one-flowered, leafleſs ſtem[a].

Native of the ſouth of France, and the mountains of Piedmont.

It is affirmed, in the *Syſtema Vegetabilium*, that the plants which were produced from ſeeds of this ſort by Gouan, differed in nothing from the common ſort.

2. Stem three feet high erect, branching, leafy, ſomewhat angular. Leaves ſmooth, glaucous underneath; the lower ones petiolate, biternate; the leaflets roundiſh trilobate gaſhed and notched; the upper ones digitate, the lobes oval and quite entire: the radical petioles very long. The flowers are produced from the tops of the naked branches, and hang down[b]; they have generally ſix piſtils and eight nectaries[c].

The uſual colour of the flowers in their wild ſtate is blue, but Haller ſays the red is common about Berne; I have found it of the ſame colour near Vevay. White ones are alſo ſeen about Berne. Mr. Woodward has found both red and white flowers in Norfolk. Haller mentions double flowers occurring in the Pays de Vaud. The Columbine is found native in moſt parts of Europe, in woods, hedges, and among buſhes. It is perennial; and flowers with us in june.

The flowers vary much by culture; and become double either by multiplying the petals, or the nectaries. Of all theſe varieties, there are ſubordinate variations, both in the degree of doubleneſs, as with two or more rows of petals, two or three rows of nectaries, curiouſly inſerted one into the other: and in the colours, as blue, white, red, purple, fleſh-coloured, aſh-coloured, cheſnut-coloured, and ſtriped or variegated blue and purple, blue and white, red and white.]

From the different ſhape of theſe flowers, perſons not well ſkilled in the culture of plants, might ſuppoſe they were diſtinct ſpecies; but having ſeveral years ſown their ſeeds, which were collected with great care, I have found them always varying from one to the other.

[The Siberian variety however, which is lower, and has blue corollas, with the brims of the nectaries yellow or white; is affirmed in the Syſtema Vegetabilium, to be conſtant.

The root, the herb, the flowers, the ſeeds, have been recommended to be uſed medicinally, on good authority; but this plant is of a ſuſpicious tribe, and Linneus affirms as of his own knowledge, that children have loſt their lives by an over doſe of it. The ſenſible qualities of the ſeeds, ſays Lewis, afford little foundation for their ſuppoſed virtues in the jaundice, meaſles, and ſmall-pox; as they do not ſeem to differ materially from thoſe of the cold ſeeds, being only ſomewhat more mucilaginous, with a diſagreeable reliſh. The virtues aſcribed to a tincture of the flowers, as an antiphlogiſtic, and for ſtrengthening the gums, and deterging ſcorbutic ulcers in the mouth, appear to be better founded; the tincture being made with an addition of the vitriolic acid, and differing little from our officinal tincture of roſes. The flowers themſelves, as well as the conſerve and diſtilled water of them, directed in ſome foreign pharmacopœias, are inſignificant.

3. Root biennial. Leaves biternate, tender, and ſmaller than in the common ſort; the leaflets multifid; the lobes ſublinear and blunt; with the appearance and tenderneſs of *Canadian Columbine*[d]. The leaflets in the common ſort are trifid, but in this they are ternate; or they have one pair of ſeſſile lobes, with the odd lobe petioled and trifid; the middle ſegment again trifid, and the ſide ones bifid; the middle ſegment, and the uppermoſt of the ſide ones three-toothed; the ſide-lobes are of the ſame form, but only bifid; all the teeth are roundiſh. In Common Columbine the petioles are twice trifid, and all the lobes petioled; in this the ſide-leaves are ſeſſile, and the lobes more deeply cut. The corollas are blue, with the tips of the petals yellowiſh green; the anterior part of the nectaries paler blue; the claws of the petals whitiſh within[e]. According to Haller and Allioni the nectaries are bent in at the end. The former of theſe adds, that the ſtem is only a foot or at moſt eighteen inches high, that the diviſions of the leaves are linear, not rounded, and that there are only one or two flowers on a ſtem. They both are of opinion, that the Alpine Columbine is diſtinct from the common ſort. Mr. Hudſon doubts.] Mr. Miller, who obſerves that the flowers of this are much larger than thoſe of the Garden Columbine, affirms that the ſeeds which he ſowed of this in the garden at Chelſea, produced the ſame ſpecies, without the leaſt variation.

[Native of the Alps of Switzerland and Savoy. Said alſo to be found in Weſtmoreland. It flowers in may and june; and was cultivated in 1731, by Mr. Miller[f].

4. Root perennial. Stems very ſlender, reddiſh. Leaves of the ſame form and ſize with thoſe of *Thalictrum* or Meadow Rue; the lower ones biternate, irregularly divided, the extreme lobes blunt; the upper ones ſimply ternate, toothed or quite entire; the uppermoſt ſimple, lanceolate, acuminate. Corollas yellow within, and red on the outſide. Native of Virginia, Canada, and moſt of the northern parts of America. It flowers in april, and the ſeeds ripen in auguſt[g]. Introduced before 1640, by Mr. John Tradeſcant, ſenior[h].

5. Root perennial. Stems a foot high or more, upright, ſlightly angular and villoſe. Leaves biternate, petioled: leaflets frequently two-lobed, gaſhed, blunt, pale green underneath. Flowering peduncles nodding, ſhort, fruiting ones erect. Petals pale green, wrinkled, ſhorter than the borders of the nectaries; which are greeniſh yellow within, and browniſh on the outſide, the border cordate-wedge-ſhaped, the horn ſubulate and ſtraight, blunt and a little bent in at the end. Stamens ſhorter by half than the corolla. Styles longer than the corolla. Germs five with browniſh ſtyles, ſurrounded with ten ſubulate, acuminate, white, wrinkled, pellucid chaffs. The whole plant is ſmooth. It flowers in may, and the ſeeds ripen in july[i]. Native of Siberia, where it was found by Pallas.]

PROPAGATION AND CULTURE.

Theſe plants are all raiſed by ſowing the ſeeds, or parting the old roots, but the former method is chiefly practiſed; for the old roots are very apt to degenerate after they have blown two or three years, ſo as to become quite plain.

The ſeeds ſhould be ſown in a nurſery-bed in auguſt or ſeptember, for the ſeeds which are kept till ſpring ſeldom grow well, or at leaſt remain in the ground a whole year. The ſpring following the plants will appear above ground, therefore ſhould be kept clear from weeds, and if the ſeaſon ſhould be dry, they muſt be refreſhed with water, that they may gather ſtrength.

In the middle or latter end of may, theſe plants will be ſtrong enough to tranſplant; therefore ſome beds of good freſh undunged earth ſhould be prepared, planting them therein at eight or nine inches diſtance every way, keeping them clear from weeds, and refreſhing them with a little water, as they may require it.

In the following autumn, by which time the plants will have acquired ſtrength enough to flower the ſummer following, the roots ſhould be carefully taken up, and planted in the borders of the flower-garden; but where their roots are deſigned to be preſerved in perfection, all their flower-ſtems ſhould be cut off, as ſoon as the flowers are paſt, to prevent their degenerating by the mixture of the farina from other flowers.

But in order to be ſure of having no ſingle or bad flowers in the borders, you may ſuffer the plants to remain in the nurſery-beds until they have blown; at which time you may put a ſtick by each root you fancy to preſerve, or pull out all the ſingle or bad-coloured ones, and throw them away, cutting off all the flowers from your beſt roots as ſoon as they have ſhewn themſelves, which will greatly add to the preſerving them fair in their colours.

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[a] Gouan. illuſtr.
[b] Haller and Lyons.
[c] Scopoli and Pollich.
[d] Lin. ſpec.
[e] Allioni.
[f] Hort. kew.
[g] Mill. fig.
[h] Hort. kew. from Park.
[i] Retz. & Jacqu.

In order to keep up a ſucceſſion of good flowers, freſh ſeeds ſhould be ſown every year; and if you can meet with a friend at ſome diſtance, who is furniſhed with good flowers of this kind, it will be very advantageous to both parties, to exchange ſeeds once in two years, by which means they will not be ſo apt to degenerate into plain colours.

In ſaving the ſeeds of the variegated columbines, great care ſhould be taken not to ſuffer any plain flowers to remain for ſeed, there being generally ſome plain flowers intermixed with the ſtriped ones on the ſame plant, and often in the ſame branches: theſe ſhould be cut off, for if they are permitted to ſeed, or if their farina impregnate the ſtriped flowers, they will degenerate into plain colours; ſo that there cannot be too much care taken in ſaving the ſeeds, where the beauty of their flowers are regarded.

4. The Canada Columbine flowers almoſt a month before the other ſorts; for which reaſon it is preſerved in the gardens of the curious, though there is no great beauty in the flowers. There is another variety of this with taller flower-ſtems, which flowers a little after the other, but does not differ, either in the ſhape of its flowers or leaves from this; therefore I conclude that they are but one ſpecies. The Canada Columbines flower in april, and their ſeeds ripen the beginning of auguſt. The other ſorts flower toward the end of may, and in cool ſeaſons will continue to produce flowers till the middle of july, and their ſeeds ripen toward the middle or end of ſeptember, according as the ſeaſon proves more or leſs favourable.

AQUILICIA. See *Leea*.]

ARABIS. (Αραβις *Dioſc. from Arabia,* Lin.)

Lin. gen. n. 818. *Reich.* 882. *Schreb.* 1094. *Juſſ.* 238.

Claſſ. 15. 2. Tetradynamia Siliquoſa.

Nat. order of *Siliquoſæ*, or *Cruciformes*. *Cruciferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved, deciduous: *leaflets* from parallel-converging: two oppoſite larger, ovate-oblong, acute, a little prominent at the baſe, gibboſe, concave: the two others linear, erect.

COR. four-petalled, cruciform. *Petals* ſpreading, ending in claws the length of the calyx. *Nectaries* four: each from a little ſcale, within the bottom of the calycine leaflet, affixed to the receptacle, reflex, permanent.

STAM. *Filaments* ſubulate, upright, two the length of the calyx, four twice as long; *anthers* cordate, erect.

PIST. *Germ* columnar, the length of the ſtamens: *ſtyle* none: *ſtigma* obtuſe, entire.

PER. *Silique* compreſſed, very long, linear, unequal, with ſwellings at the ſeeds: valves almoſt the length of the partition.

SEEDS very many, roundiſh, compreſſed.

OBS. *The nectaries and ſtigma, ſhow this to be a diſtinct genus both from* Cheiranthus *and* Heſperis.

ESSENTIAL CHARACTER.

Nectareous Glands four, one within each leaflet of the calyx, like a reflex ſcale.

SPECIES.

1. Arabis alpina. *Alpine Wall-creſs.*
Lin. ſpec. 928. *Reich.* 3. 271. *hort. cliff.* 335. *lapp.* 257. *ſuec.* 604. *Scop. carn. n.* 833. *Hall. helv. n.* 451. *Fl. dan. t.* 62. *Villars dauph.* 318.
Leaves ſtem-claſping, toothed.

[2. Arabis lucida. *Shining Wall-creſs.*
Lin. ſyſt. 599. *n.* 818. 2. *ſuppl.* 298.
Leaves ſtem-claſping, ſhining.

3. Arabis grandiflora. *Great-flowered Wall-creſs.*
Lin. ſpec. 929. *Reich.* 3. 271. *amæn. acad.* 2. 358. *t.* 4. *f.* 20.
Stem naked.]

4. Arabis thaliana. *Common Wall-creſs.*
Lin. ſpec. 929. *Reich.* 3. 272. *ſuec. n.* 605. *Hudſ. angl.* 292. *With.* 702. *Curtis lond.* 2. *t.* 49. *abr. t.* 24. *Hall. helv. n.* 452. *Pollich palat. n.* 636. *Crantz. auſtr. t.* 3. *f.* 2. *Villars dauph.* 321. *Mor. hiſt. ſ.* 3. *t.* 7. *f.* 5. *Park.* 556. *Petiv. herb. brit. t.* 48. *f.* 1. 2.
Leaves petiolate, lanceolate, quite entire.

5. Arabis bellidifolia. *Daiſy-leaved Wall-creſs.*
Lin. ſyſt. 599. *Reich.* 3. 272. *mant.* 94. *Jacqu. auſtr.* 3. *t.* 280. *Hall. helv. n.* 446. (Leucoium).
α. A. pumila. *Jacqu. auſtr.* 3. *t.* 281. *Hall. helv. n.* 447. *Ger. emac.* 260. *Cluſ. hiſt.* 129. *Bauh. hiſt.* 2. 870. (Sinapi).
Leaves ſubdentate, the radical ones obovate, thoſe of the ſtem lanceolate.]

6. Arabis lyrata. *Lyrate-leaved Wall-creſs.*
Lin. ſpec. 929. *Reich.* 3. 272. *Gron. virg.* 99.
Leaves ſmooth, the radical lyrate, the ſtem-leaves linear.

[7. Arabis hiſpida. *Rough Wall-creſs.*
Lin. ſyſt. 600. *Reich.* 3. 273. *ſuppl.* 298. *Hall. helv. n.* 453. *Villars dauph.* 326. (Turritis).
A. ſtricta. *Hudſ. angl.* 292. *With.* 702.
Cardamine pumila, &c. *Raii ſyn.* 300.
Leaves wedge-ſhaped, ſub-lyrate, hiſpid; the ſtem-leaves half-ſtem-claſping, lanceolate; ſiliques ſtiff, ancipital.

8. Arabis Halleri. *Haller's Wall-creſs.*
Lin. ſpec. 929. *ſyſt.* 600. *Reich.* 3. 273. *Hall. opuſc.* 101. *t.* 1. *f.* 1. *Scop. carn.* 2. *n.* 818. *t.* 39. (Cardamine).
Stem-leaves ſub-lyrate, thoſe on the branches lanceolate, gaſhed.]

9. Arabis canadenſis. *Canadian Wall-creſs.*
Lin. ſpec. 929. *Reich.* 3. 273. *Gron. virg.* 100.
Eruca virginiana, &c. *Pluk. alm.* 136. *t.* 86. *f.* 8.
Stem-leaves lanceolate, toothed, ſmooth; flowers pendulous.

10. Arabis pendula. *Pendulous Wall-creſs.*
Lin. ſpec. 930. *ſyſt.* 600. *Reich.* 3. 273. *Jacq. hort.* 3. *t.* 34.
Leaves ſtem-claſping; ſiliques ancipital, linear; calyxes ſub-piloſe.

11. Arabis Turrita. *Tower Wall-creſs.*
Lin. ſpec. 930. *ſyſt.* 600. *Reich.* 3. 274. *Jacq. vind.* 118. *auſtr.* 1. *p.* 10. *t.* 11. *Hudſ. angl.* 293. *With.* 703. *Hall. helv. n.* 444. *Crantz. auſtr. p.* 39. *t.* 3. *f.* 2. *Villars dauph.* 320. *Mor. hiſt. ſ.* 3. *t.* 2. *f.* 23. *Ger. emac.* 272. 2. *Park.* 852. 2.
Leaves ſtem-claſping; ſiliques bending down, flat, linear; calyxes ſubrugoſe.

[12. Arabis ſaxatilis.
Allion. pedem. n. 973. *Villars dauph.* 319. 4. *t.* 37.
Stem erect, leaves ſtem-claſping lanceolate toothed, ſiliques the length of the raceme.

13. Arabis ſcabra.
Allion. pedem. n. 974. *Hall. helv. n.* 447. (Leucoium.) *Segu. veron.* 387.
Root-leaves roundiſh, ſcabrous, toothed, ſtem-leaves embracing hirſute.

14. Arabis ſerpyllifolia.
Villars dauph. 318. *t.* 37.
All the leaves elliptic, quite entire; ſtem flexuoſe.

15. Arabis recta.
Villars dauph. 319. *t.* 37.
Stem ſtraight, leaves rectangularly toothed and ſeſſile, ſiliques from erect ſpreading.]

DESCRIPTIONS, &c.

1. *Alpine Wall-Creſs* is a perennial plant, increaſing very faſt by its creeping roots, which run obliquely near the ſurface, and ſend out fibres at every joint. The root-leaves are collected into heads, ſpreading circularly: they are oblong, whitiſh, and indented on their edges. From the middle of theſe heads ariſe the flowering ſtems, which grow near a foot high; with leaves on them placed alternately,

nately, broader at their baſe than thoſe which grow below, and cloſely embracing the ſtem. The flowers grow in looſe bunches towards the top: the petals are white, [obtuſe and entire: the calyx is yellowiſh, ſhorter by one third than the corolla. This plant, in its wild ſtate, the more open and airy its ſituation, the higher it grows, the more it branches, and the more hairy it becomes; in the ſhade it is almoſt ſmooth, quite creeping, with a ſingle ſtem, the whole plant very pale, and drawn up [a].

Native of the Alps and other mountains of Europe, on rocks, in caverns and in woods.

It was cultivated in the botanic garden at Oxford, in 1658 [b]; and is now become very common in gardens; being increaſed with great facility, and eſteemed for its very early flowering, and the pretty appearance it then makes in cold abject ſituations, where few other things will thrive. I gathered it on mount Saleve in Savoy, flowering in april.

2. Stem four inches high, quite ſimple, round, ſmooth. Leaves quite entire, and of ſome conſiſtence; the bottom ones obovate, petioled, obtuſe, thoſe on the ſtem, alternate, embracing, cordate or cordate-oblong. Corymb terminating, becoming racemoſe. Calyx ſmooth, gaping. Petals almoſt erect, white, linear, entire, twice as long as the calyx, narrower at the baſe. Stamens the length of the petals. Stigma obtuſe. It is a perennial plant; native of Hungary [c].

3. Stem erect, round. Root-leaves many, two inches long, lanceolate, cut beyond the middle like pinnate leaves with acuminate diviſions, ſcabrous, ending in oblong petioles dilated at the baſe and membranaceous. Corymb terminating, flat, with alternate flowers on very ſhort peduncles, the lower ones rather longer.

There is a variety with the leaves quite entire; and another with a white corolla. This is perennial, and native of Siberia [d].

4. Root-leaves oblong-ovate, petioled, commonly entire, but ſometimes toothed, eſpecially near the baſe, hairy, rough on both ſides, with little prominent points. Stem-leaves ſeſſile and toothed; the hairs at the baſe ſimple, at the edges and on the ſurface two-forked or three-forked. Stem upright, ſomewhat branched, round, crooked, covered with a bloom, hairy: the little branches alternate and drooping. Calyx ſlightly hairy. Petals white, twice the length of the calyx, entire and blunt. Silique half an inch long, containing ſeveral yellowiſh ſeeds. The glands are ſo minute as ſcarcely to be diſcerned with a common magnifier. This is an annual plant, varying much in ſize, from two inches to a foot and more. It grows frequently among the corn on ſandy ground, and alſo on walls; flowers in march and april, and ripens its ſeed in may [e].

5. Root perennial, producing ſeveral ſtems and tufts of leaves, which are dark green, thickiſh, ſhining, ſometimes quite ſmooth, ſometimes rough with dots ending in a ſhort hair. Stems undivided, round, ſmooth, generally bending, lengthened out gradually at top into a long raceme. Flowers corymbed, inodorous. Calyx greeniſh yellow, ſcarcely gibbous at the baſe. Petals white, twice as long as the calyx, either quite entire, or ſlightly emarginate, of an obovate form. Siliques parallel to the ſtem, upright, ſmooth, linear, compreſſed: the valves are not rolled back, but open at both ends, and fall off. Native of the foot of the Alps in Switzerland and Auſtria, in moiſt places [f]. It flowers in may and june; and was introduced in 1773, by John Earl of Bute [g].

Jacquin deſcribes (p. 44) and figures (t. 281.) a ſmaller alpine variety of this, under the name of *Arabis pumila*.]

6. Root annual. The flower-ſtalks riſe near a foot high, and are terminated by white flowers. [Linneus obſerves, that this is of the ſize and habit of the fourth ſpecies, except that the root-leaves are lyrate and ſmooth, and the flowers larger. Native of North America.

7. This reſembles the fourth and ſixth ſpecies, but the flowers are leſs, and the root perennial. The petals are white and erect. The ſtem is about four inches high, and erect. The root-leaves abundant, ſublyrate, runcinate, hiſpid: one ſtem-leaf under each branch, ſmall and lanceolate. Calyx almoſt cloſed [h].

Haller obſerves, that the corolla is much *larger* than in *Arabis thaliana*; that the calyx is not gibbous; that the glands form a kind of ring round the baſe of the filaments; that the ſiliques are vague, ſometimes pendulous, two inches long; and that the ſeeds are compreſſed and yellow.

It is thus deſcribed by Mr. Hudſon, who taking it for a new ſpecies, named it *Arabis ſtricta*.—

Root annual. Stems many, ſix inches high, upright, round, villoſe at the baſe, ſmooth above, ſimple. Root-leaves very many, toothed, and gaſh-toothed, hiſpid or hairy-ſcabrous, with long, white hairs. Stem-leaves three or four, toothed, hiſpid. Flowers in racemes, on ſhort peduncles, large, white; petals obovate, quite entire, twice as long as the calyx. Siliques ſtiff, an inch and half long, quadrangular at the baſe, ſtriated. Seeds roundiſh, brown.

Native of the ſouth of France, Switzerland and Auſtria. Obſerved on Mont Saleve in Savoy, near Geneva, by Ray; and on St. Vincent's rocks, near Briſtol, by Hudſon and others; flowering in may.

8. Stem erect, ſix inches high. Root-leaves on long petioles, ſmooth, obtuſe, repand, with a ſmall tooth or two at bottom: ſtem-leaves ſimple, on ſhort petioles, oblong, ſinuate-toothed rather acute. Branches with few leaves and few flowers. Calyx greeniſh: petals white, with green claws. This has runners from the root and the baſe of the ſtem [i].

Native of Germany, Carniola, and Piedmont.

9. Stem erect, from a foot to two feet in height, ſmooth. Leaves broad-lanceolate, ſerrate with four or five ſmall, thick, remote teeth on each ſide. Raceme terminating, naked; and from the upper axils two or three lateral racemes [k]. Native of North America.

10. Stem near a foot high, rough with ſcattered, ſtiff hairs. Leaves rough: ſtem-leaves embracing, leſs than in the following ſpecies, ſerrate. Peduncles long, filiform, looſe. Calyxes hirſute at the tips. Corollas white. Siliques ſmooth, nodding, looſe [l]. Native of Siberia. Cultivated in 1759, by Mr. Miller [m].

11. Root woody, marked annual by Hudſon and Withering, but in reality biennial, as Mr. Relhan has marked it. Stem nine inches, or from one to two feet high, upright, round, ſtriated, downy (or rather, hiſpid), generally ſimple. Leaves hairy on both ſides: root-leaves petioled, oblong, thick, hiſpid, grayiſh, ſharp at the end, toothed and waved at the edge: ſtem-leaves ſimilar, ſtem-claſping, toothed, tomentoſe, regularly decreaſing as they approach the top; upper ones more pointed, and rather ſerrate than toothed, not ſo gray. Flowers upright, white or pale yellow, on ſhort peduncles. Style ſhort, permanent. Glands within the ſhorter ſtamens, and on the outſide of the longer ones, as in *Braſſica*. Siliques very long, ſmooth, linear, compreſſed, on ſhort fruit-ſtalks, riſing at the baſe, and then bent downwards, forming an elegant curve. Seeds round, compreſſed [n].

It is thus deſcribed by Profeſſor Jacquin. Root perennial, often producing ſeveral ſtems. Leaves lanceolate-oblong, thickiſh, ſomewhat tomentoſe, pale green, unequally toothed, ſomewhat waved about the edge, acute, the root-leaves and loweſt ſtem-leaves narrowing into long petioles, the reſt of the ſtem-leaves cordate at the baſe and ſtem-claſping. Stem round, ſcarcely angular, ſubtomentoſe and uſually ſimple, terminated with few flowers coming out together, and ſucceſſively lengthened into a long fruit-bearing raceme. Leaflets of the calyx pale green, moderately prominent at the baſe, alternately broader, either quite ſmooth, or with very few hairs, having a tranſverſe furrow or two, hence perhaps called wrinkled by Linneus. Petals oblong, white or pale yellow. Siliques brown, linear, blunt, compreſſed, often bowed, long and ſmooth, all when ripe bent down the ſame way. Seeds brown, flat, ſurrounded with a membranaceous wing, emarginate. It may be doubted whether this be different from *Arabis Pendula*; it grows on ſhady rocks, and begins to flower in april[o]; with us in may and june.

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[a] Villars. [b] Hort. kew. [c] Lin. ſuppl. [d] Lin. amœn. [e] Curtis. [f] Jacqu. auſtr. [g] Hort. kew.

[h] Lin. ſyſt. & ſuppl. [i] Scopoli. [k] Lin. ſpec. [l] Ibid. [m] Hort. kew. [n] Woodw. & Lyons M.S.

Native of Auſtria, Switzerland, Dauphiné, *&c.* Obſerved by Profeſſor John Martyn, before the year 1732 on a wall at Lewiſham, in Kent; and on the walls of Trinity and St. John's colleges in Cambridge; on the latter of theſe it ſtill grows abundantly. Alſo on Magdalen-college walls at Oxford.

12. Root annual, round, with very few fibres. The whole plant is hoary with ſoft hairs. Stem a palm or a palm and half in height, round, ſimple. Leaves crowded, upright, alternate, or rather without regular order, eared at the baſe, deeply toothed. Sometimes there are ſeveral ſtems from the ſame root. Umbel of flowers terminating, nodding. Lower peduncles longer. Calyx green, leaflets convergent, ovate-lanceolate: petals white, ſquariſh, not emarginate, ſcarcely larger than the calyx. Stigma roundiſh, bifid. Siliques in ſhort racemes, almoſt upright, and ſpreading, not preſſed to the ſtem, flat, compreſſed, in ſuch a manner however as to have a raiſed ſtreak on each ſide; they are not beaked, and are of a ſhining green colour. Peduncles ſmooth, green, thickening[p].

According to Villars, the ſtem is from a foot to two feet in height, ſtraight and firm, ſingle at bottom, divided into two or three branches at top. Leaves all on the ſtem, elliptic, lanceolate or oblong, embracing the ſtem by two little ears rounded at the baſe, their edges almoſt parallel, toothed, ending obtuſely, having a little projection in the middle, an inch and half in length, and half an inch or eight lines in breadth, green but beſet with hairs which divide into two or three parts at the end. Each branch, when there are any, has a ſmall leaf at its origin. Calyx ſomewhat hairy, equal and firm. Petals oblong, blunt. Siliques from an inch to two inches in length, thin, almoſt round, a little ſtreaked, ſpreading almoſt at right angles. Peduncles two or three lines in length, preſerving two glands at the end. The partition extends a line beyond the valves, and finiſhes in a blunt ſtigma. Seeds ſmall, ruſſet-coloured, oblong, flatted, irregular.

Native of the ſouth of Europe, on rocks.

13. This has many things in common with the fifth ſort. It is low, and the ſiliques are more diſperſed. Leaves couchant, ſhort, ovate, hairy, and exceedingly ſcabrous. Stem ſmooth, upright, ſeldom more than four, or at moſt ſix inches in height, not branched, having on it one or two ovate, lanceolate leaves. Flower larger than in the fifth ſort: calyx white, coloured. Petals milky white, long-ovate, emarginate. Siliques broadiſh, bowed at the end, upright, parallel to the ſtem. Seeds compreſſed, ſurrounded with a leafy wing[q].

Native of the ſouth of Europe.

14. Stems weak, filiform, bending and entangled one with another. Leaves ſmall, ſeſſile, beſet with cloven hairs. Petals white, ſmall, within a converging yellowiſh calyx. Siliques very thin, a little compreſſed. Seeds brown, a little lengthened out and flatted. Biennial. Native of Dauphiné[r].

15. This ſort approaches near to the foregoing and to the firſt ſpecies, but the ſtem is conſtantly ſtraight. The leaves are ſeſſile, white with forked hairs, and the teeth are rectangular. Flowers white, ſmaller than thoſe of *A. alpina*, in a calyx leſs-coloured. Annual or biennial. On walls and rocks about Grenoble[s].]

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[o] Jacquin. [p] Allioni. [q] Haller. [r] Villars. [s] Ibid.

PROPAGATION AND CULTURE.

Theſe are all hardy plants, and will thrive in any ſituation. They produce ſeeds in plenty, and may eaſily be propagated by them, either ſown in the autumn, or permitted to ſcatter on the ground. The firſt ſort is moſt known in the gardens, and multiplying faſt by its creeping roots, few perſons are at the trouble of ſowing the ſeeds. It flowers early, and having many ſtrong ſtems from one root, it makes a pretty variety in cold ſituations, where many finer plants will not thrive; and may have place in plantations of ſhrubs, where it will grow with little care.

Arabis. See *Cardamine.*

Araca-puda. See *Droſera.*

Arach. See *Atriplex.*

Arachidna. } See *Arachis, Glycine, Lathyrus.*
Arachidnoides. }

ARĂCHIS. (Αρακος *Theophr.* Ἄρακος, Ἀρακὶς, Ἀρακίδνα *and* Ἀράχίδνα, *names of a legume, in Galen and Theophraſtus, derived from* ἀρὰ, *damnum vel noxa.*)

Lin. gen. n. 876. *Reich.* 937. *Schreb.* 1177. *Gærtn. t.* 144. *Juſſ.* 354.

Arachidna. *Plum.* 37.

Arachidnoides. *Niſſ. act. gall.* 1723. *t.* 19.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ* or *Leguminoſæ.*

GENERIC CHARACTER.

Cal. *Perianth* two-parted, gaping; *upper-lip* ovate, ſemitrifid; the intermediate diviſion rather larger, emarginate: *under-lip* lanceolate, concave, acute, rather longer.

Cor. papilionaceous, reſupine. *Banner* roundiſh, flat-deflex, very large, emarginate, longer than the calyx: *wings* free, ſubovate, ſhorter than the banner: *keel* ſubulate, incurved, the length of the calyx, very ſlightly bifid at the baſe.

Stam. *Filaments* ten, all united at bottom, ſubulate, the length of the keel: *anthers* alternately roundiſh and oblong.

Pist. *Germ* oblong: *ſtyle* ſubulate, the length of the germ, aſcending: *ſtigma* ſimple.

Per. *Legume* ovate-oblong, columnar, valveleſs, gibbous, toruloſe, veined, coriaceous, one-celled.

Seeds two, oblong, obtuſe, gibbous, truncate at one end.

Obs. *Moſt of the flowers are male, having a piſtil without a germ.*

ESSENTIAL CHARACTER.

Cal. bilabiate. *Cor.* reſupine. *Filaments* connected, *Legume* gibbous, toruloſe, veined, coriaceous.

SPECIES.

1. Arachis hypogæa. *Common Earth or Ground Nut.* *Lin. ſpec.* 1040. *Reich.* 3. 438. *hort. cliff.* 353. *upſ.* 228. *Gærtn. fruct.* 2. 303. *Brown. jam.* 295. *Plum. gen.* 49. *Ehret pict. t.* 3. *f.* 3. (Arachidna.) *Marcgr. braſ.* 37. *Raii hiſt.* 919. *n.* 3. (Mundubi.)

α. A. aſiatica. *Lour. cochinch.* 430. *Rumph. amb.* 4. 426. *t.* 156. *f.* 2. (Chamæbalanus.) *Pluk. alm. t.* 60. *f.* 2. (Senna.)

β. A. africana. *Lour. cochinch.* 430.

Stem herbaceous, procumbent.

[2. Arachis fruticoſa. *Shrubby Earth or Ground Nut.* *Retz. obſ.* 5. 26. *n.* 67.

Hedyſarum hamatum. *Lin. ſyſt.* 674. *Burm. zeyl.* 226. *t.* 106. *f.* 2.

Stem ſhrubby, upright.

DESCRIPTION, *&c.*

1. Stem herbaceous annual, three feet high, round, very hairy, reddiſh, ſuberect, with diffuſed, procumbent branches. Leaves ſcattered petioled, abruptly pinnate; leaflets two pairs, ovate, hairy, quite entire, on ſhort petioles. Stipules ſharp, bifid, oppoſite, half-ſtem-claſping. Flowers gold-coloured, heaped, axillary, growing ſingly on very long, ſlender peduncles. Many of them are male, mixed with the hermaphrodites. The legumes contain three or four ſeeds. Native of the Eaſt-Indies, and cultivated very abundantly in China and Cochinchina.

β. The African Ground-Nut differs from the Aſiatic, deſcribed above, in having the leaflets ſmooth, the ſtipules entire, the flowers uſually in pairs on ſhorter peduncles, and only two or three ſeeds in each legume. This occurs in various parts of eaſtern Africa[a].]

All the European ſettlements in America now abound with the Ground-Nut, but it is generally ſuppoſed that it was originally brought by the ſlaves from Africa. In South Carolina there is great plenty of this plant; the inhabitants roaſt the nuts, as they are commonly called, and make uſe of them as Chocolate. [In the eaſtern countries they are a ſubſtitute for almonds. They abound in a thin limpid oil proper for lamps, and it is much uſed for this purpoſe in Cochinchina; it ſupplies the place alſo there of oil of olives for the uſe of the table, but is inferior to it in flavour[b].

The Ground-Nut was cultivated in the Chelſea garden, ſo long ſince as 1712[c].

2. The whole plant is viſcid. Leaves like thoſe of Myrtle, of different ſizes, oblong, ternate, alternate or oppoſite, at the baſe of the petiole ſheathing the ſtem, hirſute. Stems ſlender, many, filiform, ſeldom ſubdivided. At the ends of the branches are the flowers, collected into ſolitary heads with bractes under them; they are of a yellow colour[d]. Native of the Eaſt-Indies, in Tranquebar and the iſland of Ceylon.]

PROPAGATION AND CULTURE.

The Ground-Nut multiplies very faſt in hot countries. In England the ſeeds muſt be ſown on a hot-bed in the ſpring, and the glaſſes muſt be kept over the plants till the middle or end of june; after which, if the weather prove warm, they may be expoſed to the open air by degrees. The branches trail upon the ground, and as ſoon as the flower begins to decay, the germ thruſts itſelf under ground, and there the pod is formed and ripened.

ARACHIS. See *Glycine*.

ARACHUS. See *Ervum*.

ARACUS. See *Orobus*.

ARALĬA.

Lin. gen. n. 386. *Reich.* 417. *Schreb.* 525. *Tournef.* 154. *Juſſ.* 218.

Claſſ. 5. 5. Pentandria Pentagynia.

Natural order of *Hederaceæ.—Araliæ* Juſſ.

GENERIC CHARACTER.

CAL. *Involucre* very ſmall, of a globular umbellule. *Perianth* five-toothed, very ſmall, ſuperior.

COR. *Petals* five, ovate, acute, ſeſſile, reflex.

STAM. *Filaments* five, ſubulate, the length of the corolla: *anthers* roundiſh.

PIST. *Germ* roundiſh, inferior: *ſtyles* very ſhort, permanent: *ſtigmas* ſimple.

PER. *Berry* roundiſh, ſtriated, crowned, five-celled.

SEEDS ſolitary, hard, oblong.

ESSENTIAL CHARACTER.

Flowers in an umbellule with an involucre. *Cal.* five-toothed, ſuperior. *Cor.* five-petalled. *Berry* five-ſeeded.

SPECIES.

1. Aralia ſpinoſa. *Thorny Aralia* or *Angelica-tree.*
Lin. ſpec. 392. *Reich.* 751. *Vir. cliff.* 26. *hort. cliff.* 113. *Gron. virg.* 34. 48. 1.
Angelica arboreſcens, &c. *Comm. hort.* 1. *p.* 89. *t.* 47. *Raii hiſt.* 1798.
Chriſtophoriana arbor aculeata virginienſis. *Pluk. phyt.* 98. *t.* 20.
Arboreſcent, ſtem and leaves prickly.

[2. Aralia pentaphylla. *Five-leaved Aralia.*
Lin. ſyſt. 300. *Thunb. jap.* 128.
Arboreous, prickly; leaves quinate.

3. Aralia chinenſis. *Chineſe Aralia.*
Lin. ſpec. 393. *Reich.* 752. *Loureiro cochinch.* 187.
Frutex aquoſus mas. *Rumph. amb.* 4. *p.* 105. *t.* 44?
Nalugu. *Rheed. mal.* 2. *p.* 43. *t.* 26. *Raii hiſt.* 1635.
Shrubby; ſtem and petioles prickly; leaflets unarmed, villoſe.

4. Aralia japonica. *Japoneſe Aralia.*
Lin. ſyſt. 300. *Thunb. jap.* 128. *Kæmpf. ic. ſelect. t.* 10.
Shrubby, leaves lobate.]

5. Aralia racemoſa. *Berry-bearing Aralia.*
Lin. ſpec. 393. *Reich.* 752. *Hort. upſ.* 70. *cliff.* 113. *Cold. noveb.* 67.
Panaces carpimon, &c. *Corn. canad.* 74. *t.* 75. *Barr. ic.* 705. *Raii hiſt.* 661. *Park. theat.* 950. 6.
Chriſtophoriana canadenſis, &c. *Mor. hiſt. ſ.* 1. *t.* 2. *f.* 9.
Stem leafy, herbaceous, ſmooth.

6. Aralia nudicaulis. *Naked-ſtalked Aralia.*
Lin. ſpec. 393. *ſyſt.* 300. *Reich.* 752. *hort. cliff.* 113. *Gron. virg.* 34. 48. 2. *Cold. noveb.* 66.
Chriſtophoriana virginiana, &c. *Pluk. alm.* 98. *t.* 238. *f.* 5.
Stem naked, leaves in pairs ternate.

[7. Aralia cordata. *Heart-leaved Aralia.*
Thunb. jap. 127. *Kæmpf. amæn.* 5. *p.* 826.
Herbaceous; ſtem angular, unarmed; leaves ſimple heart-ſhaped.

8. Aralia octophylla. *Digitate-leaved Aralia.*
Lour. cochinch. 187.
Stem arboreous, unarmed; leaves digitate with eight leaflets; panicle umbelled.

9. Aralia palmata. *Palmate-leaved Aralia.*
Lour. cochinch. 187.
Stem ſcandent, prickly; leaves five-lobed; umbels ſimple, lateral.]

DESCRIPTIONS, *&c.*

1. This riſes with a woody ſtem to the height of eight or ten feet, dividing into ſeveral branches, with branching leaves, compoſed of many divaricated wings, with oblong leaflets; the ribs of the leaves, as alſo the branches and ſtem, are armed with ſtrong crooked ſpines, rendering the places where the plants grow in plenty very difficult to paſs through. The flowers are produced in large looſe umbels, at the extremities of the branches, and being of an herbaceous colour make no great figure. [The berry is three-cornered and three-celled[a].

Native of Virginia, whence it was ſent to England by Baniſter, and was cultivated in 1688, by Biſhop Compton, at Fulham. Mr. Ray alſo mentions, that there was then a tree of this ſpecies in the botanic garden at Chelſea, which was above the human ſtature, and thicker than a man's arm. It had not then flowered here[b].

2. Branches prickly, round, flexuoſe, ſmooth, aſh-coloured. Prickles axillary, ſolitary, horizontal. Leaves from one bud to three, four or more, petioled; leaflets on very ſhort petioles, ovate, acute, ſerrate at top, entire and drawn to a point at bottom, unarmed, ſmooth, the lower ones ſmaller, the middle one largeſt. Petioles linear, unarmed, ſtreaked, ſmooth, looſe, ſpreading. The flowers from buds among the leaves, in ſimple, peduncled umbels. Peduncles half the length of the petioles; pedicels many, capillary, ſpreading. Stamens longer than the corolla. Native of Japan, flowering in may and june[c].

3. Stem ſimple, very full of prickles, with leaves only at the top. Petioles compound, three-parted, prickly and villoſe. Partial leaves pinnate, and two leaflets beſides at the branchings of the petiole. Leaflets ovate, ſerrate, villoſe eſpecially beneath, twice as large as in the firſt ſpecies. Panicle branching, with numerous umbellules. It differs therefore from the firſt in having no prickles upon the ribs of the leaves, which are larger and not ſmooth. The habit alſo is different. It was found in China by Oſbeck[d]: alſo in Cochinchina by Loureiro; it is a native of Malabar, and of Amboina, if Rumphius's plant be the ſame. He ſpeaks of it as a tree, growing to a large ſize in the woods: whereas Loureiro ſays that in Cochinchina, it is procumbent or ſcandent. He deſcribes it at length, and remarks that it is very troubleſome to travellers with its numerous crooked prickles, as it climbs in the hedges. According to him the corolla is white, twice as large as the calyx; ſtyle ſcarcely any, but five ob-

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[a] Loureiro. [b] Ibid. [c] Hort. kew. [d] Burm. zeyl.

[a] Fabric. in Reich. ſyſt. [b] Ray hiſt. [c] Thunberg. [d] Lin. ſpec.

long, reflex ſtigmas. Berry very black, five-furrowed, one-celled, with five ſeeds.

4. Stem unarmed, upright, ſix feet high. Leaves towards the top frequent, alternate, petioled, ſeven-lobed; the younger ones five-lobed; the older three or four times larger, with as many thick nerves as there are lobes, reticulate, green above, pale beneath; the lobes with rounded gaſhes, ſerrate from the middle to the tip, ſharp, a finger's length. Petioles round, fleſhy, thick, broad at the baſe and ſtem-claſping, pale green, upright, the ſame length with the leaf. Bractes many, involving the whole panicle of flowers, ovate, acute, very concave, pubeſcent, deciduous, from half an inch to almoſt an inch in length, becoming gradually leſs upwards. Flowers in terminating, compound panicles, with alternate umbelled peduncles. Umbel ſimple, roundiſh. Pedicels almoſt equal. No involucre. Native of Japan; flowering in november and december[e].]

5. This grows three or four feet high, and divides into many irregular branches. Leaves ramoſe, alternate. Peduncles axillary, terminated by round umbels of ſmall four-leaved flowers, of a whitiſh colour; ſucceeded by round channelled berries, which when ripe are black. It flowers in july, and the ſeeds ripen in october. [Native of Canada; where the berries are eaten, and both leaves and roots are uſed as ſalads and potherbs by the Indians and French[f].

6. Stem ſo very ſhort as ſcarcely to be called any. Leaves decompound, with long petioles; leaflets pinnate with five ſerrate pinnas. A ſcape ariſes between two leaves which is trifid or bears three umbellules[g].] It riſes nearly to the ſame height as the former. The flower-ſtalks ſpring immediately from the root, and are terminated by round umbels of flowers, in ſhape and colour like the foregoing; but the berries are ſmaller. This flowers towards the end of july, and the ſeeds ripen late in the autumn. The roots were formerly brought over and ſold for Sarſaparilla, and ſome of the inhabitants of Canada make uſe of it as ſuch, but it is very different from the true ſort. [Native of Virginia and Canada. Linneus ſays, there is one very like it, and perhaps the ſame, in Java.

This and the foregoing were cultivated by Mr. Miller, in 1731[h].

7. Stem ſuffruticoſe, aſcending, villoſe, branching but little. Branches alternate. Leaves alternate, petioled, ovate, acute, toothed, rough on both ſides, pale and ribbed beneath, unequal. Petioles ſhorter than the leaves. Flowers axillary, umbelled. Peduncles trichotomous. Both they and the pedicels tomentoſe. Styles five, divaricate. Native of Japan[i].

8. This is a tree ten feet in height, and ſpreading. Leaves on long petioles: leaflets oblong, obtuſe, quite entire, ſmooth, unequal, diſpoſed in a ring. Flowers yellow ſprinkled with red, in a vaſt terminating panicle, ending in umbels. There is no involucre. Calyx truncate: petals oblong, ſpreading. Stigmas five, ſeſſile. Berry ſmall, ovate, containing five oblong ſeeds. Native of Cochinchina; where it is alſo cultivated, and uſed medicinally in dropſical caſes.

Near Canton in China there grows a variety, or perhaps a diſtinct ſpecies, perfectly reſembling this in the ſtem, leaves, and habit of the flowers; but differing, in having ten ſtamens, and a ten-cleft ſtigma.

9. Stem ſhrubby. Leaves large, ſcattered, on long petioles. Flower white, without any involucre. Prickles on the ſtem bowed back, ſcattered; on the petioles and peduncles none. Native of China, but differing from *A. chinenſis*, which has pinnate leaves, prickly petioles, and the flowers in a branched panicle. The bark of this is alſo uſed in the dropſy, and in cutaneous diſorders[k].

Poſſibly ſome of the above ſpecies may, on more accurate examination, be found to belong more properly to the genus *Hedera,* which in many reſpects is allied to this.]

PROPAGATION AND CULTURE.

1. This is propagated by ſeeds, which are eaſily procured from North America; but as they ſeldom arrive here till toward the ſpring, the plants never come up the firſt year: therefore when the ſeeds arrive, they ſhould be ſown in pots, filled with light earth, and placed in a ſhady ſituation, where they may remain until the next autumn, being careful to weed the pots conſtantly; otherwiſe if weeds are permitted to grow till they are large, they cannot be taken out, without drawing up the ſeeds with their roots. In the autumn, the pots ſhould either be plunged into an old bed of tan, or planted in a warm border under the ſhelter of a hedge or wall; and if the winter proves ſevere, it will be proper to cover the pots with ſtraw or peas-haulm, to prevent the froſt from penetrating deep into the ground. In march the pots ſhould be plunged into a moderate hot-bed, which will bring up the plants early, ſo that they will have more time to get ſtrength before the following winter. When the plants come up, they ſhould be frequently refreſhed with water, and conſtantly kept clean from weeds: in may they ſhould be inured to the open air, and when they are removed out of the bed, they ſhould have a ſhady ſituation. Theſe plants ſhould not be diſturbed the firſt ſeaſon, but as they are often injured by froſt when young, in october the pots ſhould be placed under a frame, where they may be ſcreened from hard froſts, but in mild weather they ſhould be conſtantly opened to enjoy the free air. The leaves of theſe plants fall away in the autumn, ſo that ſome perſons have ſuppoſed them dead, and have thrown them out of the pots. In the ſpring, before the plants begin to puſh, they ſhould be carefully ſhaken out of the pots, and ſeparated; part of them ſhould be planted ſingly into ſmall pots, and the other may be planted in a bed of light earth in a warm ſituation. If thoſe which are planted in the ſmall pots are plunged in a moderate hot-bed, it will greatly forward their growth; but they muſt be early inured to bear the open air, otherwiſe they will draw up weak. In the following ſummer they muſt have a ſhady ſituation, and the next winter ſhould be ſheltered again; the ſpring following they may be ſhaken out of the pots, and planted where they are deſigned to remain. Thoſe plants which were planted in the bed, will require protection from the froſt the firſt winter; but if the ſurface of the ground is covered with old tanners bark, it will prevent the froſt from penetrating to their roots; and if in hard froſts, ſome ſtraw, peas-haulm, or any light covering is laid over the bed, it will ſecure their ſtems from being injured. The plants in the bed may remain there two years, by which time they will be ſtrong enough to tranſplant to the places where they are deſigned to grow. As theſe plants do not come out very early in the ſpring, they often continue growing pretty late in the autumn, which cauſes the extreme parts of their ſhoots to be very tender, whereby they often ſuffer from the early froſts in autumn, which frequently kill the upper parts of the ſhoots: but as their woody ſtems are ſeldom injured, they put out new branches below: and if in very ſevere winters the ſtems are deſtroyed, yet the roots will remain, and put out new ones the following ſummer.

This plant may alſo be propagated by its roots, for as they ſpread far in the ground, if they are laid open, and ſome of the ſtrongeſt are ſeparated from the plant and left in the ground, they will put out new ſtems and make new plants. Or if part of the roots are taken off and planted on a moderate hot-bed, they will puſh out ſtems in plenty, and may be thus increaſed with eaſe.

5, 6. Both theſe ſorts are eaſily propagated by ſeeds, which are generally produced in plenty. Theſe ſhould be ſown in the autumn ſoon after they are ripe, for thoſe which are ſown in the ſpring, never grow the ſame year, ſo that a whole ſeaſon is gained by the ſowing in autumn. When the plants appear, they muſt be kept clean from weeds during the ſummer; and in the autumn following, when their leaves decay, the roots may be taken up, and tranſplanted where they are to remain. They are very hardy plants, ſo may be planted in any ſituation; and as they grow naturally in woods, they may be planted in wilderneſs quarters, under trees, where, although they have no great beauty, yet they will add to the variety.

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[e] Thunberg.
[f] Parkinſon.
[g] Lin. ſpec.
[h] Hort. kew.
[i] Thunberg.
[k] Loureiro.

Theſe two ſorts may alſo be propagated by parting their roots; the beſt time for doing this is in the autumn, ſoon after their leaves decay. Theſe ſhould be planted pretty far aſunder, for their roots ſpread to a conſiderable diſtance, where they are left undiſturbed for ſome years.

ARALIA arborea & capitata. See *Hedera.*

ARALIASTRUM. See *Panax.*

ARAPABACA. See *Spigelia.*

ARATICU PONHE. See *Annona.*

ARBOR camphorifera. See *Laurus.*

——— crepitans. See *Hura.*

——— Judæ. See *Cercis.*

——— vitæ. See *Thuya.*

ARBUTUS. (Latin: derivation uncertain.)

Lin. gen. n. 552. *Reich.* 596. *Schreb.* 750. *Gærtn.* 59. *Tournef.* 368. *Juſſ.* 160.

Uva urſi. *Tournef.* 370.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Bicornes. Ericæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-parted, obtuſe, very ſmall, permanent.

COR. monopetalous, ovate, flattiſh at the baſe, diaphanous, with a quinquefid mouth: *diviſions* obtuſe, revolute, ſmall.

STAM. *Filaments* ten, ſubulate-ſwelling, very ſlender at the baſe, affixed to the edge of the baſe of the corolla, and half the length of it: *anthers* ſlightly bifid, nodding.

PIST. *Germ* ſubglobular, on a receptacle marked with ten dots: *ſtyle* cylindric, the length of the corolla: *ſtigma* thickiſh, obtuſe.

PER. *Berry* roundiſh, five-celled.

SEEDS ſmall, bony.

OBS. *It approaches very nearly to* Vaccinium, *from which it is diſtinguiſhed by a ſuperior fruit.*

Arbutus. *Tournef. has many-ſeeded cells.*

Uva urſi. *Tournef. has one-ſeeded cells.*

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* ovate, diaphanous at the baſe. *Capſ.* five-celled.

SPECIES.

1. Arbutus Unědo. *Common Strawberry-tree.*

Lin. ſpec. 566 *ſyſt.* 407. *Reich.* 2. 297. *hort. cliff.* 163. *Hudſ. angl.* 177. *With.* 427. *Mill. fig. t.* 48. *Gron. orient. n.* 137. *Hunt. Evel. ſylva.* 2. *p.* 81. *Ger.* 1310. 2. *emac.* 1496. *Park.* 1489 *n.* 1. *t.* 1490. *f.* 1. *Raii hiſt.* 1576. *Cam. epit* 168. *Cluſ. hiſt.* 1. 47. 2. *Barrel. ic. t.* 674.

α. A. alba. *Common white-flowered Strawberry-tree.* *Ait. hort. kew.* 2. 71.

Flower ſimple, corollas whitiſh.

β. A. rubra. *Red-flowered Strawberry-tree.* *Ait. hort. kew.* 2. 71.

Flower ſimple, corollas reddiſh.

γ. A. plena. *Double-flowered Strawberry-tree.* *Ait. hort. kew.* 2. 71.

Flower full.

Stem arboreous, leaves oblong-lanceolate, panicles ſmooth, nodding.

[2. Arbutus laurifolia. *Laurel-leaved Strawberry-tree.* *Lin. ſyſt.* 407. *ſuppl.* 238.

Stem arboreſcent; leaves oblong, acuminate to both ends, ſharply ſerrate, ſmooth; racemes axillary, one-ranked, ſeſſile, ſolitary.]

3. Arbutus Andrachne. *Oriental Strawberry-tree.* *Lin. ſpec.* 566. *ſyſt.* 407. *Reich.* 2. 297. *Ehret. act. ang. vol.* 57. *p.* 114. *t.* 6. (very good.)

Andrachne theophraſti. *Cluſ. hiſt.* 1. *p.* 48. Adrachne. *Park. theat.* 1490. *f.* 2.. *Raii hiſt.* 1577.

Stem arboreous; leaves oval, quite entire and ſerrate; panicles pubeſcent, erect.

[4. Arbutus ferruginea. *Long-flowered Strawberry-tree.* *Lin. ſyſt.* 408. *ſuppl.* 238.

Stem arboreſcent, leaves oblong, obtuſe, ſmooth, quite entire, racemes terminal.

5. Arbutus mucronata. *Pointed-leaved Strawberry-tree.* *Lin. ſyſt.* 408. *ſuppl.* 239.

Stem ſhrubby; leaves alternate, ovate, ſerrate, pointed; peduncles axillary, one-flowered.

6. Arbutus pumila. *Dwarf Strawberry-tree.* *Lin. ſyſt.* 408. *ſuppl.* 239.

Stems diffuſed; leaves alternate, diſtich, oblong, quite entire; flowers lateral, ſolitary.]

7. Arbutus acadienſis. *Acadian Strawberry-tree.* *Lin. ſpec.* 566. *Reich.* 2. 298.

Vitis idæa acadienſis, foliis alaterni. *Tournef. inſt.* 608.

Stems procumbent; leaves ovate, ſubſerrate; flowers ſcattered: berries many-ſeeded.

8. Arbutus alpina. *Alpine Arbutus.*

Lin. ſpec. 566. *Reich.* 2. 298. *lapp. n.* 161. *ſuec. n.* 359. *hort. cliff.* 163. *Hudſ. angl.* 177. *With.* 427. *Lightf. ſcot.* 216. *a, b. Hall. helv. n.* 1019. *Fl. dan. t.* 73. *Villars dauph.* 589. *Ger.* 1230. 4. *emac.* 1417. 4. *Park.* 1456. 3. *Bauh. hiſt.* 1. 519. *Cluſ. hiſt.* 1. 61. *Raii ſyn.* 457. 4. *hiſt.* 1488. 2.

Stems procumbent; leaves rugoſe, ſerrate.

9. Arbutus Uva urſi. *Trailing Arbutus* or *Bear-berry.*

Lin. ſpec. 566. *ſyſt.* 408. *Reich.* 2. 298. *lapp. n.* 162. *t.* 6. *f.* 3. *ſuec. n.* 358. *mat. med.* 115. *Woodv. med. bot.* 194. *t.* 70. *hort. cliff.* 163. *Hudſ. angl.* 177. *With.* 428. *Lightf. ſcot.* 216. *c, d. Hall. helv. n.* 1018. *Fl. dan. t.* 33. *Gmel. ſib.* 4. 118. *n.* 1. *Scop. carn. n.* 483. *Villars dauph.* 590. *Blackw. t.* 592. *Plenck. ic.* 340. *Ger.* 1230. 5. *emac.* 1416. 5. *Park. theat.* 1457. 6. *Bauh. hiſt.* 1. 523. *Cluſ. hiſt.* 1. 63. 2.

Stems procumbent, leaves quite entire.

[10. Arbutus thymifolia. *Thyme-leaved Arbutus.* *Ait. hort. kew.* 2. 72.

Vaccinium hiſpidulum. *Lin. ſpec.* 500. (*excluſis ſynonymis Raii et Plukenetii.*) *Kalm. itin.* 3. 37. *engl. edit.* 2. 79. *Mill. dict. n.* 4.

Stems procumbent; leaves oval, acute, obſcurely ſerrate, ſtrigoſe underneath, flowers axillary, eight-ſtamened.

DESCRIPTIONS, &c.

1. The Common Arbutus or Strawberry-tree riſes to the height of twenty or thirty feet, but rarely with an upright ſtem. It uſually puts out branches very near the ground. The leaves keep on all the winter, and are thruſt off in the ſpring by new ones, ſo that it is always cloathed with leaves[a]. The berries have many ſeeds in them, and are roughened with the tubercles of the ſeeds[b].]

The Arbutus is now to be found in moſt of our plantations, and is one of their greateſt ornaments in the months of october and november, that being the ſeaſon when it is in flower, and the fruit of the former year is ripe; for that is a whole year in growing to perfection. When there is plenty both of fruit and flowers upon the trees, they make a handſome appearance, at a ſeaſon when moſt others are paſt their beauty.

Thoſe trees which have large oval fruit[c], make the greateſt figure; the flowers of this being larger, and oblong. The variety with double flowers is a curioſity, but the flowers, having only two rows of petals, make no great appearance, nor do the trees produce fruit in any quantity; the other therefore is preferable. That with red flowers makes a pretty variety when intermixed with the other; for the outſide of them is of a fine red colour, at their firſt appearance, and afterwards they change to purple before they fall off. The fruit of this is the ſame with the common one. [Beſides theſe principal varieties, the nurſerymen have the curled-leaved or cut-leaved, and the ſmooth-leaved; they alſo diſtinguiſh the broad from the narrow-leaved.

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[a] Mill. fig.

[b] Linneus.

[c] Mill. fig. t. 48. f. 1.

The Arbutus is a native of the ſouth of Europe, Greece, Paleſtine, and many other parts of Aſia. It is alſo found in the weſt of Ireland; in the county of Kerry; near the lake of Killarney; on barren limeſtone rocks. The country people eat the fruit there, in Spain, Italy, *&c.* Mr. Ray mentions, that he ſaw it in the market at Padua. It is ſaid to have conſtituted part of the food of mankind in the early ages:

> " Arbuteos fœtus, montanaque fraga legebant."

That it was not in any eſteem among the ancients, we may ſuppoſe from the name *Unedo*, if Pliny's reaſon for that name be the true one: " cui nomen " ex argumento ſit unum tantum edendi." Virgil recommends the twigs as food for goats in winter:

> ——— " jubeo frondentia capris
> " Arbuta ſufficere."

And for baſket work:

> " Arbuteæ crates, & myſtica vannus Jacchi."

Horace celebrates the ſhade of it:

> " Nunc viridi membra ſub Arbuto
> " Stratus."

After all theſe quotations, I hope we ſhall no more have the claſſical ear wounded, by pronouncing the laſt ſyllable but one of *Arbŭtus* long.

This tree is in Greek named Κομαρος, and the fruit Μιμαικυλον: in Latin *Arbutus*, and the fruit *Unedo*; in Italian *Arbuto*, *Albatro*, *Albaro*, *Corbezzolo*, and the fruit *Corbezzola*: in French *L'Arbouſier commun.* The Greek name is almoſt preſerved at Conſtantinople in *Komaria.*

2. This is very like the common Arbutus, but differs in its ſharp cuſpidate ſerratures, and its axillary, very ſimple racemes, ſhorter than the leaves, with the flowers all directed the ſame way. It is a native of North America[d].

3. This alſo much reſembles the common *Arbutus*, but the bark is not rough; ſome of the leaves have no ſerratures; the panicle is upright and viſcid, which in that is ſmooth[e].]

It grows to a middle-ſized tree, with irregular branches. The leaves are ſmooth, large, ſomewhat like thoſe of the Bay-tree, but not quite ſo long. Flowers like thoſe of the common Arbutus, but growing thinly on the branches. Fruit oval, of the ſame colour and conſiſtence with the common ſort; but the ſeeds of this are flat, whereas in that they are pointed and angular.

It grows naturally in the eaſt, particularly about Magneſia, where it is ſo plentiful, as to be the principal fuel uſed by the inhabitants. [Belon ſays, it is common in Crete, and between Aleppo and Antioch. Wheeler obſerved it near Athens, and ſaw the fruit in the market at Smyrna[f].

It is the Αδραχνη of Theophraſtus, and is called Αδρακλα in modern Greek.]

Tournefort enumerates three other varieties of this tree, which he obſerved in the Levant, one with ſerrate leaves; a ſecond with a large oblong fruit; and a third with large compreſſed fruit.

[It was cultivated in 1724, at Eltham, by James Sherard, M. D.; and flowers in march and april[g].

4. Branches angular, ſimple, ſmooth. Leaves alternate, petioled. Racemes axillary, terminating the branches, ſolitary. Pedicels branching, ſpreading, with two bractes in the middle, which are oppoſite, ovate and ſmooth. Flowers remote, nodding. Corolla longer than in the other ſorts, almoſt like that of the Andromedas. Found in America, by Mutis[h].

5. This is a very ſtiff ſhrub. Leaves on very ſhort petioles, flat, ſtiff, the edge cartilaginous, with four ſerratures on each ſide, without veins. Buds in the axils, with very few, concave, imbricate ſcales, whence proceed ſingle peduncles, having one nodding flower on them, and being ſometimes ſcaly.

6. A very low ſhrub, with leaves extremely ſmall, like thoſe of *Empetrum*, very ſmooth above, keeled beneath. Peduncles from the ſcales of an axillary bud, naked, long, one-flowered. Flowers nodding. Both theſe were found in Terra del Fuego by Bäck[i].]

7. This is a low buſhy ſhrub, with ſlender trailing branches; the flowers are axillary, and grow in thin looſe bunches. It never produces fruit in England. It grows naturally in Acadia, and other northern parts of America, upon ſwampy land, which is frequently overflowed with water.

8. [The branches of this ſhrub trail flat upon the ground, two or three feet round the root, having a brown deciduous bark: the leaves grow alternate, and are of a long oval form, gradually diminiſhing towards the baſe into the petiole; they are wrinkled on the upper ſide through the depreſſion of the veins, and reticulated underneath by their prominency; their edges are ſlightly ſerrate, and their petioles have a few ſtraggling hairs: the flowers grow in reflex cluſters at the ſummits of the branches, each ſtanding ſingle upon a ſhort peduncle: they are of an oval-conical form, and white colour, the rim divided into five ſhort, obtuſe, reflex ſegments: the berries are globular, ſitting on a very ſmall blood-red calyx, ſmooth, with a depreſſed umbilicus green at firſt, then red, but black when ripe, and of the ſize of a ſloe, having five cells containing five ſmall, bony ſeeds, their taſte ſomething reſembling that of Black Currants[k]; but more maukiſh, inſomuch that Linneus ſays, the Laplanders will ſcarcely eat them[l]. Haller on the contrary thinks the flavour not unpleaſant:] and Mr. Miller deſcribes them as of a pleaſant taſte, ſo as frequently to be eaten by the inhabitants of thoſe countries where they grow naturally.

[Nothing is more common, ſays Linneus, in all the Lapland alps, in Dalekarlia, from their tops to their baſe, round the White Sea, eſpecially in very dry ſandy places. Alſo in Denmark, Switzerland, Dauphiné, Savoy, Siberia, *&c.* and with us, in many of the highland mountains of Scotland, in a dry barren ſoil. It flowers in may. Mr. Ray ſays, that Thomas Williſel ſhowed it to him in Lancaſhire, where Merret had found it[m].

9. The branches trail upon the ground two or three feet round the root, or more: leaves alternate, bluntly oval or oblong wedge-ſhaped, with a net-work of veins underneath, and correſponding wrinkles above, firm and evergreen like thoſe of Box: the flowers grow at the extremities of the branches in ſmall cluſters, each ſupported by a ſhort red foot-ſtalk: they are of an oval-conical figure, fleſh-coloured, or white with a red mouth, and divided into five obtuſe, reflex ſegments at the rim: the berries are round with a depreſſed umbilicus, ſmooth and gloſſy, red when ripe, and of the ſize of a holly-berry, replete with an auſtere mealy pulp, in which are five cells, containing five angular ſeeds[n]. The ſtructure of the anthers, as given by Villars, is ſingular: they have two threads on their hinder part, and at top two pores by which the pollen eſcapes, and a bulb below each thread.

This ſhrub is very abundant in many parts of the continent, as in Sweden, Denmark, and moſt parts of the north: alſo in Switzerland, Germany, Carniola, Dauphiné, Savoy, Siberia, *&c.* With us it is of late diſcovery, and ſeems firſt to have been noticed by Mr. Lhwyd, in the iſland of Mull; it is however now known to be very common upon dry, heathy, mountainous, and rocky places, throughout the highlands and weſtern iſles: alſo near Hexham in Northumberland[o]. It is called in Engliſh *Bear-berries* and *Bear Whortle-berries*, from the German *Barentraube* or *Barenbeere*; in Dutch *Beerendruif*; in French *la Buſſerole*; in Italian *Uva d'orzo*; in Spaniſh *Uba de oſo*; in Portugueſe *Uva de urſo*; and by moſt of the old botaniſts *Uva urſi*.

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[d] Lin. ſuppl.

[e] Lin. ſpec. & ſyſt.

[f] Ray. hiſt.

[g] Hort. kew.

[h] Linn. ſuppl.

[i] Lin. ſuppl.

[k] Lightfoot.

[l] Lapp. & ſuec.

[m] ſyn. 457.

[n] Lightfoot.

The leaves have been greatly celebrated in calculous and nephritic complaints, and other diſorders of the urinary paſſages: the doſe is half a drachm of the powder of the leaves, every morning, or two or three times a day. De Haen relates, after great experience of this medicine in the hoſpital of Vienna, that ſuppurations, though obſtinate and of long continuance, in the kidneys, ureters, bladder, urethra, ſcrotum, and perinæum, where there has been no venereal taint or evident marks of a calculus, were in general completely cured by it: that of thoſe who had a manifeſt calculus ſeveral found permanent relief, ſo that, long after the medicine had been left off, they continued free from pain or inconvenience in making water, though the catheter ſhowed that the calculus ſtill remained: that others, who ſeemed to be cured, relapſed on leaving off the medicine, were again relieved on repeating its uſe, and this for ſeveral times ſucceſſively; while others obtained from it only temporary and precarious relief, the complaints being often as ſevere during the continuance of the medicine as when it was not uſed.—The trials of the Uva Urſi made in this country have by no means anſwered expectation[p]. Sometimes the patients found no relief, but thought their complaints rather aggravated than alleviated; whilſt in other calculous and nephritic caſes, the ſymptoms have been almoſt entirely removed. Perhaps upon the whole, we ſhall find it no better than other vegetable aſtringents; ſome of which have long been uſed by the country people, in gravelly complaints, and with very great advantage; though hitherto unnoticed by the regular practitioners[q].

But whatever may be the event of its medical qualities, the whole plant is certainly very ſerviceable in dying an aſh-colour, but particularly in tanning leather. In this view it may deſerve attention, in thoſe countries where whole mountains are covered with this trailing ſhrub, and they have ſcarcely timber ſufficient for their œconomical purpoſes. The berries are a food for grous and other game.

10. This has the ſtructure of *Vaccinium Oxycoccus* or Cranberry, but all the parts are larger. The ſtem is imbricate with briſtle-ſhaped ſcales. Native of North America, in ſwamps[r]; and extremely abundant there. The berries are brought to market at Philadelphia, late in autumn; and are uſed for tarts and other kinds of paſtry. Quantities of them are ſent over, preſerved, to Europe, and to the Weſt Indies[s]. They are much uſed by our paſtry-cooks in London, but are inferior to Cranberries of our own growth. The Swedes in America call them *Tranbær*, and the French in Canada *Atopa*, from the Indians.

Introduced about 1776, by John Fothergill, M. D.[t]]

PROPAGATION AND CULTURE.

1. The beſt method of propagating the common Arbutus is from ſeeds. When the fruit is perfectly ripe, which is from the middle of november to the end of december, it ſhould be gathered, and mixed whole with dry ſand, to preſerve it until the time of ſowing. The ſureſt method of raiſing the plants, is to ſow the ſeeds in pots, which ſhould be plunged into an old bed of tanners bark, that has loſt its heat, covering the bed with glaſſes, *&c.* to keep out froſt; this ſhould be done in december: if the ſeeds are good, and as the ſpring advances, the pots are refreſhed with water, the plants will come up the beginning of april, when they ſhould be frequently but ſparingly watered, and conſtantly kept clean from weeds.

As the ſummer advances, if the plants are ſhaded in the heat of the day, it will greatly promote their growth; but in warm weather they muſt be open all night to receive the dew, and ſhould only be covered in the middle of the day: with this management, the plants will riſe to the height of five or ſix inches the firſt ſummer. The beginning of october, theſe plants may be ſhaken out of the pots, and their roots carefully ſeparated, planting them ſingly in ſmall pots filled with light earth; then plunge the roots into an old bed of tanners bark, under a common frame, obſerving to ſhade them from the ſun in the middle of the day, and to give them water as they may require: in this bed the pots ſhould remain during the winter, obſerving to expoſe the plants to the open air, at all times when the weather is favourable; but in froſty weather they muſt be covered, otherwiſe they will be in danger, if the ſeaſon proves ſevere. The ſpring following the plants may be removed to a very gentle hot-bed, which will require no other covering but mats. This will enable them to make ſtrong ſhoots early in the ſummer, whereby they will be in a better condition to bear the cold of the ſucceeding winter: in this bed the plants may continue moſt part of the ſummer, for if the pots are taken out and ſet upon the ground, the ſmallneſs of their ſize will occaſion the earth in them to dry ſo faſt, that watering will ſcarcely preſerve the plants alive; but if they are kept growing all the ſummer, they will be more than a foot high by the next autumn: but it will be adviſable to ſcreen them from the froſt during their continuance in pots, by plunging them into the ground in a warm place, and covering them with mats in bad weather.

When the plants are grown to be two or three feet high, you may ſhake them out of the pots, and plant them in the open ground in the places where they are to remain; but this ſhould be done in april, that they may have taken good root before the winter, which would be apt to damage them if newly planted; and as all the earth about their roots may be thus preſerved, there will be no fear of ſucceeding at this ſeaſon.

Theſe plants are tolerably hardy, and are ſeldom hurt, except in extreme hard winters, which many times kill the young and tender branches, but rarely deſtroy the roots; therefore, however dead they may appear after a hard winter, yet I would adviſe the letting them remain till the ſucceeding ſummer has ſufficiently demonſtrated what are living and what are dead; for the winters of 1728-9, and 1739-40, gave us great reaſon to believe moſt of the trees of this kind were deſtroyed; and many people were ſo haſty, as to dig up or cut down, many of their trees; whereas all thoſe who had patience to let them remain, found that ſcarce one in five hundred failed to come out again the next ſummer, and many of them made handſome plants that ſeaſon.

This tree delights in a moiſt ſoil, for when it is planted in dry ground, it ſeldom produces much fruit: the flowers coming forth in autumn, if the winter proves ſevere, are generally deſtroyed, which has occaſioned their producing very little fruit in England for ſeveral years: therefore, in order to obtain fruit, the trees ſhould be placed in a warm ſituation; and where the ground is not naturally moiſt, there ſhould be a good quantity of loam and rotten neat's dung laid about their roots; and if the ſpring ſhould prove dry, they muſt be plentifully watered, in order to have plenty of fruit.

The very beſt ſeaſon for tranſplanting the Arbutus is in ſeptember, at which time the bloſſoms are beginning to appear; and at that ſeaſon, if it ſhould prove very dry and they are kept moiſt, they will take root very ſoon; but toward the beginning of november, their roots ſhould be well covered with mulch, to keep out the froſt.

[The following directions are added from Mr. Boutcher's excellent treatiſe on Foreſt-trees.

The ſeeds ripening at different times muſt not be gathered all at once. Thoſe fruits which are ripe may eaſily be known by their turning of a deep browniſh tawney colour; examine therefore your trees every two or three days. They retain their growing quality a very ſhort time.—Sow the ſeeds rubbed out with the ſand in pots the middle of march. If the quantity you intend to raiſe be large, prepare a moderate hot-bed of tanners-bark; lay on ſix inches deep of the fineſt rich looſe mould, ſow the ſeeds, and cover them not more than one-ſixth of an inch deep. In five or ſix weeks the plants will appear.

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[o] Wallis. [p] Hunter. [q] Withering. [r] Lin. ſpec. [s] Kalm. [t] Hort. kew.

The ſecond ſpring, Mr. Boutcher recommends to remove them into penny pots, which ſhould be plunged into the hot-bed till auguſt, hardening them gradually by expoſing them to the open air in moiſt calm weather. Then they may be placed in a warm ſpot under a hedge, till october, where they may be expoſed all the winter, mats only being thrown over them in bad weather. The following ſpring take out the ſurface mould, fill the pots again with rich earth, remove them to a ſhady border till autumn, watering them in dry weather every ſecond or third evening; and then let them ſtand during winter under a wall or hedge, where they may have the ſun.

Having now ſtood two ſeaſons in the pots, ſhake them out cautiouſly, and cut off the mouldy or muſty roots; plunge them in water and earth for an hour, and then place them in twopenny pots, where they may continue two or three years; keep them the firſt ſeaſon under ſhade and ſhelter; water them in dry weather, and every ſpring take away the earth from the ſurface of the pots, and replace it with ſome which is freſh and rich.

Mr. B. ſays they require a generous dry ſoil, and that they ſhould be planted under the covert of trees at a proper diſtance.

This tree is not fond of being much pruned at removal; this ought therefore to be performed a year before or after that operation. It will not ſucceed in moiſt, heavy, or clay lands, but will grow tolerably well in a thin ſandy ſoil; it moſt affects that which is deep, loamy, and generous. It will riſe thirty feet high, in a favourable ſoil and ſituation that is well ſheltered[u].]

3. The Andrachne may be propagated in the ſame manner as the common Arbutus; but as there are no plants in this country which produce fruit, the ſeeds muſt be procured from the Levant, where they may be had in plenty. As the leaves of this tree are larger than thoſe of the common Arbutus, the trees make a finer appearance, therefore deſerve our care to cultivate them, eſpecially as they will bear the open air when the plants are become woody; for while they are young, they are impatient of much froſt, therefore ſhould be preſerved in pots three or four years, till they have obtained ſtrength, and may then be planted in a warm ſituation and on a dry ſoil, for this ſort will not thrive in a wet ground.

7, 8, 9. It is with difficulty that theſe plants are kept alive in England, in gardens, for they grow naturally in cold ſituations, in boggy places, among moſs, and are uſually covered with ſnow during the winter. They may however be preſerved a few years in pots, filled with bog earth, and ſet in water.

Arbutus, Trailing. See *Epigæa.*

Archangel. See *Lamium.*

———— Baum-leaved. See *Melittis.*

———— Yellow. See *Galeopſis.*

Archangelica. See *Angelica.*

ARCTIUM. (Αρκτιον, *Dioſc.* from Ἄρκτος, a Bear. *Lappa*, from λαβειν, to take hold, or λαπτειν, to lick. *Perſonata*, from its large leaves having been uſed for maſks.)

Lin. gen. n. 923. *Reich.* 1002. *Schreb.* 1253. Lappa *Tournef.* 256. *Vaill. act. gall.* 1718. *f.* 20. *Juſſ.* 173. *Gærtn. t.* 162.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Capitatæ. Cinarocephalæ*, Juſſ.

GENERIC CHARACTER.

Cal. *common* globular, imbricate: ſcales lanceolate, ending in long, ſubulate prickles, reflex and hooked at the end.

Cor. *compound* tubular, uniform: *corollules* hermaphrodite equal. —*Proper* monopetalous, tubular: *tube* ſlender, very long; *limb* ovate, quinquefid: *diviſions* linear, equal.

Stam. *Filaments* five, capillary, very ſhort: *anther* cylindric, tubular, the length of the corolla, five-toothed.

Pist. *Germ* oblong, with a villoſe top: *ſtyle* filiform, longer than the ſtamens: *ſtigma* bifid, reflex.

Per. none. *Calyx* converging.

Seeds ſolitary, vertically pyramidal, with the two oppoſite angles obliterated, gibbous on the outſide: *down* ſimple, ſhorter than the ſeed.

Rec. chaffy, flat: *chaffs* ſetaceous.

ESSENTIAL CHARACTER.

Cal. globular: the ſcales furniſhed at the end with inflected hooks.

SPECIES.

1. Arctium Lappa. *Common Burdock, Burr,* or *Clotburr.*

Lin. ſpec. 1143. *Reich.* 3. 667. *ſuec. n.* 712. *mat. med.* 179. *Hudſ. angl.* 348. *Wither. arr.* 863. *Lightf. ſcot.* 445. *Curtis lond.* 4. 55. *Relh. cant. n.* 583. *Scop. carn. n.* 995. *Pollich pal. n.* 759. *Neck. gallob.* 339. *Krock. ſileſ. n.* 1322. *Villars dauph.* 37. *Fl. dan.* 642. *Matth.* 1154. *Lob. obſ.* 318. 1, 2. *ic.* 1. 587. 2. & 588. 1. *Dod. pempt.* 38. *Fuchſ. hiſt.* 72. *Bauh. hiſt.* 3. 570. *Trag.* 837. *Lonic.* 1. 64. 2. *Ger. herb.* 664. 1. *emac.* 809. 1. *Park. theat.* 1223. 1. *Petiv. brit. t.* 23. *f.* 1. *Mor. hiſt. ſ.* 7. *t.* 32. *f.* 1. *Blackw. herb. t.* 117. *f.* 1. *Raii hiſt.* 332. (Bardana.) *ſyn.* 196.

Lappa major. *Gærtn. fruct.* 2. 379. *Hall. helv. n.* 161.

L. officinalis. *Allion. pedem. n.* 528.

β. Arctium tomentoſum. *Mill. dict. n.* 3.

Lappa tomentoſa. *Allion. pedem. n.* 527.

L. major montana, capitulis tomentoſis. *Bauh. pin.* 198. *Mill. fig. t.* 159. *Blackw.* 117. 2. *Pet.* 23. 5. *Mor. f.* 2. *Matth.* 1155. *Ger. emac.* 810. *Park.* 1222. *Raii ſyn.* 197. *hiſt.* 332. 2.

Leaves cordate, unarmed, petioled.

2. Arctium Perſonata. *Cut-leaved Burdock.*

Lin. ſpec. 1144. *ſyſt.* 723. *Reich.* 3. 667. *Krock. ſileſ. n.* 1323. *Jacq. vind.* 275. *n.* 75.

Carduus Perſonata. *Jacqu. auſtr.* 4. 25. *t.* 348. *Hall. helv. n.* 162. *ed.* 1. 678. *t.* 19. *Gmel. ſib.* 2. 62. *t.* 24. *Bauh. pin.* 377. 2. *prodr.* 155. 1.

Leaves decurrent ciliate-ſpiny; root-leaves pinnate; ſtem-leaves oblong-ovate.

[3. Arctium Carduelis.

Lin. ſyſt. 723. *Reich.* 3. 668. *mant.* 108. *Krock. ſileſ. n.* 1324.

Cirſium arctioides. *Scop. carn. n.* 997. *t.* 53.

Leaves pinnatifid prickly.

DESCRIPTIONS, &c.

1. Root biennial. Stem upright, three feet high or more, the thickneſs of the thumb, branched quite to the bottom, round, grooved but not deeply, hoary and purpliſh. Leaves very large, alternate, whitiſh underneath, veined, the lower on long petioles and waved at the edges, the upper ovate-lanceolate. Petioles angularly grooved and hoary. Both ſtems and leaves have ſhort white ſoft briſtles. Peduncles axillary. Heads of flowers upright, alternate. Calyx ſhining; outer ſcales hooked, inner linear with purple tops, ſimple, without hooks. Corolla purple, with a white tube: anthers blueiſh or violet-coloured: germ ſlightly three-cornered, white, bending inwards; ſtyle grooved on each ſide; ſtigmas ſpreading, white. Seeds oblong, tapering towards the baſe, crowned with ſmall prominent points, flatted, ſomewhat angular, with a wrinkled netted ſurface. Down obſolete, ſomewhat ſtiff[a].

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[u] Boutcher

[a] Curtis, With. Woodw. M. S.

Burdock is very common by road ſides, on rubbiſh and on ditch banks throughout Europe, flowering in july and auguſt. It is no leſs common in Japan; where it is called *Gobo* and *Uma Bufuki*. In England it is commonly known by the name of *Burr*, either ſimply, or with ſome prefix, as *Great-burr*, *Clot-burr*, and *Hurr-burr*: the uſual name in books is *Burdock*. In German, it is called *Gemeine Klette*; in Dutch, *Gemeene Kliſſen*; in Daniſh *Agerburre*; in Swediſh, *Karborre*; in French, *Bardane* or *Glouteron*; in Italian, *Lappolo* or *Bardana*; in Spaniſh, *Lampazo* or *Bardana*; in Portugueſe, *Lappa*, *Arcio*, or *Pegamaca*; in Ruſſian, *Lapuſchnik* or *Repeinik*.

Few quadrupeds, except the aſs, touch this plant with us. According to Linneus, cows and goats only eat it; and Dr. Stokes adds, that a horſe eat the leaves, and even the heads. Birds feed on the ſeeds; and ſnails, ſlugs and ſome caterpillars on the leaves. Boys catch bats, by throwing the prickly heads up into the air. The ſtems, ſtripped of their rind, before the flowers appear, are eatable, either boiled, or raw with oil and vinegar[c]. A decoction of the roots is eſteemed by ſome very ſenſible phyſicians, as equal, if not ſuperior to that of Sarſaparilla[d]. Two ounces of the dried root are boiled in three pints of water, till one pint is waſted, and a pint or more of the ſtrained liquor taken warm every day[e].

The herb being burnt green, between the time of flowering and ſeeding, in a hole made in the ground, without ſuffering the flame to eſcape; three pounds of the aſhes produced ſixteen ounces of very white alkaline ſalt, as good as the beſt pot-aſh.

There are many varieties of this common plant, differing in colour, and the ſize and ſmoothneſs or woollyneſs of the heads.] The moſt remarkable of theſe, is the Woolly-headed Burdock, which Mr. Miller has figured in his plates; and which he looks upon as a diſtinct ſort, becauſe the leaves are whiter beneath, the heads more compact, and the florets of a bright red colour; but principally, becauſe the calyx is beautifully netted with a fine down all over.

2. [Root biennial, black, woody. Stem from half a yard to a yard in height, branched, thick, angular, leafy[f]. Stem-leaves tomentoſe beneath, ſerrate, with little ſpines on and between the ſerratures: theſe leaves, though attenuated at the baſe, are decurrent by very ſlender, ſpiny edges[g]. The lower leaves are petioled, and have three or four pairs of pinnas, with a very large leaf at the end; the pinnas are a ſpan or more in length, and half a ſpan in breadth, all angular backwards; the upper leaves are ſix or ſeven inches long, and four or five broad, acuminate, ſeſſile, alternate, unequally ſerrate; the uppermoſt very ſmall. Flowers terminating, in bunches, ſeſſile, two, three or four[h], ſometimes ſeven[i], on tomentoſe peduncles, armed with little ſpines on the edge[k]. The ſcales of the calyx are not hooked, as they are in the common Burdock, but only reflex at the point, as in many Thiſtles[l]; whence Jacquin and others have placed it in that genus: but Linneus obſerves, that the habit of the common Burdock appears clearly in the texture of the leaves, the panicle, the form and ſize of the calyx. Florets ſix or ſeven in number, of a violet-purple colour. Seeds ſtreaked, not grooved, browniſh, oblong. Down ſeſſile, much longer than the ſeed, capillary[m].

Native of Switzerland, Auſtria, Sileſia and Siberia; flowering in july and auguſt. Introduced here in 1776, by Joſ. Nich. de Jacquin, M. D.[n]

3. This is the ſize of the Way-thiſtle (Serratula arvenſis). Stem upright, prickly. Leaves ſtem-claſping, laciniate. Calyxes terminating, peduncled; with linear briſtle-ſhaped ſcales, ſpreading and bending inwards[o].

It is thus deſcribed by Scopoli, the firſt diſcoverer. Root perennial, fibroſe, brown. Stems many, upright, a cubit high, grooved, branched, ſubhirſute, viſcid, winged with the decurrent leaves. Lower leaves half a foot long, all cut almoſt to the midrib into alternate, lanceolate, looſely toothed ſegments; the teeth and the whole edge having ſoft ſpines on them: they are ſmooth above, ſhining and nerved beneath; the midrib ſubhirſute. The heads of flowers terminating the ſtem and branches are ſpherical, half an inch in diameter, compoſed of imbricate, linear ſcales, ſpreading open a little, not bent back but inwards at the tip. Filaments hairy and broader at the baſe. Anthers yellow. Style white. Stigmas greeniſh.

Native of the mountains in Upper Carniola, and in Sileſia.

PROPAGATION AND CULTURE.

Theſe plants may readily be increaſed from ſeed, and are ſeldom admitted into any but botanic gardens. The firſt ſort is much propagated by ſheep carrying about the hooked ſeeds in their fleeces, and probably alſo by ſmall birds.] Where it is a troubleſome weed, it may be deſtroyed with leſs trouble than ſuch plants as have perennial roots; and if it be cut up before it ſeeds, in two or three years it may be entirely rooted out; for the plants which come up from ſeed, do not flower till the ſecond year, and when the ſeeds are perfected their roots decay.

ARCTŎPUS. (*Αρκτου πους*, Bear's-foot.)
Lin. gen. n. 1165. *Reich.* 1278. *Schreb.* 1601. *Juſſ.* 225.
Claſſ. 23. 3. Polygamia Dioecia.
Nat. order of *Umbellatæ* or *Umbelliferæ*.

GENERIC CHARACTER.

* *Male.*

Cal. *Umbel univerſal* long, unequal—*partial* ſhorter, more abundant.
Involucre univerſal five-leaved, ſhort—*partial* five-leaved, the length of the umbellule.
Perianth five-parted, very ſmall.
Cor. *univerſal*, uniform: *proper* petals five, entire, oblong.
Stam. *Filaments* five, ſetaceous, longer than the corolla: *anthers* ſimple.
Pist. *Germ* none: *ſtyles* two, ſetaceous, longer than the ſtamens: *ſtigmas* ſimple.
Per. abortive.

* *Female* (or Androgynous) on a diſtinct plant.

Cal. *Umbel partial* with ſeſſile floſcules.
Involucre partial one-leafed, four-parted, ſpreading, ſpiny at the edge, many-flowered, very large.
Cor. *proper of the diſk* male, ſeveral, as in the male—*of the ray* female, four, pentapetalous.
Stam. to the males of the diſk, as in the male.
Pist. to the females. *Germ* ſubulate, hiſpid, under the receptacle of the floſcule: *ſtyles* two, reflex, permanent: *ſtigmas* ſimple.
Per. none. *Involucre* converging with ſpines.
Seeds to the females ſolitary, cordate, acuminate, bent outward, hiſpid above, bilocular, the ſize of the involucre.

ESSENTIAL CHARACTER.

Male. *Umbel* compound. *Invol.* five-leaved. *Cor.* five-petalled. *Stam.* five. *Piſt.* two, abortive.
Androg. *Umbel* ſimple. *Invol.* four-parted, ſpiny, very large, containing very many male floſcules in the diſk, and four female ones in the ray.
Male. Pet. five. *Stam.* five.
Fem. Pet. five. *Styles* two. *Seed* one, bilocular, inferior.

SPECIES.

1. Arctŏpus echinatus. *Prickly-leaved Arctopus.*
Lin. ſpec. 1512. *Reich.* 4. 360. *hort. cliff.* 495. *Burm. afr. t.* 1.
Valerianoides, &c. *Pluk. mant. t.* 271. *f.* 5.

DESCRIPTION, &c.

A handſome plant, from the Cape of Good Hope. Introduced in 1774, by Mr. Francis Maſſon[a]. It has the habit of Eryngo. The leaves are crowded, ſinuate and ciliate, with ſpines on the upper ſurface diſpoſed ſtarwiſe at the ſinuſes; flowers terminating, among the leaves[b].

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[c] Withering, Lightf. Bryant, fl. diætet. 55.
[d] Withering.
[e] Lewis art. Bardana.
[f] Krocker.
[g] Linn. ſpec.
[h] Krocker.
[i] Haller.
[k] Linn.
[l] Haller.
[m] Krocker.
[n] Hort. kew.
[o] Lin. mant.

[a] Hort. kew.

Arctostaphylos. See *Vaccinium.*

Arctotheca. See *Gorteria,* and *Arctotis.*

ARCTŌTIS. (From Αρκτος, a bear; on account of its ſhaggineſs.)

Lin. gen. n. 991. *Reich.* 1074. *Schreb.* 1340. *Gærtn. t.* 172. *Juſſ.* 190. Arctotheca. *Vaill. act. gall.* 1720. *f.* 39, 40. Anemonoſpermos. *Comm. H. A.* 2. *p.* 45. Urſinia, *Gærtn. t.* 174.

Claſſ. 19. 4. *Syngeneſia Polygamia Neceſſaria.*

Natural order of compound flowers. *Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *common* roundiſh, imbricate: *lower ſcales* more lax, ſubulate: *middle* ovate: *inmoſt* oblong; ſcarioſe, rounded and concave at the end.

Cor. *compound* radiate: *corollules* hermaphrodite very many, in the diſk. *Females* ligulate, near twenty, longer than the diameter of the diſk. *Proper* of the hermaphrodites funnel-ſhaped; *border* quinquefid; ends reflex, equal:—of the *females* ligulate, lanceolate, very finely three-toothed; *tube* very ſhort.

Stam. of the hermaphrodites—*filaments* five, capillary, very ſhort: *anther* cylindric, tubular, five-toothed, the length of the corolla.

Pist. of the hermaphrodites—*germ* ſcarcely viſible: *ſtyle* cylindric, a little longer than the corolla: *ſtigma* ſimple:—of the females, *germ* ovate-four-cornered, villoſe, crowned with its proper calycle: *ſtyle* filiform: *ſtigmas* ovate-oblong, thickiſh, erect.

Per. none. *Calyx* unchanged.

Seeds in the hermaphrodites none—in the *females,* ſolitary, roundiſh, villoſe, crowned with a *calycle* uſually of five leaves: *leaflets* ovate ſpreading.

Rec. villoſe or chaffy, flattiſh.

Obs. *A ſingular genus, having in ſome ſpecies the female floſcules of the ray barren, of the diſk fertile; in others, the female floſcules of the ray fertile, of the diſk barren.—Number of leaflets in the calycle varying from four to eight.*

ESSENTIAL CHARACTER.

Rec. villoſe or chaffy. *Down* with a five-leaved crown.

Cal. imbricate, with ſcales ſcarioſe at the end.

SPECIES.

* *Receptacle villoſe.*

1. Arctotis calendulacea. *Marygold-flowered Arctotis.*

Lin. ſyſt. 791. *Reich.* 3. 926.

α. A. Calendula.

Lin. ſpec. 1306. *Herm. lugdb. t.* 42.

Radiant florets twelve-fold, nearly entire.

β. A hypochondriaca.

Lin. ſyſt. 791.

A. triſtis. *Lin. ſpec.* 1306. *Mill. dict. n.* 1.

A. ſulphurea. *Gærtn. fruct.* 2. 439?

Radiant florets trifid, the middle inflected.

[γ. A. triſtis.

Lin. mant. 479. *Berg. cap.* 320. *Comm. rar. t.* 36.

Radiant florets four-parted.

δ. A. coruſcans. *Lin. ſyſt.* 791.

Radiant florets three-parted: the exterior one trifid.

ε. A. ſuperba.

Lin. ſpec. 1305. *Amæn.* 4. 331.

Radiant florets five-parted.

Radiant florets barren: leaves runcinate rather tomentoſe.

2. Arctotis ferrata.

Lin. ſyſt. 791. *ſuppl.* 385.

Radiant florets barren; leaves lanceolate, undivided, tooth-ſerrate.

3. Arctotis tenuifolia.

Lin. ſyſt. 791. *ſuppl.* 385.

Radiant florets barren; leaves linear, undivided, naked.

4. Arctotis grandiflora. *Great-flowered Arctotis.*

Ait. hort. kew. 3. 272.

Radiant florets fertile; leaves pinnatifid, toothletted, cobwebbed, three-nerved.]

5. Arctotis plantaginea. *Plantain-leaved Arctotis.*

Lin. ſpec. 1306. *Reich.* 3. 927.

Radiant florets fertile; leaves lanceolate-ovate, nerved, toothletted, ſtem-claſping.

[6. Arctotis argentea. *Silvery Arctotis.*

Ait. hort. kew. 3. 273.

Radiant florets fertile; leaves lanceolate-linear, quite entire, tomentoſe.]

7. Arctotis anguſtifolia.

Lin. ſpec. 1306. *Reich.* 3. 928. *hort. cliff.* 412.

A. radicans. *Lin. mant.* 2. 479.

β. A. ſpontanea.

Lin. ſyſt. 792. *mant.* 479.

Leaves oblong, toothed.

Radiant florets fertile, ſtems creeping, cobweb-like, leaves lyrate with two teeth on each ſide.

8. Arctotis aſpera. *Rough Arctotis.*

Lin. ſpec. 1307. *ſyſt.* 792. *Reich.* 3. 928. *hort. cliff.* 412. *upſ.* 275. *mant.* 480. *Berg. cap.* 315. *Vaill. act. par.* 1720. *p.* 428. (*Arctotheca.*)

α. Anemonoſpermos africana. *Broad-leaved rough Arctotis.*

Commel. hort. 2. *p.* 43. *t.* 22.

A. undulata. *Berg. cap.* 315. *Gærtn. fruct.* 2. 438.

β. Anemonoſpermos, &c. flore aurantio pulcherrimo. *Narrow-leaved Rough Arctotis.*

Boerh. lugdb. 1. *t.* 100.

Radiant florets fertile; leaves pinnate-ſinuate, villoſe, diviſions oblong, toothed.

** *Receptacle chaffy.*

[9. Arctotis paradoxa. *Chamomile-leaved Arctotis.*

Lin. ſpec. 1307. *Reich.* 3. 929. *Amæn.* 4. 330. *Pluk. phyt.* 312. *f.* 5.

Urſinia paradoxa. *Gærtn. fruct.* 2. 462.

Radiant florets barren; chaffs coloured, longer than the diſk; leaves bipinnate, linear.

10. Arctotis ſcarioſa. *Southernwood-leaved Arctotis.*

Ait. hort. kew. 3. 274.

Radiant florets barren; chaffs equalling the florets of the diſk; leaves decompound.]

11. Arctotis paleacea. *Chaffy Arctotis.*

Lin. ſpec. 1307. *Reich.* 3. 929. *amæn.* 6. *afr.* 84. *Mill. fig. t.* 49.

After, &c. *Burm. afr.* 176. *t.* 65. *f.* 1.

Radiant florets barren, chaffs equalling the florets of the diſk; leaves pinnate, linear.

[12. Arctotis dentata. *Fine-leaved Arctotis.*

Lin. ſpec. 1307. *ſyſt.* 792. *Reich.* 3. 929.

A. pilifera. *Berg. cap.* 325.

Chryſanthemum. *Pluk. alm.* 103. *t.* 276. *f.* 2. *Burm. afr.* 175. *t.* 64.

Radiant florets barren; leaves pinnate, pinnas pinnatifid-indented.

13. Arctotis anthemoides.

Lin. ſpec. 1307. *ſyſt.* 792. *Reich.* 3. 929. *amæn.* 6. *afr.* 85. *Berg. cap.* 324.

Chamæmelum. *Burm. afr.* 174. *t.* 63. *f.* 2.

Chaffs ſhorter than the florets; leaves ſupra-decompounded, linear.

14. Arctotis tenuifolia.

Lin. ſyſt. 792. *Reich.* 3. 930. *mant.* 288.

Radiant florets barren? leaves linear, undivided, ſmooth.]

15. Arctotis acaulis. *Dwarf Arctotis.*

Lin. ſpec. 1306. *Reich.* 3. 930.

Anemonoſpermos. *Comm. rar. t.* 35.

Peduncles radical, leaves lyrate.

DESCRIPTIONS, &c.

[1. α. Peduncles villoſe, beſet with red briſtles, before and after flowering time nodding. Ray yellow, purpliſh underneath, twiſted during the night. The corollules of the diſk black on the outſide, and with black anthers. The outer ſcales of the calyx ſpreading, ſubulate, very ſhort, hiſpid[a]. Cultivated in 1752, by Mr. Miller[b].

β. If this be the ſame with *A. ſulphurea* of Gærtner, the ſeed is woolly, inverſely pyramidal, obſcurely four-cornered, brown. Wings of the back coriaceous, pale, cartilaginous-toothletted, recurved, but not touching each other; whence the ſpurious cells are incomplete, and the middle groove of the back naked. The down has four larger, ovate-acuminate upright chaffs, and four intermediate caducous ones[c].

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[b] Juſſieu.

[a] Lin. ſpec.

[b] Hort. kew.

γ. Stems ſpreading, hirſute. Leaves runcinate, thickiſh, brittle, the ſerratures with irregular little prickles, pubeſcent, beneath white. Peduncles long, ſtriated, hairy, floccoſe. Calyxes, before the flowers open, nodding: with the ſcales villoſe-ciliate at the tip. Diſk black, with yellow florets, black at top. Ray with four or five-parted yellow florets, lead-coloured beneath; the middle diviſion divaricate, defending the diſk[d]. Gærtner remarks, that in all the genuine ſpecies of Arctotis, which he examined in the immenſe herbarium belonging to Sir Joſeph Banks, he found the ſeeds or ovaries conſtantly falſe-three-celled, except in A. triſtis.

δ. Of this variety we have no deſcription.

ε. Peduncles villoſe, with hyaline briſtles, decumbent in the night, but never nodding. The ray greeniſh underneath, converging during the night. The corollules of the diſk yellow, with yellow anthers[e].

Theſe are all annual. They are natives of the Cape of Good Hope, as are alſo the other ſpecies.

2. Stems upright, ſimple, woody, ſubpubeſcent. Leaves ſeſſile, not tomentoſe or white, ſcarcely pubeſcent, ſomewhat crowded. Peduncles terminating, many very long. Calyx ſcarioſe, yellow. Corollas yellow. Crown of the ſeeds white[f].

3. Stems herbaceous, few, not much branched. Leaves filiform or linear, rather fleſhy, naked. Peduncles very long, ſolitary, naked, filiform. Bracte minute, filiform. Calyx imbricate, ſcarioſe above. Ray yellow. Perennial[g].

4. Ray very large. Petals ſtraw-coloured, with a tinge of red underneath, yellowiſh above near the baſe, with a very dark purple mouth. Biennial. It flowers from march to may; was found by Maſſon, and introduced in 1774[h].

5. Leaves tomentoſe underneath. Diſk barren. Perennial[i]. It flowers from june to auguſt, and was cultivated by Mr. Miller, in 1768[k].

6. Flowers yellow, ſhowing themſelves in auguſt. Plant biennial. Found by Maſſon, and introduced in 1774[l].

7. Florets of the diſk barren. Receptacle very woolly[m].

β. The whole plant white, very branching, proſtrate, brittle, rooting. Leaves petioled, lyrate with two teeth on each ſide, obovate, rather obtuſe, three-nerved, white on both ſides, with the edge ſcarcely toothletted. Peduncles very long, almoſt naked. Ray of the corolla purple. It varies with leaves ſcarcely broader than thoſe of Lavender[n].

8. Stem ſtiff, perennial, villoſe with purple ſtreaks. Leaves white underneath. Corollas of the ray yellow with red ſtreaks beneath, fertile; thoſe of the diſk barren[o].

β. Has large, handſome, orange-coloured flowers; diſplaying themſelves from july to ſeptember. It was cultivated in 1731, by Mr. Miller[p].

Receptacle flat, alveolate, having hairs the length of the ſeeds on the edges of the cells: ſo that, if it be viewed obliquely, the whole receptacle ſeems to be villoſe. Seeds uniform, covered with a cloſe white lanugo, inverſely conical, gibbous, with two wings reflected to the back, and touching each other in ſuch a manner, that if the ſeed be cut tranſverſely three cells appear, the two dorſal ones empty, but having a ſeed in the ventral one. Outer covering ſomewhat cruſtaceous, hard, dark cheſnut colour, falſely three-celled; inner membranaceous, very thin, involving the embryo; which is obovate, compreſſed and whitiſh[q].

9. Chaffs elongate, coloured, almoſt the length of the ray; whence the flower has the appearance of a double one[r].

According to Gærtner, they are ſcarioſe, pale yellow, rolled up into pipes, embracing the florets of the diſk, quite entire on one ſide, opening with a longitudinal fiſſure on the other, finely notched or toothletted at the tip. Seeds inverſely conical, curved a little, ſtreaked, ſmooth, pale white, one-celled. Down compound; outer five-leaved, leaflets roundiſh, ſcarioſe, ſnow-white, half as long again as the ſeeds, rolled about the floret before it opens and concealing it; inner briſtle-ſhaped, with five rays connate at the baſe, only about half the length of the other.

On account of this difference in the down, Gærtner has placed this ſpecies, with the twelfth and thirteenth, in a new genus, which he has entitled *Urſinia*; and he thinks it probable that all the ſpecies of the ſecond diviſion, with chaffy receptacles, may be of the ſame genus: they ſhould be examined therefore, in order to ſee whether they have this double Pappus or down.

A. paradoxa is biennial, flowers in auguſt, and was introduced in 1774, by Maſſon[s].

10. Stem ſhrubby. All the calycine leaflets obtuſe ſcarioſe ſcrew-ſhaped ſquarroſe ſpreading; whereas in the ſpecies next following the inner ſcales only are ſcarioſe and obtuſe, the outer ones being lanceolate and ſomewhat ſucculent. It flowers from april to auguſt; and was introduced in 1774, by Maſſon[t].

11. Stem ſhrubby, branching; peduncles axillary, long; with few, linear, very ſimple leaves: calyx and corolla yellow, like a *Chryſanthemum*: ray ſimple, barren[u]. It flowers from april to auguſt; and was cultivated by Mr. Miller, in 1768[x].

12. Stem branching. Leaves alternate, ſomewhat rigid and villoſe; the pinnas recurved. Peduncles long, one-flowered. Flowers ſmall, with the ray purple beneath[y]. It is annual, flowers in july, and was introduced by Mr. Haneman, in 1787[z].

13. The plant and leaves very like Chamomile; but the ſtructure of the flower as in this genus. Ray barren, violet-coloured[aa].

14. Stem branching, browniſh, ſmooth. Leaves linear, filiform, rather fleſhy, ſmooth, the length of the finger. Peduncles very long, one-flowered. Calyx hemiſpherical, ſmooth, with the inner ſcales ſcarioſe and white. Corolla all yellow[bb].

15. This is a low plant, the flower-ſtem rarely exceeding ſix inches in height; but the flowers, which are yellow, are large and fine. They come out in april and continue to july. It was cultivated in 1759, by Mr. Miller[cc].]

PROPAGATION AND CULTURE.

Theſe plants are all natives of the Cape of Good Hope. The annual ſorts may be raiſed from ſeed ſown in the ſpring, either in a warm border of light earth, about the middle of april, or in a moderate hot-bed, towards the end of march. In favourable ſeaſons the former will be the ſtrongeſt plants; but in cold ſeaſons they will ſeldom ripen their ſeeds. The latter muſt be tranſplanted, when they are fit, into pots; and as ſoon as they are well rooted, inured by degrees to the open air. They require much water in dry weather; and the roots will puſh through the hole of the pots, if they ſtand long unremoved. If they are kept in the houſe, and drawn weak, they never produce good ſeeds.

They may alſo be propagated by cuttings or ſlips from the roots.

The ſhrubby ſorts are propagated by planting cuttings in a bed of light freſh earth, in any of the ſummer months, obſerving to ſhade them from the heat of the ſun until they have taken root, as alſo to refreſh them often with water; and in ſix weeks after planting, they will be rooted ſufficiently, at which time they ſhould be tranſplanted into pots filled with freſh earth, ſetting the pots in a ſhady place until the plants are new rooted; after which time they ſhould be placed in the open air until the latter end of october, or later, according as the weather is favourable, when they muſt be removed into the green-houſe, where they ſhould be placed as near the window as poſſible, that they may have a good quantity of free air at all times, when the weather is mild; nor ſhould they be over-hung by other plants, which would occaſion them to take a mouldineſs, and rot; they muſt alſo be frequently refreſhed with water, giving it them plentifully in mild weather, otherwiſe their leaves and branches will hang and wither; in ſummer they can ſcarce have too much water given them. They will alſo require to be ſhifted into other pots two or three times at leaſt every ſummer, and the pots ſhould be frequently removed, to prevent the plants from ſtriking their roots through the holes of the pots into the ground, which they are very apt to do, then they will ſhoot very vigorouſly: but when theſe roots are torn off, by removing the pots, the plants are often killed.

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[c] Gærtner.
[d] Lin. mant.
[e] Lin. ſpec.
[f] Lin. ſuppl.
[g] Ibid.
[h] Hort. kew.
[i] Lin. ſpec.
[k] Hort. kew.
[l] Ibid.
[m] Lin. ſpec.
[n] Lin. mant.
[o] Lin. mant. & ſpec.
[p] Hort. kew.
[q] Gærtner.
[r] Lin. ſpec.

[s] Hort. kew.
[t] Ibid.
[u] Lin. amæn.
[x] Hort. kew.
[y] Lin. amæn.
[z] Hort. kew.
[aa] Lin. amæn. & ſyſt.
[bb] Lin. mant.
[cc] Hort. kew.

All theſe plants ſhould be frequently renewed by cuttings, becauſe the old plants are ſubject to decay in winter; therefore if young plants are not annually raiſed, the ſpecies may ſoon be loſt.

If the green-houſe in which theſe plants are placed in winter is ſubject to damps, it will be very difficult to preſerve ſome of the ſorts; for when the windows are kept cloſe, the tender parts of their ſhoots are very ſubject to a mouldineſs, which will ſoon cauſe the plants to decay, if it is not conſtantly cleaned off, and free air admitted to dry off the damps.

Several of theſe grow to the height of four or five feet; and as they ſend forth many branches, they require to be frequently pruned, to keep them in order.

They are ſeldom deſtitute of flowers, unleſs the winter be ſevere; on which account they are very valuable. In that ſeaſon they make a fine variety in the green-houſe or cape-ſtove; and when ſet abroad in ſummer, they produce flowers in great abundance.

Arctotis. See *Gorteria.*

Arcturus. See *Celſia.*

Arcuation. See *Layers* and *Laying.*

[ARDISIA.

Lin. gen. Schreb. n. 1735. *Swartz. prodr.* 48. *Auct. D. D. Swartz. Aiton. kew.* 3. *p.* 507.—Anguillaria. *Lin. gen. Schreb. n.* 345. *p.* 823. *Gærtn. t.* 77. Badula. *Juſſ.* 420.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cleft: *clefts* ſubulate, upright, coloured, permanent.

Cor. one-petalled. *Tube* ſhort, length of the calyx. *Border* five-parted: *parts* lanceolate, acute, ſpreading, at length reflex.

Stam. *Filaments* five, ſubulate, upright. *Anthers* acute, upright, bifid at the baſe, converging at top round the ſtyle.

Pist. *Germ* ſuperior, ovate, very ſmall. *Style* ſubulate, longer than the ſtamens, upright, at length aſcending. *Stigma* ſimple, acute, permanent.

Per. *Berry* roundiſh, large.

Seed ſingle, roundiſh, covered with a hard, brittle bark, like a nut.

ESSENTIAL CHARACTER.

Cal. five-cleft. *Cor.* one-petalled, five-parted, reflex. *Stigma* ſimple. *Berry* roundiſh, one-ſeeded.

SPECIES.

1. Ardiſia excelſa. *Laurel-leaved Ardiſia;* or *Aderno.*
Ait. hort. kew. 1. 261.
Anguillaria bahamenſis. *Gærtn. fruct.* 1. 372.
Racemes axillary ſimple, leaves obovate cartilaginous-ſerrate at the edge.

2. Ardiſia zeylanica.
Anguillaria zeylanica. *Gærtn. fruct.* 1. 373.
Badulam. *Herm. muſ. zeyl.* 43. *Lin. zeyl. n.* 600.
Tinus humilis zeylanica, foliis craſſis venoſis. *Burm. zeyl.* 222. *t.* 103.
Flowers terminating panicled, leaves ovate ſubpetioled quite entire, ſtem arboreous.

3. Ardiſia tinifolia.
Swartz. prodr. 48. *Sloan. jam.* 2. 98. *t.* 205. *f.* 2.
Flowers panicled, leaves elliptic entire nerved, ſtem arboreous.

4. Ardiſia coriacea.
Swartz. prodr. 48.
Flowers panicled, leaves oblong entire veinleſs coriaceous.

5. Ardiſia ſerrulata.
Swartz. prodr. 48.
Flowers panicled, leaves ovate-lanceolate acuminate wrinkled, ſtem ſhrubby pubeſcent.

6. Ardiſia lateriflora.
Swartz. prodr. 48.
Racemes lateral or axillary compound, flowers umbelled, leaves oblong acuminate quite entire, ſtem ſhrubby.

7. Ardiſia paraſitica.
Swartz. prodr. 48.
Racemes axillary ſimple, leaves ſeſſile lanceolate-ovate marked with lines, ſtem ſhrubby.

DESCRIPTIONS, *&c.*

This genus was named *Anguillaria*, in honour of Luigi Anguillara, an eminent botaniſt of Padua, in the ſixteenth century. But Swartz having given it the name of Ardiſia, and that being adopted by Schreber, the latter title is here preferred, although we are at a loſs for the meaning of it.

The Ardiſias are trees or ſhrubs, natives of hot climates, chiefly the Weſt-Indies.

1. Calyx five-parted, with ovate-lanceolate, equal, permanent leaflets. Corolla five-cleft almoſt to the baſe, the clefts twice as long as the leaflets of the calyx. Stamens inſerted into the corolla. Style filiform. Seed-veſſel a ſuperior, globoſe, coriaceous, ſmooth, black berry; having no receptacle, except a broad ſcar at the bottom of the berry, to which the ſeed is fixed. Seed globoſe, of a pale colour, having a wide umbilical pit at bottom; covered with a thickiſh, fungoſe-coriaceous, friable integument[a].

Native of Madeira, where it was found by Mr. Francis Maſſon; and introduced here in 1784[b]. We apprehend therefore that the trivial name given by Gærtner to this plant muſt be a miſtake.

2. The leaves of this tree are thick, oval, more attenuated towards the baſe, entire, evergreen, ſhining and very ſmooth, veined, alternate, on ſuch ſhort petioles that they may almoſt be conſidered as ſeſſile. Flowers on the tops of the branches, very many, in racemes, diſpoſed almoſt umbelwiſe; wheel-ſhaped, five-cleft, with a long-tube, of a red colour; calyxes very ſmall, five-cleft[c]. Berry ſpherical, only half the ſize of that in the foregoing ſpecies, within the five-cleft, permanent calyx, one-celled, of a reddiſh colour. Seed, the ſhape of a crab's-eye, ſemigloboſe, flatted a little, very obſcurely ſcrobiculate at top, flattiſh at bottom with a blackiſh umbilical pit; the colour of the reſt bay. Integument ſingle and thin. It ſeems to be allied to Myrſine; and perhaps, if the immature germ were to be examined, we might diſcover that the natural number of the ſeeds is five[d]. The berries are eſteemed cooling and refreſhing, and a rob is made of them, which is given in ardent fevers[e]. Native of Ceylon.

3. This tree riſes to about thirty feet high, having an aſh-coloured ſmoothiſh bark. Leaves very ſmooth, dark green, four inches long, and two broad in the middle, with a prominent midrib. Petioles a quarter of an inch in length. Flowers purpliſh, bowed back. Native of Jamaica[f].

4, *&c.* The remaining ſpecies are natives of the Weſt-Indies, and are hitherto only known from Swartz's catalogue. The fifth is found in St. Domingo; and the laſt in Montſerrat.]

[ARDUINA. (*So named in honour of Pietro Arduini, curator of the œconomical garden at Padua.*)

Lin. gen. Reich. n. 287. *Schreb.* 364. Lycium. *Mill. fig. t.* 300.

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[a] Gærtner.

[b] Hort. kew.

[c] Burman 223.

[d] Gærtner.

[e] Burm. 222.

[f] Sloane.

Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Contortæ*. *Apocineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, erect, acute, ſmall, permanent.

Cor. one-petalled, funnel-ſhaped. *Tube* cylindrical, a little curved inwards at top. *Border* five-parted, acute, ſpreading.

Stam. *Filaments* five, ſimple, ſhorter than the tube, and inſerted into the lower part of it. *Anthers* oblong, within the throat of the corolla.

Pist. *Germ* ſuperior, ovate. *Style* filiform, the length of the tube. *Stigma* bifid, thickiſh.

Per. *Berry* globular-oval, two-celled.

Seeds ſolitary, oblong, hard.

ESSENTIAL CHARACTER.

Cor. one-petalled. *Stigma* bifid. *Berry* two-celled. *Seeds* ſolitary.

SPECIES.

1. Arduina biſpinoſa. *Two-ſpined Arduina.*
Lin. ſyſt. 236. *Reich.* 1. 550. *mant.* 52.]
Lycium cordatum. *Mill. dict. n.* 10. *fig.* 200. *t.* 300.

DESCRIPTION, &c.

This is a low ſhrubby plant, ſeldom riſing above four or five feet high. It ſends out ſpreading branches in pairs from top to bottom; they are covered with a dark-green bark, and are armed with ſhort, ſtrong thorns, which come out by pairs; and ſometimes there are double pairs upon the ſame footſtalks; theſe are ſituated juſt below the leaves, and where there are four, two point upwards, and the other two downwards. The leaves are heart-ſhaped, not much larger than thoſe of the Box-tree, (about an inch long, and three-quarters of an inch broad at their baſe,) of the ſame conſiſtence and colour, terminating in acute points; they are placed oppoſite in pairs pretty cloſe together, and continue green all the year. The flowers come out in cluſters at the ends of the branches, upon ſhort ſlender peduncles, each ſupporting five or ſix ſmall white flowers, having an agreeable odour. They commonly appear in july and auguſt; and are ſeldom ſucceeded by ſeeds in England. The berries do not ripen till the ſpring following, and are then of a deep-red colour. It is a native of the Cape of Good Hope, whence the ſeeds were brought to Holland, and firſt raiſed in the gardens there.

[Mr. Miller cultivated it, at Chelſea, in the year 1760 [a].

According to Linneus, in habit it is between *Randia* and *Penæa*. In *Arduina* the ſpines are axillary; whereas *Randia* has two bifid ſpines at the ends of the branches. Juſſieu joins it with *Cariſſa* [b]: they have both a two-celled berry, but *Arduina* has only one ſeed in each cell; whereas *Cariſſa* has ſeveral.]

PROPAGATION AND CULTURE.

It may be increaſed by cuttings, planted in july, and ſhaded from the ſun; when they have taken root, they ſhould be removed into ſmall pots, and placed in the ſhade till they have taken root again: they may then be removed to a ſheltered ſituation till autumn, when they muſt be put into a green-houſe, or under a hot-bed frame; this plant being too tender to live in the open air.

Arealu. See *Ficus religioſa.*

[ARĒCA.

Lin. gen. n. 1225. *Reich.* 1341. *Schreb.* 1696. *Gærtn. t.* 7. *Juſſ.* 38.
Claſſ. 25. 1. Palmæ.—Monoecia ~~Enneandria~~. Monadelphia
Nat. order of *Palmæ* or *Palms.*

GENERIC CHARACTER.

* *Male flowers.*

Cal. *Spathe* bivalve. *Spadix* branched. *Proper perianth* three-leaved.

Cor. *Petals* tree, acuminate, rigid.

Stam. *Filaments* nine, the three outer longer than the reſt.

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[a] Hort. kew.

[b] Gen. p. 149.

* *Female flowers,* in the ſame ſpadix.

Cal. *Spathe* common with the males. *Proper perianth* three-leaved.

Cor. *Petals* three, acuminate, rigid.

Per. *Berry* ſubovate, fibroſe, ſurrounded at the baſe with the imbricate calyx.

Seed ovate.

ESSENTIAL CHARACTER.

Cor. three-petalled.—*Male* nine ſtamens. *Female,* a drupe with an imbricate calyx.

SPECIES.

1. Areca Catechu.
Lin. ſpec. 1659. *Reich.* 4. 636. *mat. med.* 234. *fl. zeyl. n.* 392. *prælect. in ord. nat.* 71. *Lour. cochinch.* 567. *Pluk. alm. t.* 309. *f.* 4.
A. Fauſel. *Gærtn. fruct.* 1. 19. *Cæſalp.* 83. *Blackw. herb. t.* 387. *Raii hiſt.* 1363.
Fauſel. *Garc. arom.* 1. *c.* 25. *Bauh. hiſt.* 1. 389. *Stap. theophr.* 356. *Worm. muſ.* 199. *Bauh. pin.* 510. 11.
Palma Areca, Fauſet, ſeu Bonga minor. *Camell. luz. ap. Raium in hiſt.* 3. *app.* 45. *Burm. zeyl.* 182.
Nux Fauſel, ſeu Pinang. *Bont. jav.* 6. *c.* 2. *p.* 90.
Pinanga. *Rumph. amb.* 1. 26. *t.* 4. (good.)
Caunga. *Rheed. mal.* 1. *p.* 9. *t.* 5—8.
Fronds pinnate; leaflets folded back oppoſite end-bitten.
2. Areca oryzæformis.
Gærtn. fruct. 1. 20. *Lin. prælect.* 76.
A. ſylveſtris. *Lour. cochinch.* 568.
Pinanga oryzæformis. *Rumph. amb.* 1. 40. *t.* 5. *f.* c.
Fronds pinnate, leaflets ſmooth three-nerved.
3. Areca oleracea. *Cabbage-tree.*
Lin. ſyſt. 986. *Reich.* 4. 636. *Jacqu. amer.* 278. *t.* 170. *pict.* 135.]
Palma altiſſima. *Mill. dict. n.* 4. *Sloan. jam.* 2. *t.* 215. [*Brown. jam.* 343. *n.* 3.
P. nobilis. *Raii hiſt.* 1361. 12. & 3. *dendr. p.* 1.
Leaflets quite entire.

DESCRIPTIONS, &c.

1. The Areca is a Palm growing to the height of forty or fifty feet. The trunk is ſix or eight inches in diameter, very ſtraight, round, covered with a ſmooth, aſh-coloured bark, and marked with parallel rings. The fronds ſpring forth in pairs decuſſated, encircling the top of the trunk at their baſe, and thus forming an oblong head larger than the trunk itſelf; they are few in number (ſix or ſeven), unarmed, reclining, ſix feet long; on a ſtipe four feet in length. Theſe fronds break and fall off in ſucceſſion. From their axils iſſue the ſheaths which incloſe the flowers and fruits. Theſe are ſimple, ſharpiſh, white, coriaceous, thin, ſtreaked, deciduous, from eighteen inches to two feet in length, and ſix inches in breadth, defended by a wide involucre, formed of the dilated baſe of the frond involving the ſpadix and ſpathe. Spadix axillary, branched, ſpiked, reclining. Spikes linear, containing male and female flowers confuſedly mixed. Flowers white, very ſmall, triangular; ſmelling ſweet, but faintly, morning and evening. The calyx of the male is three-leaved, but that of the female ſix-leaved, imbricate and unequal. The three petals in both are ſharp, thick, curved and erect. Filaments ſhort. Piſtil one, ſuperior. After the flowers fall off, appear the rudiments of the fruits, ſeſſile in the axils of the branches of the ſpadix. Theſe become drupes of an ovate form, ſmooth, and the ſize of a pullet's egg; the rind is fibroſe, thick and yellowiſh, there is no hard ſhell, but a heart-ſhaped nucleus, ſometimes roundiſh or ovate, ſolid, of a horny ſubſtance when ripe, red with white veins [a]. The fruit, according to Gærtner, is a berried drupe, or to ſpeak more properly a berry: it is ſurrounded at the baſe by the calyx, which is ſix-leaved, coriaceous, ſmooth, ſhining, ending at top in an oblate-ſpheroidal, cartilaginous, ſhining boſs, with the remains of the ſtyle. Cuticle very thin; pulp thick and filamentoſe; ſhell the ſubſtance of paper, very thin, brittle, white with arched

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[a] Loureiro & Rumphius.

red veins, cohering with the pulp all round. The receptacle is a bundle of very ſtiff fibres, growing thicker towards the top, and fixed laterally to the baſe of the ſeed; which is of a rounded conical form, of a colour from bay inclining to aſh-colour, netted with depreſſed arched ſtreaks, marked underneath with an umbilical, cordate, ſwelling, white, excentrical area, having a ſmall, roundiſh hole in the middle, accompanied with a little teat appertaining to the embryo[b]. The fruit does not fall off even when ripe[c].

The Indians call it *Chotool*, and preſent it to their gueſts in all viſits, green when they can procure it ſo, and ſtripped of the outer rind; but if not, dry. They cut it in ſlices, and give it wrapped in the aromatic leaves of *Betel* or *Betle*[d], which they cover with a thin layer of ſhell-lime to preſerve the flavour longer in the mouth. They are continually chewing it, ſwallowing their ſaliva tinctured with the juice, and ſpitting out the reſt. The inſide of their mouths appears red as blood, and it gives their teeth a dark colour; it preſerves them however, and is eſteemed for ſweetening the breath, as being good againſt the ſcurvy in the gums, and as ſtrengthening the ſtomach and appetite[e]. A decoction of the nuts is alſo uſed in dying, and is ſuppoſed both to ſet and enliven the colours. For theſe purpoſes ſeveral veſſels are ſent yearly from Cochinchina to China and India. They are alſo uſed medicinally in conſtipations of the bowels, in worm caſes, *&c.* +

It was formerly ſuppoſed that the Gumreſin, vulgarly but improperly called *Terra Japonica*, is a preparation from this Palm; but that is now known to be produced from a ſpecies of *Mimoſa*: the trivial name therefore of *Catechu* or *Cathecu* is certainly improper, as leading us into an erroneous notion. +

This Palm is a native of the Eaſt-Indies. It is cultivated every where in Cochinchina, not only on the coaſt, but in the mountains. In the ſouthern provinces of China it is rare, but in thoſe of the north it is never ſeen[f].

2. This is a very ſlender Palm, the trunk being only an inch and half in diameter, or at moſt ſcarcely the thickneſs of a man's leg; about ten feet in height, and very ſtraight. The fronds are three feet in length, or more, without any prickles: the ſtipes are triangular, dilated at the baſe, coriaceous, embracing the ſtem and fructification: leaflets two feet long, oppoſite, triplicate, diſtant, ſometimes ſharp, ſometimes end-bitten. Spathe membranaceous, white, ſtiff. Spadix ſpiked; ſpikes linear, with the flowers regularly diſpoſed, one female between two males. Calyx of the male three-leaved, with ſubulate unequal leaflets: corolla three-petalled, almoſt cloſed, longer than the calyx, acute, erect; anthers twenty-four, linear, without any filaments. Calyx of the female three-leaved, permanent; leaflets broad, obtuſe, covering each other laterally: corolla three-petalled, rounded, ſmaller than the leaflets of the calyx. Germ oblong-ovate, cloſe; ſtyle none; ſtigma three-cornered, three-cleft[g]. Berry ovate, terminated by the permanent ſtyle, ſmall, ſcarcely larger than a grain of wheat, but rounder, red; pulp or rind thin, fibroſe, ſmooth, adhering in all parts to the ſeed, ſo that the cell is not inveſted with its proper coat, as in the foregoing ſpecies. Seed ovate-conical, hollowed at the baſe into a wide pit, within which is a very minute teat[h]; it is ſolid, horny, and half an inch in length.

Native of Cochinchina, Amboina, *&c.* In the former the fruit is larger than in the latter. It is uſed for chewing with the Betel leaf, as well as the foregoing ſpecies.

This Palm ſeems to be the intermediate link between *Areca* and *Caryota*; for it has the habit and fruit of the former, with the ſtamens and poſition of the flowers as in the latter: the corolla and calyx of the male flowers are common to both; the calyx of the female flowers differs in the number of leaflets[i].

3. The Cabbage-tree is the higheſt of the American Palms, and is very diſtinct from the Eaſt Indian Areca. The ſheaths of the leaves are very cloſe, and form the green top of the trunk, a foot and half in length. Below this come out green ſhining ſpathes, which fall to the ground when the very branching ſpadix burſts forth. The calyx of the flower is one-leafed, cut half way into three ſegments. The fruits are oblong, obtuſe berries, ſlightly bent, of a blue purple colour, ſucculent, ſcarcely fibroſe, the ſize of a middling olive: the pulp dries away, and becomes a brittle, wrinkled bark. The nut or ſtone is oblong, ſmoothiſh, rather acute at the baſe, membranaceous, brittle, thin, whitiſh-brown frequently with a ſhade of red. The kernel is oblong, cartilaginous, very hard, and has a cavity in the middle of a ſmall fiſſure.

The inhabitants cut off the green top of the trunk, take out the white heart of two or three inches in diameter, conſiſting of the leaves cloſely folded together, and expoſe it to ſale in the herb market. It is eaten either raw with pepper and ſalt, or fried with butter, and has then ſomewhat the taſte of Artichoke[k].

The Jamaica Cabbage-tree, ſays Dr. Patrick Browne, is frequent in moſt of the ſugar-iſlands, and grows commonly to a moderate ſize. The body of the tree is generally pretty tall, upright and even; and throws out its flowers immediately under the column formed by the ſheathed bottoms of the ribs: theſe in the ſize and diſpoſition, as well as in the form of both their bunches and covers, are very like thoſe of the Barbadoes Palm; and its foliage, as in that plant, affords a delicate wholeſome green, which is commonly called Mountain-Cabbage; and for which it is generally cut down. The outward part of the tree is uſed for lathing, and boards for out-houſes; the ſeeds ſerve to feed the wild hogs in the ſeaſon, and the ſpathes are frequently made into mats by the negroes.

The beſt Cabbage is obtained when the tree is young, and not above fifteen or ſixteen feet high. The fruit is devoured by birds, who mute the ſtones, by which means there is a continual nurſery of theſe trees, which otherwiſe would ſoon be extirpated. The external coat of the trunk is impenetrable to a muſket-ball, though it is ſcarcely an inch thick; and within this is a pithy farinaceous ſubſtance ſimilar to ſome others of the Palm kind[l].

The *Barbadoes Cabbage Tree*, ſays Browne[m], is the moſt beautiful tree I have ever ſeen, and may be very lawfully eſteemed the queen of the woods; it grows to a very conſiderable ſize; riſes by a ſmall ſtraight trunk, which bilges moderately at ſome diſtance above the root; and ſhoots by a round tapering body to the top, where it ſpreads into a large and beautiful foliage, not unlike that of the Coco-nut tree. The lower part of each rib is pretty broad, and formed into a ſheath, which embraces all thoſe that grow between it and the centre; ſo that they continue the form of the trunk for ſome ſpace above the real ſummit of the ſtem; whence it throws out, on oppoſite ſides, two large branched bunches, well beſet with mixed flowers: but theſe continue covered by a ſimple ſpathe, until all the parts are ready for generation. Both the bunch and ſheath reſemble thoſe of the Coco-nut Palm very much; but the ſpathe of this is more ſoft and delicate, and the bunch more fertile and ſpreading; though the fruit is very ſmall, and ſeldom exceeds the ſize of a pea.

The ſeeds of this beautiful tree were firſt carried to Jamaica by his excellency Admiral Knowles, then governor of the iſland; and it has been ſince cultivated there with great care. It is chiefly planted for its beauty, and ſeldom or never cut down for the cabbage, or for any other uſe.

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[b] Gærtn. fruct. 19.
[c] Rumphius.
[d] Piper Betle.
[e] Loureiro & Bomare. Dict. art. Cachou.
[f] Loureiro.
[g] Ibid.
[h] Gærtner.
[i] Loureiro.
[k] Jacquin.
[l] Long's Jamaica, 744
[m] Jamaica, 342.

Ligon and other travellers ſpeak of Cabbage-trees from one hundred to two hundred, two hundred and fifty, and even three hundred feet in height, with a trunk no bigger than a man's thigh[h]. More modern travellers are not willing to allow them a greater height than from thirty to a hundred feet.

The Weſt-Indian Cabbage-tree was introduced into the royal garden at Kew in 1787, by Hinton Eaſt, Eſq.[o]

Many other ſpecies of Palm are mentioned by Rumphius, ſome of which are undoubtedly of this genus; but being imperfectly known, they are not ſet down here[p]. There is alſo a ſort named *Areca ſapida* by Solander, which grows ſpontaneouſly in New Zealand, and thence to Charlotte ſound, and abounds in Norfolk Iſland: but we are not acquainted with the fructification of it[q].

PROPAGATION AND CULTURE.

See Palms.

Areira. See *Schinus*.

Areli. See *Nerium*.

[ARENARÍA. (*So called from its native ſoil, Arena or ſand.*) Engl. *Sandwort.* Fr. *Sabline.*
Lin. gen. n. 569. *Reich.* 618. *Schreb.* 774. *Gærtn. t.* 130. *Juſſ.* 301.
Claſſ. 10. 3. Decandria Trigynia.
Nat. order of *Caryophyllei.*

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* oblong, acuminate, ſpreading, permanent.
Cor. *Petals* five, ovate, entire.
Stam. *Filaments* ten, ſubulate; five alternately interior. *Anthers* roundiſh.
Pist. *Germ* ovate: *ſtyles* from erect reflex: *ſtigmas* thickiſh.
Per. *Capſule* ovate, covered, one-celled, three or ſix-valved.
Seeds very many kidney-ſhaped.
Obs. *The number of ſtamens is inconſtant.* Reich.

ESSENTIAL CHARACTER.

Cal. five-leaved, expanding. *Pet.* five entire. *Capſ.* one-celled, many-ſeeded.

SPECIES.

1. Arenaria peploides. *Sea Sandwort* or *Chickweed.*
Lin. ſpec. 605. *Reich.* 2. 359. *ſuec. n.* 396. *lapp. n.* 188. *Hudſ. angl.* 191. *With.* 458. *Lightf. ſcot.* 229. *Gmel. ſib.* 4. 160. *t.* 64. *Fl. dan. t.* 624.
Alſine marina foliis portulacæ. *Loeſ. pruſſ.* 12. *t.* 2. *Raii ſyn.* 351.
A. littoralis fol. portulacæ. *Bauh. pin.* 251.—et, Anthyllis maritima lentifolia *ejuſd.* 282. *Park.* 281. 2. *Raii hiſt.* 1024. *Pet. brit. t.* 65. *f.* 9.
Anthyllis lentifolia ſ. Alſine cruciata marina. *Ger. emac.* 622. 1.
Leaves ovate acute fleſhy.

2. Arenaria tetraquetra. *Square Sandwort.*
Lin. ſpec. 605. *ſyſt.* 423. *Reich.* 2. 359. *mant.* 386. *D'Aſſo aragon. n.* 381.
Caryophyllus ſaxatilis ericæfolius ramoſus repens. *Bauh. pin.* 211. *prodr.* 105. *Burſ.* 11. 135.
Leaves ovate keeled recurved imbricate four ways.
β. Gypſophila aggregata. *Lin. ſpec.* 581. *Amæn. acad.* 3. *p.* 23. *Allion. pedem. n.* 1718. *t.* 89. *f.* 1. *Mill. dict. n.* 1. *Schreb. act. nov. acad. N. C.* 4. 140.
Caryophyllus ſaxatilis, &c. *Bauh. pin.* 211. *prodr.* 105. *Raii hiſt.* 1033. *Magn. monſp.* 53. *t.* 5.
Leaves pointed recurved, flowers aggregate.

3. Arenaria biflora. *Two-flowered Sandwort.*
Lin. ſyſt. 423. *Reich.* 2. 360. *mant.* 71. *Hall. helv. n.* 877. *Allion. pedem. t.* 44. 1. & *t.* 64. 3. *n.* 1699. *Gouan. illuſt.* 30. *Villars dauph.* 622.
Leaves obovate obtuſe, ſtems procumbent, peduncles two-flowered lateral.

4. Arenaria lateriflora. *Side-flowering Sandwort.*
Lin. ſpec. 605. *Reich.* 2. 360. *Gmel. ſib.* 4. *p.* 159. *n.* 68.
Leaves ovate, obtuſe, peduncles lateral two-flowered.

5. Arenaria trinervia. *Plantain-leaved Chickweed* or *Sandwort.*
Lin. ſpec. 605. *Reich.* 2. 360. *hort. cliff.* 173. *ſuec.* 397. *Hudſ. angl.* 191. *With.* 458. *Lightf. ſcot.* 230. *Curtis lond.* 4. *t.* 31. *Pollich pal. n.* 423. *Hall. helv. n.* 878. *Fl. dan. t.* 429. *Krock. ſileſ. n.* 674. *Villars dauph.* 620.
Alſine plantaginis folio. *Bauh. hiſt.* 3. 364. 1. *Raii ſyn.* 349. *hiſt.* 1032. *Petiv. brit. t.* 59. *f.* 1.
Leaves ovate acute petiolate nerved.

6. Arenaria ciliata. *Ciliate Sandwort.*
Lin. ſpec. 608. *ſyſt.* 423. *Reich.* 2. 360. *Fl. dan. t.* 346. *Allion. pedem.* 1701. *Jacq. vind.* 75. *Villars dauph.* 620.
Alſine. *Hall. helv. n.* 876. *t.* 17. *Segu. veron.* 1. *p.* 321. *t.* 5. *f.* 2.
Leaves ovate nerved ciliate acute.

7. Arenaria balearica. *Majorca Sandwort.*
Lin. ſyſt. 423. *Reich.* 2. 361. *L'Heritier ſtirp. nov. p.* 29. *t.* 15.
A. muſcoſa. *Medic. comm. palat. phyſ.* 3. 202. *t.* 12.
Leaves ovate ſhining rather fleſhy, ſtem creeping, peduncles one-flowered.

8. Arenaria multicaulis. *Many-ſtalked Sandwort.*
Lin. ſpec. 605. *ſyſt.* 423. *Reich.* 2. 361. *Amæn.* 1. 162. *n.* 155.
Alſine. *Hall. helv. n.* 8 6. *t.* 17. ſee n. 6.
Leaves ovate nerveleſs ſeſſile acute: corollas larger than the calyx.

9. Arenaria ſerpyllifolia. *Leaſt Chickweed* or *thyme-leaved Sandwort.*
Lin. ſpec. 606. *Reich.* 2. 361. *ſuec.* 398. *hort. cliff.* 173. *Gærtn.* 2. 232. *Hudſ. angl.* 191. *With.* 459. *Curtis lond.* 4. *t.* 32. *Pollich pal. n.* 424. *Leers herb. n.* 325. *Hall. helv. n.* 875.
Stellaria ſerpillifolia. *Scop. carn. n.* 544.
Alſine minor multicaulis. *Bauh. pin.* 250. *Raii ſyn.* 349. *hiſt.* 1031. *Petiv. brit. t.* 59. *f.* 2.
A. minima. *Bauh. hiſt.* 3. 348. 1? *Ger.* 488. 3. *emac.* 612. 3.
A. aquatica minima. *Park.* 1259. 3.
Leaves ſubovate acute ſeſſile, corollas ſhorter than the calyx.

10. Arenaria triflora. *Three-flowered Sandwort.*
Lin. ſyſt. 423. *Reich.* 2. 362. *mant.* 240. *Villars dauph.* 623. *t.* 47.
A. graminifolia. *Ard. ſpec.* 2. 25. *t.* 10.
Leaves lance-ſubulate ciliate, branches moſtly three-flowered, petals marked with lines, obtuſe.

11. Arenaria montana. *Mountain Sandwort.*
Lin. ſpec. 606. *ſyſt.* 423. *Reich.* 2. 362. *Amæn.* 4. 272. *Allion. pedem. n.* 1705. *D'Aſſo aragon. n.* 383. *t.* 2. *f.* 3. *Krock. ſileſ. n.* 677.
Alſine. *Monn. obſ.* 127.
Leaves linear-lanceolate rugged, barren ſtems very long procumbent.

12. Arenaria rubra. *Purple Spurrey* or *Sandwort.*
Lin. ſpec. 606. *ſyſt.* 424. *Reich.* 2. 362. *ſuec.* 399. *Hudſ. angl.* 192. *With.* 459. *Lightf. ſcot.* 230. *Neck. gallob.* 198. *Pollich pal. n.* 425. *Krock. ſileſ. n.* 678.
A. campeſtris. *Allion. pedem. n.* 1716.
Alſine. *Hall. helv. n.* 872.
Spergula purpurea. *Bauh. hiſt.* 3. 722. 3. *Raii ſyn.* 351. 9. *hiſt.* 1034. *Petiv. brit.* 5. 59. *f.* 8.
Sagina ſpergula minima. *Park.* 561.
Polygonum. *Loeſ. Pruſſ.* 203. *t.* 63.
Leaves filiform, ſtipules membranous ſheathing.
β. Arenaria marina. *Sea Spurrey* or *Sandwort.*
Lin. cliff. 173. *Hudſ. angl.* 193. 7. γ. *Relh. cantabr. n.* 327. *Allion. pedem.* 1717. *Gouan. monſp.* 242. *Fl. dan. t.* 740. *Ger.* 1125. *Mor. hiſt. ſ.* 5. *t.* 23. *f.* 15.
Alſine, &c. *Bauh. pin.* 251. *Raii ſyn.* 351. 10.
Spergula marina. *Bauh. hiſt.* 3. 772. *Raii hiſt.* 1034. *Petiv.* 59. 7.
Leaves linear, the length of the internodes.

13. Arenaria media. *Middle* or *downy Sandwort.*
Lin. ſpec. 606. *ſyſt.* 424. *Reich.* 2. 363. *Pollich pal.*

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[h] Ray's hiſt. 1361.

[o] Hort. kew.

[p] See Linn. prælect. in ord. nat. by Giſeke, p. 77—84. and Raii hiſt. 3. app. 45.

[q] Forſt. eſcul. 66. n. 35.

pal. n. 426. *Hudſ. angl.* 193. 7. β. *With.* 459. β. *Villars dauph.* 637. *Krock.* 679. 46.
Spergula maritima flore parvo cæruleo, ſemine vario. *Dill. giſſ. app.* 30. *E. N. C. cent.* 5. *ſ.* 6. 275. *t.* 4. *Raii ſyn.* 351. 11.
Leaves linear fleſhy, ſtipules membranous, ſtems pubeſcent.

14. Arenaria bavarica. *Bavarian Sandwort.*
Lin. ſpec. 607. *Reich.* 2. 363. *amæn.* 4. *p.* 315.
Alſine alpina, &c. *Segu. veron.* 1. *p.* 429.
Saxifraga bavarica. *Raii hiſt.* 1033. *Park. theat.* 427. *f.* 8.
Leaves ſemicylindric fleſhy obtuſe, petals lanceolate, peduncles terminal moſtly binate.

15. Arenaria gypſophiloides.
Lin. ſyſt. 424. *Reich.* 2. 364. *Schreb. act. nov. acad. N. C. tom.* 4. 139.
Leaves linear, radical ones briſtly; panicle ſubpubeſcent; petals lanceolate.

16. Arenaria ſaxatilis. *Rock Sandwort.*
Lin. ſpec. 607. *Reich.* 2. 364. *Guett. ſtamp.* 2. *p.* 281. *Jacqu. vind. p.* 75. *Krock. ſileſ. n.* 680. *Villars dauph.* 631 ?
Alſine. *Hall. helv. n.* 867. *Gmel. ſib.* 4. *p.* 157. *t.* 63. *f.* 2. *Magn. monſp. t.* 11. *Pluk. alm. t.* 7. *f.* 3.
Spergula. *Sauv. monſp.* 45.
Stellaria ſaxatilis. *Scop. carn. n.* 539.
Leaves ſubulate, ſtems panicled, leaflets of the calyx ovate obtuſe.

17. Arenaria verna. *Vernal mountain Sandwort* or *Chickweed.*
Lin. ſyſt. 424. *Reich.* 2. 364. *mant.* 72. *Jacqu. auſtr.* 5. *t.* 404. *Hudſ. angl.* 191. *With.* 460. *Lightf. ſcot.* 231. *Villars dauph.* 626.
Alſine. *Raii ſyn.* 350. *n.* 4. *hiſt.* 1033. *n.* 11.
Leaves ſubulate, ſtems panicled, calyxes pointed ſtriated.

18. Arenaria hiſpida. *Hiſpid Sandwort.*
Lin. ſpec. 608. *ſyſt.* 424. *Reich.* 2. 365.
Leaves ſubulate hiſpid underneath.

19. Arenaria juniperina. *Juniper Sandwort.*
Lin. ſyſt. 424. *Reich.* 2. 365. *mant.* 72. *Smith icon. ined.* 2. *t.* 35.
Leaves ſubulate thorny, ſtems erect, calyxes ſtriated, capſules oblong.

20. Arenaria tenuifolia. *Fine-leaved Chickweed* or *Sandwort.*
Lin. ſpec. 607. *ſyſt.* 424. *Reich.* 2. 365. *Hudſ. angl.* 192. *With.* 461. *Guett. ſtamp.* 2. *p.* 282. *Pollich pal. n.* 427. *Neck. gallob.* 197. *Leers herb. n.* 327. *Krock. ſileſ. n.* 682. *t.* 5. *Fl. dan. t.* 389.
A. hybrida. *Villars proſp. p.* 48. *t.* 30. *f.* 3. *dauph.* 634. *t.* 47.
Alſine. *Hall. helv. n.* 866.
A. tenuifolia. *Bauh. hiſt.* 3. 364. 3. *Raii hiſt.* 1031. *ſyn.* 350. *Vaill. par. t.* 3. *f.* 1.
Leaves ſubulate, ſtem panicled, capſules erect, petals ſhorter than the calyx and lanceolate.

21. Arenaria laricifolia. *Larch-leaved Sandwort.*
Lin. ſpec. 607. *ſyſt.* 424. *Reich.* 2. 365. *Jacqu. auſtr.* 3. *t.* 272. *Magn. hort. t.* 11. *Allion. pedem. n.* 1710. *Hudſ. angl.* 192. *With.* 461. *Krock. ſileſ. n.* 683. *Villars dauph.* 629.
Alſine. *Hall. hiſt. n.* 869. *Bauh. pin.* 251. 2. *prodr.* 118. 4. *Raii hiſt.* 1031. 3.
Leaves briſtly, ſtem nakediſh above, calyxes rather ſhaggy.

22. Arenaria ſtriata. *Striated Sandwort.*
Lin. ſpec. 608. *Reich.* 2. 366. *Amæn.* 4. *p.* 315. *Allion. pedem. n.* 1712. *t.* 26. *f.* 4. *Villars dauph.* 630. *t.* 47.
A. Cherleroides. *Villars proſp. p.* 48. *t.* 30. *f.* 1, 2. *dauph.* 626. *t.* 47.?
Leaves linear erect preſſed to the ſtem, calyxes oblong ſtriated.

23. Arenaria faſciculata. *Cluſter-flowering Sandwort.*
Lin. ſyſt. 424. *Reich.* 2. 366. *Jacq. auſtr.* 2. *t.* 182. *Gouan. illuſtr.* 30.
Stellaria rubra. *Scop. carn. n.* 538. *t.* 17.
Leaves ſubulate, ſtem erect ſtiff, flowers faſcicled, petals very ſhort.

24. Arenaria grandiflora. *Great-flowered Sandwort.*
Lin. ſpec. 608. *ſyſt.* 425. *Reich.* 2. 367. *Allion. pedem. n.* 1711. *t.* 10. *f.* 1. *Gouan. illuſtr. p.* 30.
A. juniperina. *Villars* 624.
Stellaria aculeata. *Scop. carn. n.* 537. *t.* 17.
Alſine. *Hall. helv. n.* 874.
Leaves ſubulate, flat, ſtiff: the radical ones crowded, ſtems one-flowered.

25. Arenaria auſtriaca. *Auſtrian Sandwort.*
Lin. ſyſt. 425. *Jacq. auſtr.* 3. *t.* 270. *Allion. pedem. n.* 1708. *t.* 64. *f.* 2.
Alſine. *Hall. helv. n.* 864.
Stems underſhrubby proſtrate, then herbaceous and erect, leaves ſubulate, flowers twin, petals emarginate.

26. Arenaria liniflora. *Flax-flowered Sandwort.*
Lin. ſyſt. 425. *Reich.* 2. 367. *ſuppl.* 241. *Jacq. auſtr.* 5. *t.* 445.
Stems erect, branching below and underſhrubby, leaves ſubulate, flowers twin.

27. Arenaria recurva.
Allion. pedem. n. 1713. *t.* 89. *f.* 3. *Ger. prov.* 405. *n.* 7. *t.* 15. *f.* 1.
Alſine. *Hall. helv. n.* 868.
Radical leaves heaped recurved ſubulate; ſtem ſimple bearing about three flowers.

28. Arenaria obtuſa.
Allion. pedem. n. 1714. *t.* 64. *f.* 4.
Alſine. *Hall. helv. n.* 863.
Leaves linear flat obtuſe, calyxes viſcid.

29. Arenaria lanceolata.
Allion. pedem. n. 1715. *t.* 26. *f.* 5.
Alſine. *Hall. helv. n.* 864.
Leaves lanceolate three-nerved acute, calyxes lanceolate three-nerved.

30. Arenaria dianthoides.
Smith ic. ined. t. 16.
Alſine orient. &c. *Tourn. cor.* 17.
Leaves linear ſcabrous at the edge, flowers capitated, bractes ventricoſe longer than the peduncles.

31. Arenaria cucubaloides.
Smith ic. ined. t. 17.
Alſine orient. caryophilli fol. viſcoſa, fl. magno albo. *Tourn. cor.* 17.
Leaves linear, ſcabrous at the edge, panicles dichotomous pubeſcent, petals obovate.

DESCRIPTIONS, *&c.*

The Arenarias or Sandworts are ſmall herbaceous annual or perennial plants, generally conſidered as weeds in the countries where they grow naturally, and not cultivated in gardens. The flowers are axillary or terminating, with white corollas for the moſt part. The leaves in pairs ſtipulaceous, uſually connate. The flowers ſometimes have from five to eight or nine ſtamens only; five ſtyles; and ſeeds with a membranaceous rim, as in *A. rubra* and *media*; which therefore are more nearly allied to the genus *Spergula*. *A. tetraquetra*, which has flowers in a head, and the capſule five-valved, approaches to *Minuartia*[a].

1. Root perennial. Leaves ſmooth, reſembling thoſe of Purſlain, coming out in pairs and decuſſated, growing ſo cloſe together at the tops of the ſtalks as to make them appear quadrangular. Corollas white. Glands on the receptacle. Capſules and ſeeds very large in proportion to the ſize of the plant.

Frequent on ſandy ſea-coaſts in the north of Europe. With us near Sheerneſs in Kent, Yarmouth in Norfolk, Southwold in Suffolk; in Scotland near Leith, *&c.* It flowers in june and july.

2. Stems almoſt upright, ſo abundant in alternate branches as to form a tuft. Leaves imbricate in four rows forming angles, connate-ſheathing, ciliate at the baſe, with a ſpreading diſk, and a cartilaginous edge. Flowering-ſtems higher, ſimple, jointed, upright, with the oppoſitions of the leaves

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[a] Juſſieu.

remote, ſmall. Peduncle terminating, bifid, with flowers in a head, ſeparated by ſubulate leaves ſpreading at the top, the length of the calyxes, heaped into two or three hardiſh heads. Calyx five-leaved, lanceolate. Petals five, oblong, marked with lines, rather erect. Stamens and ſtyles divaricating, white, ſhorter than the petals [b].

According to Schreber [c], the ſtems are a finger's length, many, quite ſimple. Leaves keeled, recurved, channelled, mucronate, with a cartilaginous edge, ſtreaked, ſmooth, very ſhort, approximating, ſubciliate at the baſe and connate. Head of flowers peduncled, faſtigiate, with about five ſeſſile flowers. Leaflets of the calyx lanceolate, the outer ones larger. Petals ſeſſile, oblong, blunt, marked with lines. Styles three. Capſule one-celled, five-valved, with ſeveral ſeeds.

Allione deſcribes the root as oblong and perennial; the ſtem with many upright branches; the leaves connate, firm, recurved, acute, furniſhed with a nerve, near the root longer than the internodes, but ſhorter on the branches. Flowers five or ſix heaped into a head. Leaflets of the calyx five, reſembling the ſtem-leaves. Petals nearly equal to the calyx. Of the ten ſtamens five are ſhorter than the corolla, or ſometimes a little longer. The ſtem, leaves, and calyxes, viewed through a magnifying-glaſs appear rough; their edges are ſcarioſe and ſilvery. D'Aſſo ſays, that the plant which he ſaw was ſcarcely an inch high; in the gardens it grows to near a foot. The flowers are white.

It is a native of the Pyrenean mountains, Aragon, the mountain of Tende, *&c.* flowering in july or auguſt.

Caſimir Gomez Ortega, M. D. introduced it into the Kew garden, in 1776 [d].

3. Leaves like thoſe of wild Thyme, roundiſh, even. Peduncles twice as long as the leaves, bifid: with two linear bractes at the diviſion, as alſo on the other pedicel. Calyxes ovate. Petals white. Capſules ſubgloboſe [e].

Haller deſcribes it as much reſembling the *multicaulis*, but having long ſtems, entirely proſtrate; leaves perfectly round, without any point, a little ciliate at the baſe; the flowers on ſhort peduncles, with the calyx ovate and lanceolate, but not ſharp, the petals ovate, longer than the calyx.

It is a native of the high alps of Savoy and Switzerland, near the melting ſnow.

4. Stem very ſhort, ſmall and quite ſimple. Leaves ſmooth, on very ſhort petioles. Peduncles ſingle, long, bifid, axillary. Corolla longer than the calyx. Diſcovered in Siberia, by Gmelin [f].

5. Root annual. Stems dichotomous, cylindrical, ſeveral growing together in tufts. Branches from the upper ſide. Leaves running down into the petioles, beſet with very fine ſhort hairs, and fringed with ſhort fine briſtles; the lower ones ſubcordate, the upper lanceolate-ovate, ſubſeſſile. Peduncles bent down, ſolitary, axillary. Leaflets of the calyx lanceolate, concave, beſet with minute briſtles, ſcarioſe at the edge, twice as long as the petals, and contracting as ſoon as they are fallen. Petals ſpreading, white. Stamens as long as the calyx, alternately ſhorter. Styles ſometimes two or four: ſtigmas bent back, woolly. Capſules pendulous [g].

Haller obſerves, that this ſpecies has the appearance of common Chickweed (*Alſine media*) but that the ſtem is harder, rough, branching, a foot high. Mr. Curtis has given the diſtinctions very accurately. The ſtalk is uniformly covered with very ſhort hairs, ſcarcely diſcernible: it grows erect: the leaves have three ſtrong veins or ribs; the petals are entire: and the ſeeds are black, perfectly ſmooth and ſhining. Whereas common Chickweed has a row of hairs running down each ſide of the ſtalk, which is procumbent: the leaves are not diſtinguiſhed by any ribs: the petals are bifid: and the ſeeds are brown and rough. This ſpecies alſo grows only in and about woods, not very common: and does not flower till may and june; whereas the other flowers in march and april; indeed almoſt always in mild weather and ſheltered ſituations.

6. Haller does not diſtinguiſh this from the *multicaulis*. It is thus deſcribed by Villars. Stems long, numerous, branched and procumbent. Leaves ſeſſile, pointed, a little concave above, ciliate on the edges at the baſe. Corollas large, as big again as the calyx, each petal rounded at the end; leaflets of the calyx oval, pointed and nerved. The ſtamens are placed on a circle of nectariferous glands. The leaves frequently become narrower by half, and leſs ciliated; and the plant, when it grows in a more barren ſoil, is ſtraighter and leſs branched.

According to Linneus, it is a native of mount Abraham, in the Rhætian alps (Griſons). If it be the plant of the authors quoted above, it is alſo found on mount Cenis, on the high mountains of Dauphiné, *&c.* in the turf.—According to the Kew catalogue, it is a native of Iceland, whence it was introduced in 1773, by Sir Joſeph Banks, Baronet. It flowers from march to auguſt; and is biennial. Other authors mark it as perennial.

7. This is a perennial plant, growing in tufts. Stems branching, creeping, rooting at the knots, filiform. Branches very numerous, oppoſite. Leaves oppoſite, petioled, cloſe, ſpreading, acute or acuminate, quite entire, nerveleſs, with ſhort hairs above, paler beneath. Peduncles terminating, ſolitary, erect, very long, one-flowered, filiform, pubeſcent. Flowers large, white; with two oppoſite, ſeſſile, lanceolate bractes [h].

According to the obſervation of Linneus, this is an intermediate ſpecies between *ciliata* and *multicaulis*; but the peduncles are long, and the ſeed-veſſels drooping.—D'Aſſo [i] has given another, which he thinks is a connecting link between theſe, and the ſame with Haller's n. 876. t. 17.

Native of Majorca and Minorca. Introduced into France by Ant. Richard, the King's gardener [k]; into England by Monſ. Cels, in 1787 [l]. In the open air it flowers from june to auguſt; but early in the ſpring, if it be kept in the green-houſe.

8. Leaves more or leſs ciliate; flower very large [m]. Gerard and Haller make this to be only a variety of the ſixth [n]:—Villars of the ninth [o].

Native of the Swiſs and Pyrenean mountains.

9. This is an annual plant. The ſtems are dichotomous at top and hairy; they grow to the height of four inches or a ſpan. Leaves ſubovate or lanceolate, entire, dark green. Peduncles at the diviſions and ends of the branches, ſhort, one-flowered. Calyx narrow, acuminate, often cloſed; petals white, entire. Seeds dark-coloured, covered with very minute dots in rows, about twenty, in an ovate, one-celled capſule, opening at top with five or ſix ſhort toothlets.

According to the obſervation of Leers, in this and the fifth ſpecies the petals are only half the length of the calyx: the capſule nodding, with the peduncle horizontal, as in Stellaria, and opening into ſix parts at top.

Haller reports, that he has ſometimes found the petals to be bifid.

Scopoli ſays, that it is a hiſpid and very branching plant; that the capſule has ten angles at the baſe; and that the flower has five ſtyles: all other authors give it only three ſtyles.

This little neat annual plant, ſays Mr. Curtis, is ſufficiently diſtinguiſhed from its congeners, by the ſtiffneſs of its ſtalk, and the thyme-like form of its leaves. It is common on walls among rubbiſh, and on dry barren places; flowering from may to auguſt; not only in Europe, but in Japan.

10. Perennial. Stems four inches high, copious, diffuſed, aſcending, round, ſubpubeſcent: branches alternate, upright. Leaves like thoſe of Juniper. Peduncles terminating, many, round, pubeſcent,

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[b] Lin. mant. [c] Linn. ſyſt. ed. 14. [d] Hort. kew. [e] Lin. mant. [f] Linn. [g] Withering, Relh. cant. n. 323. Linn. ſuec.

[h] L'Heritier. [i] Stirp. Aragon. n. 382. [k] L'Heritier. [l] Hort. kew. [m] Jacquin. [n] Linn. ſyſt. [o] Dauph. 621.

longer than the internodes, three-flowered; middle pedicel leafleſs, ſide ones longer. Bractes two, ovate, ciliate, pubeſcent on the outſide. Calyx ovate, acute, erect, pubeſcent; petals obovate, oblong, twice the length of the calyx, ſpreading, obtuſe, white marked with lines; ſtamens white; piſtil green, ſhorter than the ſtamens [p].

Native of the ſouth of Europe, on rocks.

11. The leaves form a tuft about the root, and are almoſt imbricate, briſtle-ſhaped, ſtiffiſh, ſpreading, of a ſhining green; thoſe on the ſtem are ſhorter than the internodes; all of them are ſtem-claſping. Flowering-ſtems half a foot high, ſomewhat erect and hairy: two or three flowers come out from the top on long peduncles; the calyx has three ſtreaks on it, is oblong, obtuſe, with the leaflets ſeparate; the petals are twice as long as the calyx, white marked with lines, ovate, and ſlightly emarginate. Fruit long and ſubcylindric [q]. According to D'Aſſo, the ſegments of the calyx are acute. Linneus obſerves that the flowers are very large, and the fruits pendulous.

Native of the ſouth of France, Spain, and the Col de Tende.

12. Purple Spurrey is an annual plant. Stems many, round, ſmooth, procumbent, branching, a finger's length or more, green tinged with red, forming a ſmall tuft. Leaves in pairs, ſeſſile, quite entire, full or darkiſh green, compreſſed, ſmooth, terminated by a little ſharp point, ſomewhat longer than the internode: under theſe are two dry, white, ſhining ſtipules. Flowers axillary and terminating, on round, pubeſcent, one-flowered peduncles, erect when bearing flowers, but a little bent down when in fruit. Calyxes hairy, viſcid; this viſcidity probably ariſes from the globular glands which terminate the hairs. Corolla purple. The ſtamens vary extremely in their number, four, five, ſeven, eight, and ten have been obſerved by Haller, D'Aſſo, Fabricius, and others. The former remarked alſo three and five piſtils. Capſule conical, three-valved. Seeds very ſmall, brown or rufous. The flowers open at nine o'clock, and cloſe between two and three, according to Linneus; but Pollich has obſerved them to be open at three o'clock.

β. Linneus makes Sea Spurrey a variety only of the former; and certainly much greater variations are occaſioned by ſituation and ſoil. Gouan, Allioni, and ſome other modern botaniſts are however of opinion that they are diſtinct ſpecies. Ray tells us, that he was induced to impute the difference between land and ſea Spurrey wholly to the place of growth; but obſerving the ſeed of the latter to be compreſſed and flat, he changed his opinion. Mr. Woodward remarks that the ſtipules are broader and blunter in this.

The firſt grows in ſandy paſtures and fields; the ſecond in ſalt marſhes, where the leaves being ſucculent, it is gathered, pickled, and ſold for Samphire. They both produce their pretty purple flowers in june and july, and they continue frequently to ſeptember.

Theſe plants approach to *Spergula* in their habit and ſtipules; the number of piſtils and the fruit place them in this genus; but perhaps the two genera are not naturally diſtinct [r].

According to the obſervations in *amœn. acad.* goats refuſe this plant; and ſheep are not fond of it.

13. This is very like Sea Spurrey, but the whole plant is viſcid, and it is leſs branching, with the ſtems aſcending more and pubeſcent. Leaves alſo pubeſcent, ſomewhat acute, a little depreſſed above and convex beneath. Flowers white, with the petals ſcarcely larger than the calyx. Seeds ſurrounded with a membranaceous edge. The calyx covers half the capſule. The flowers open at noon [s]. Linneus, in his *ſpecies plantarum* ſays, that it is a vernal plant, and a ſpurious daughter of Sea Spurrey; nay little more than a variety, the difference conſiſting chiefly in the ſcarioſe-membranaceous ſtipules. Dr. Stokes has deſcribed it with his uſual preciſion. The foliage has much the air of a *Meſembryanthemum.* Stem nearly upright or aſcending, ſimple or forked, from three to ſix inches high. Leaves ſubulate-linear, convex underneath about the length of the internodes, (others ſay longer); the lower expanding, bent back; the upper upright, pointing one way. Stipules ſurrounding the ſtem, of two lips, which are ovate, pointed, ſometimes cloven at the end. Peduncles ſolitary, from the baſe of the leaves, and at the forks of the ſtem, bent down when ripe. Petals purple. Stamens four, five, or ſeven. Seeds flat, between half heart-ſhaped and kidney-ſhaped, the circular edge downy, with an elevated rounded border, the ſtraight edge plain, dark brown; ſome encompaſſed with a membranaceous border, deeper than half the breadth of the ſeed, white, with radiated ſcores, toothed at the edge. So remarkable a difference in ſtructure one might have expected to afford a mark of ſpecific diſtinction, but though the two kinds of ſeeds are generally found on different plants, yet they are ſometimes ſeen in the ſame ſeed-veſſel [t].

Authors differ as to the colour of the petals. Villars ſays they are *d'un blanc de roſe purpurin.* Pollich and Krocker agree with Linneus, that they are white. The former is ſingular in attributing five ſtyles to the flower; and affirms, that he has numbered more than twenty ſeeds in a capſule, black, compreſſed, with a white pellucid rim.

Hudſon takes this to be only a variety of the foregoing ſpecies. Dillenius [u] ſays, that it differs in the ſlenderneſs of the root, and the ſmallneſs of the whole plant, eſpecially the flower and ſeed, which laſt has uſually no rim, and when it has, it is much narrower than in the Sea Spurrey; the internodes are alſo longer in this. It flowers as that does in june and july, and is found plentifully on the ſhell-coaſt of the iſle of Shepey. It is alſo a native of Germany and France.

Pollich and Stokes differ widely as to its time of flowering: the former affirming that it flowers early in ſpring, and ripens its ſeeds in may; the latter, that he has found it in flower in ſeptember.

Willdenow informs us, that it differs from *Spergula pentandra* of Linneus, in its membranaceous ſtipules; three piſtils; and more pubeſcent ſtalks [x]. He aſſigns april and may for the time of flowering.

14. Bavarian Sandwort is perennial. Stems proſtrate, with many ſlender, divided branches; having a pair of oblong, narrow, pale-green leaves at each joint. At the end of each branch is one flower: calyx whitiſh; corollas white, petals acuminate; ſometimes fringed and purpliſh. Capſules ſmall, of an oblong ſpheroidal form. Seed minute, flatted, black, ſhining [y].

Native of Bavaria, monte Baldo, and little St. Bernard.

15. This is perennial, and of the ſame ſtature with the ſpecies next following. Stem upright, ſix inches high, ſmooth, with ſeven or eight joints. Root-leaves copious; ſtem-leaves larger, longer than the internodes. Panicle terminating, brachiate, dichotomous, ſubfaſtigiate; the laſt pedicels ſubvilloſe. Calyx ovate, hardiſh, mucronate. Petals white, three times as long as the calyx. Native of the Levant [z].

16. This is perennial; and the roots put forth an incredible number of ſtems, forming a very thick tuft, from four inches to a ſpan in height, branching much, and very full of flowers. Peduncles ſhort, one-flowered. Petals white, larger than the calyx. The whole plant is ſmooth [a].

Scopoli deſcribes the ſtem as biflorous; the peduncles villoſe; the leaflets of the calyx ſmooth, with white edges, and marked with three lines; petals woolly at the baſe; ſeeds about eight in a capſule, brown and kidney-ſhaped.

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[p] Lin. mant. [q] Allioni. [r] Villars. [s] Lin. ſpec. & ſyſt.

[t] With. arr. 460. [u] Raii ſyn. ed. 3. 351. [x] Fl. berol. prodr. n. 486. [y] Ray hiſt. [z] Schreber. [a] Haller.

Native of France, Germany, Switzerland, Carniola, Siberia.

17. This differs from the foregoing, in having ſtems not more than three or four inches high, ſet with few hairs; tne peduncles hairy, and the calyxes ſharp[b].

Leaves next the ground in tufts, ſmooth, ſtiffiſh, with three ribs underneath; two or three pairs on each branch; flowers terminating and axillary, from one to ſix, but generally three. Petals oval, white, a little longer than the calyx[c].

Native of Dauphiné, Savoy, Auſtria, and Britain, on mountains: as in Cornwall, near the Land's-end; about Settle, Kendal, Matlock, and other places in the northern counties; Arthur's ſeat near Edinburgh: in Wales, near Holywell, between that and St. Aſaph, Llanberys, &c. It flowers from may to auguſt.

18. This has the habit of Spurrey. The ſtems are ſimple with ſcattered hairs. Leaves oppoſite, flat, with a few hairs underneath. Panicle firſt dichotomous, and then branching with alternate peduncles[d]. Native of Montpellier.

19. Root perennial. Stems very many, half a foot high, round, pale, very ſlightly pubeſcent, almoſt naked at top. Leaves ſpreading, connate at the baſe, three-nerved, almoſt triangular, mucronate and pungent, very ſlightly pubeſcent; root-leaves very ſhort, blunt, without prickly points, preſſed cloſe to the ſtalk, ſmooth. Flowers in panicles, terminating, upright, dichotomous, ſcarcely pubeſcent. Bractes ſmall, ovate-lanceolate, acute, three-nerved, with a ſcarioſe waving edge. Peduncles filiform, ſmooth, upright, one-flowered. Calyx blunt at the baſe, even, always cloſed; leaflets ovate-lanceolate, mucronate, three-nerved, the three outer ones ſometimes bent obliquely, and the two others cloſely embracing. Petals obovate-lanceolate, obtuſe, ſcarcely twice as long as the calyx, ſtreaked, white. Filaments filiform, equal, the length of the calyx. Germ oblong: ſtyles three, the length of the ſtamens. Capſules three-valved, obtuſe, ſhining, a little longer than the calyx. Seeds numerous, ſmall, compreſſed, roundiſh, black.—Native place unknown[e].

20. Root perennial. Stems frequently purple and much branched. Leaves connate, much ſwelling at the baſe, ſhorter than the internodes, frequently in bundles from the axils of the larger, which are the rudiments of branches[f]. Calyx generally ſmooth, but frequently a little hairy; the leaflets much acuminated or awned, with two green lines underneath. Petals broad-lanceolate, ſhorter by half than the calyx[g], white. Anthers ſmall, purple. Styles three, white, with white blunt ſtigmas. Capſule ovate. Seeds (twenty-ſeven) ſmall, roundiſh, brown[h].

Haller has two plants (n. 865. & 866), the firſt of which, he ſays, has ten ſtamens, the ſecond only five: they are both varieties of the *Arenaria tenuifolia* of Villars; the firſt he calls *A. hybrida*, the ſecond *A. Barrelieri*. La Chenal mentions another, about Baſil, with eight ſtamens. Leers, who has deſcribed *A. tenuifolia* at large, and makes it an annual plant, ſays that the primary flowers have ten, and the later ones from ſeven to nine ſtamens: in truth, the number varies ſo much in this genus, that it is of no importance in determining the ſpecies.

Native of Spain, France, Germany, Switzerland, Italy, England, and Denmark. With us it is found on Gogmagog-hills and the borders of Triplow-heath in Cambridgeſhire; near Bury in Suffolk; near Cley in Norfolk; Cornbury-quarry, near Charlbury, in Oxfordſhire; Malvern-hill, in Worceſterſhire; near London, at Batterſea and Deptford, &c. flowering in june and july.

21. Root perennial. Stems many, half a foot high, harſh and rough. Peduncles roughiſh, one-flowered[i]. Calyx oblong, marked with lines, cylindric, pubeſcent[k]. Petals ovate, marked with lines, large, quite entire, twice the length of the calyx[l]. Fruit long cylindric[m].

Native of France, Switzerland, Savoy, Piedmont, and Weſtmoreland. It flowers in july and auguſt.

22. Villars makes this and the foregoing, (if his plants be the ſame which Linneus intended under the ſame names) to be varieties only of the ſame ſpecies. They are both perennial; their leaves are narrow, briſtle-ſhaped, in bundles, aſh-coloured or dark green; their ſtems almoſt naked; calyx cylindric, the leaflets obtuſe, parallel, channelled on the outſide, a little hairy, as is alſo the upper part of the ſtem.—N. 21. has the leaves more green, the ſtems couchant, aſcending a little, having ſeveral branches towards the top, much divaricating, in the manner very well repreſented in Magnol's figure; petals marked with tranſparent lines at the baſe, and exceeding the calyx about a third of their length.—N. 22. or *A. ſtriata*, has the leaves a little aſh-coloured; the ſtems ſtraight; the flowers two or three, on very ſhort, terminating peduncles; petals very large, a little concave, wider, with tranſparent lines from end to end, exceeding the calyx by half their length; by the help of a glaſs, an infinity of yellowiſh glands appear on the leaves of this, which are not on thoſe of the other.

Allioni has deſcribed and figured a much ſmaller ſpecies under the name of *A. ſtriata*, differing from all the other ſpecies. The leaves are rude, ſtriated, but capillary; the leaflets of the calyx are ſtriated, but oval and pointed; the petals are much ſmaller[n].

He gives the *A. cherleroides* of Villars as a ſynonym of this plant. Villars thus deſcribes it.—Perennial, creeping, very ſmall; ſtems hard, twiſted, almoſt woody, forming tufts; the flowering-ſtems riſe one or two inches, and ſupport one or two, ſeldom three pretty large flowers; leaves all equal, reſembling thoſe of the calyx, ſtiff, ſmall, pointed, channelled, ſcarcely hairy; the lower, or thoſe that terminate the young barren branches, are ſo cloſe as to form four-cornered priſms like thoſe of *Saxifraga oppoſitifolia*; thoſe of the ſtem, to the number of two or three pairs, are a little more detached, and are two or three lines in length; the petals are open, ſpreading from the middle, narrow at their baſe, and drawn in though obtuſe at the end; the ten ſtamens are fixed on a circle of glands interpoſed between them and the petals; the capſule is conical[o].

A. ſtriata is a native of Switzerland, and was introduced in 1768, by Profeſſor De Sauſſure. It flowers from june to auguſt[p].

23. Root annual. Stem four inches high, pubeſcent. Leaves linear, acuminate, erect, ſubciliate. Flowers in bunches, dichotomous, on very ſhort pedicels. Calyx erect, with ſubulate, ſtriated, ſubciliate, long leaflets. Petals ovate-oblong, white, very ſmall. Anthers twin, globoſe. Capſule ſhorter by half than the calyx. It has the habit of *Minuartia*[q]. Native of the ſouth of France, the alps of Piedmont, Auſtria, &c. It flowers in auguſt; and was introduced in 1787, by Mr. Zier[r].

24. Root perennial. Stem branching, leafy, with one or two flowers on each branch. Leaves furrowed, awned, with the edge and nerve a little hairy. Peduncles erect, long, with two leaves. Petals white, ovate, very large[s]. Leaflets of the calyx broader than the ſtem-leaves, with ſeveral ſtreaks, and rigid. Capſules oblong, the length of the calyx[t].

Gouan remarks, that Linneus and Allioni have made their deſcriptions from dwarf plants, growing on a dry ſoil bordering on the ſnow. He thus deſcribes it. Stems ſeveral, three inches long, commonly undivided, having from two to eight pairs of leaves on them. Leaves flat, lanceolate or ovate, thoſe next the root eſpecially bright green, pubeſcent when viewed by a glaſs. Flowers terminating, one to four, upright. Peduncles an inch long, therefore ſolitary or alternate, as the ſtem is ſimple or branched. Calyxes large, with unequal leaflets, the outer ones broader as in moſt of the Ciſtus kind, ovate, lying over each other at the baſe.

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[b] Lin. mant. [c] Lightfoot. [d] Lin. ſpec. [e] Smith ic. ined. [f] Woodw. M. S. [g] Linn. ſyſt. [h] Pollich. [i] Haller.

[k] Linn. ſyſt. [l] Allioni. [m] Haller. [n] Villar's dauph. 631, [o] Dauph. p. 626. [p] Hort. kew, [q] Lin. ſyſt. [r] Hort. kew. [s] Haller. [t] Lin. ſyſt.

Villars affirms that the *A. grandiflora* of Linneus and Allioni holds the middle place between his *A juniperina* and *cherleroides*[u]. Native of Switzerland, the ſouth of France, near Geneva, Mont Cenis, the Vaudois, Carniola, *&c.*

25. Perennial. Stems aſcending, at top dichotomous, or trichotomous with the middle peduncle longeſt. Leaves linear, ſubvilloſe, with a ſharp end, not nerved, thickiſh, connate, but not perfoliate at the baſe. Stems, peduncles and calyx villoſe. Leaflets of the calyx ovate with a ſharp end. Petals obovate, very ſlightly emarginate. Capſule five-valved, ſhorter than the calyx, which is preſſed cloſe to it. Seeds pale brown[x].

Native of the mountains of Auſtria, Switzerland, and Piedmont.

26. Perennial. Stems ſhort, diſtorted, perennial; branches annual, very ſimple, upright. Leaves round, ſharp, even. Peduncles ſubpubeſcent, terminating, generally two, one ſucceeding the other. Calyxes ſubpubeſcent; leaflets lanceolate, with two ſtreaks. Petals obovate, white. The ſtem is much longer than in *A. grandiflora*, and is ſuffruticoſe at the baſe; the leaves alſo are not flat, and the leaflets of the calyx have not many ſtreaks. It is a native of the ſouthern countries of Europe[y].

27. Root biennial, conſiſting of many, long, round, yellowiſh, tough fibres, collected into one head, and producing a tuft of ſtems, a finger's length, with bundles of leaves in form of a roſe at their baſe. Leaves ſomewhat ſtriated, even, round, flattiſh above, ending ſharp: on each ſtem uſually three, ſometimes four pairs. The top of the ſtem commonly forks once, and bears two or three flowers. Calycine leaflets ovate-lanceolate, ending in an awn, and marked with three ſtreaks. The ſtem and peduncles very ſlightly hirſute. Petals white, a little longer than the calyx, awned, entire[z].

Gerard deſcribes his plant as perennial; ſtems many, three inches high, ſimple, ſtraight, having very ſmall ſcattered hairs towards the top. Leaves towards the root very many, aggregate, forming tufts, briſtle-ſhaped. Stem-leaves upright, linear-ſetaceous, unequal, flattiſh above, with the edges rolled back to the midrib below, marked with two ſtreaks; they are ſhorter than the internodes, and become both ſhorter and broader the higher they are. Peduncles terminating, unequal, two or three together; the middle one longer than the others, the ſide ones being ſubſeſſile. Leaflets of the calyx lanceolate, acuminate, ſtriated, ſubvilloſe. Petals and ſtamens the length of the calyx. Styles three, ſhort. Capſule oblong[a]. Native of Provence, and the high alps of the Vaudois in Piedmont, in rocky paſtures. Alſo of St. Gothard, St. Bernard, Enzeindaz, and other very high mountains of Switzerland, if it be n. 868 of Haller.

28. Perennial. Stems ſeveral, procumbent, branched. Leaves connate, ſoft, green. The branches are uſually terminated by two flowers on long peduncles. Leaflets of the calyx ovate-lanceolate, green. Petals ovate, quite entire, ſcarcely larger than the calyx. Stamens ſhorter than the petals. Fruit conical five-valved. It is diſtinguiſhed from the ſpecies which moſt reſemble it, by its linear, blunt leaves not revolute; its weak, branching, procumbent ſtem; and the leaflets of the calyx being neither acute, nor deeply ſtriated[b].——Native of the high alps of Switzerland, St. Bernard near the Hoſpice, Feneſtrelles, *&c.*

29. Root perennial, dark-coloured, tough, with very few fibres, creeping. Stems filiform, in a tuft, branching, creeping, very finely hairy. Leaves ſmooth, or ſometimes a little hairy, firm, at firſt upright, then ſpreading, lanceolate, acute, with three raiſed nerves. After having borne three pairs of leaves, the ſtem divides into two peduncles (ſeldom three), diverging very little, either naked or with one pair of leaves. Corolla ſpreading, large, a little larger than the calyx; petals ovate, quite entire. Stamens longer than the petals, alternately ſhorter; anthers ſmall, purple. Leaflets of the calyx like the other leaves. Fruit conical, fivevalved[c].

Villars refers to *A. lanceolata* of Allioni under his *A. juniperina*; and this is ſuppoſed to be the ſame with *A. grandiflora*, n. 24.—Allioni has referred to n. 864. both under this and *A. auſtriaca.*

The confuſion of ſpecies and ſynonyms in this genus requires a maſterly hand to extricate it. Villars is of opinion, that *A. multicaulis* of Linneus, is nothing but a variety either of *A. ciliata* or *ſerpyllifolia.* He deſcribes and figures a ſpecies under the name of *A. apetala*[d], which Monſ. Gouan thinks is the ſame with Linneus's *A. biflora.* He doubts whether *A. auſtriaca of* Allioni may not be *A. triflora* of Linneus; and whether *A. montana* is not a variety of the ſame. Dr. Smith affirms, and who can doubt it, that *A. juniperina* of Villars is *A. grandiflora* of Linneus. Villars doubts whether *A. lanceolata* of Allioni be the ſame with his *juniperina.* He refers Gerard's ſeventh ſpecies to *A. verna* of Linneus; Dr. Smith refers it to *A. recurva* of Allioni; to which M. Villars thinks the *verna* nearly allied, as alſo to *A. laricifolia.* M. Villars joins the *laricifolia* and *ſtriata* under one ſpecies, and ſuſpects that the *ſtriata* of Allioni is different. He ſeems to think that the plant which he deſcribes under the name of *ſaxatilis* is the *tenuifolia* of Linneus, and he ſplits his *tenuifolia* into three varieties, the firſt of which he takes to be the ſame with Linneus's *Alſine* or *Arenaria mucronata*; the ſecond to be Haller's n. 866; and the third to be Haller's n. 865. He calls it *hybrida*, and thinks it may be a mule ariſing from *A. ſaxatilis* impregnated by the pollen of *A. ſerpyllifolia.* M. Villars even doubts whether *Ceraſtium pentandrum* may not be a variety of *A. mucronata.*

30. Root woody, perennial. Stems numerous, upright, a foot high, round, ſmooth, having ſix or ſeven joints. Leaves connate-ſtem-claſping, acute, ſmooth, except at the edge where they are ſerrulate-ſcabrous, uſually longer than the internodes, the upper ones ſhorter and reſembling the bractes. Flowers in a terminating ſpike or cloſe head, on ſhort filiform peduncles, fenced with bractes, monoecous. The lower bractes very large, membranaceous, keeled, mucronate, ventricoſe, longer than the calyxes; the upper ones ſhorter and more ſlender. Leaflets of the calyx ovate, obtuſe, membranaceous, ſmooth. Petals white, obovate, with claws, three times as long as the calyx. In the male flowers, five of the ſtamens the length of the corolla, and five ſhorter; anthers ſagittate, all fertile: germ ovate, abortive; ſtyles three, very ſhort, ſhrivelling. In the female flowers, all the ten ſtamens very ſhort; with membranaceous effete anthers: germ ovate; ſtyles three, the length of the corolla; ſtigmas reflex, pubeſcent at top. Found in Armenia, by Tournefort.

31. Root perennial, ſomewhat woody. Stems numerous, upright, a foot high, round, ſmooth. Leaves connate-ſtem-claſping, acute, ſmooth except at the edge, the upper ones ſhorter. Panicle terminating, patulous, viſcid. Flowers the ſize and appearance of common Flax. Bractes acute, ſcarioſe at the edge, only one-fourth of the length of the peduncles. Leaflets of the calyx ovate, keeled, ſtriated, acute, pubeſcent, viſcid, with a ſcarioſe edge. Petals white, with ſubpellucid ſtreaks. Five of the ſtamens the length of the corolla, and five ſhorter. Germ roundiſh; ſtyles three, the length of the corolla. Capſule one-celled, ventricoſe, ſhining, cloathed with the calyx. Seeds very many.

Found in Armenia, by Tournefort[e].

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[u] Dauph. 625.

[x] Allioni.

[y] Lin. ſyſt. & ſuppl.

[z] Allioni.

[a] Fl. gallo-prov. p. 405.

[b] Allioni.

[c] Allioni.

[d] Dauph. 622. t. 48.

[e] Smith ic. ined.

PROPAGATION AND CULTURE.

The greater part of theſe plants are natives of Europe, and moſt of them affect mountainous ſituations. They have neither ſize nor brilliancy enough to be generally cultivated in gardens; many of them however are neat elegant plants. The perennial ſorts may eaſily be increaſed by ſlips, or parting the roots. Both theſe and the annual ſorts may be propagated from ſeeds. They require no other care but what is neceſſary for all hardy vegetables.]

[ARETHŪSA. (*The name of one of Diana's nymphs, who was fabled to be changed into a fountain in Sicily.—The name of a city in Syria.* Lin.)

Gron. Lin. gen. n. 1014. *Reich.* 1099. *Schreb.* 1373. *Juſſ.* 65. Orchidion. *Mitch.* 19. Bipinnula. *Commerſ. Juſſ.* 65.

Claſſ. 20. 1. Gynandria Diandria.

Nat. order of *Orchideæ.*

GENERIC CHARACTER.

CAL. *Spathe* leafy. *Perianth* none.

COR. ringent. *Petals* five, oblong, ſubequal, two outer, all converging into a helmet.

Nectary one-leafed, tubular at the baſe, within the bottom of the corolla, two-parted: *lower lip* reflex, broad, wrinkled, the length of the petals, hanging down forwards; *upper lip* linear, very tender, faſtened to the ſtyle, lobed at the top.

STAM. *Filaments* two, very ſhort, ſitting on the top of the piſtil: *anthers* ovate, compreſſed, covered with the folding of the inner lip of the nectary.

PIST. *Germ* oblong, inferior: *ſtyle* oblong, incurved, cloathed with the inner lip of the nectary: *ſtigma* funnel-ſhaped.

PER. *Capſule* oblong-ovate, one-celled, three-valved, gaping at the angles.

SEEDS numerous, aceroſe.

ESSENTIAL CHARACTER.

Nectary tubular, within the bottom of the corolla: the lower lip faſtened to the ſtyle. (The upper lip. *Gen.*)

SPECIES.

1. Arethuſa bulboſa. *Bulbous-rooted Arethuſa.*

Lin. ſpec. 1346. *Reich.* 4. 32. *amæn.* 3. *p.* 15. *Gron. virg.* 184.

Helleborine mariana, &c. *Pluk. mant. t.* 348. *f.* 7.

Orchidi affinis. *Gron. virg.* 110.

Root globoſe, ſcape ſheathed, ſpathe two-leaved.

2. Arethuſa ophiogloſſoides. *Adder's-tongue leaved Arethuſa.*

Lin. ſpec. 1346. *Reich.* 4. 33.

Helleborine virginiana, &c. *Pluk. alm. t.* 93. *f.* 2.

Cypripedium. *Gron. virg.* 1. 110. *hort. cliff.* 430.

Root fibrous, leaf of the ſcape oval, ſpathaceous; leaflet lanceolate.

3. Arethuſa divaricata. *Lily-leaved Helleborine or Arethuſa.*

Lin. ſpec. 1346. *Reich.* 4. 33. *Gron. virg.* 139.

Serapias. *Gron. virg.* 1. *p.* 184.

Helleborine lilii folio, &c. *Cateſb. car.* 1. *t.* 58.

Root ſubpalmate, leaf of the ſcape and leaflet of the ſpathe lanceolate, the outer petals riſing.

4. Arethuſa capenſis. *Cape Arethuſa.*

Lin. ſyſt. 817. *ſuppl.* 405.

Bulb round, ſtem two-leaved, ſimple, one-flowered.

5. Arethuſa villoſa. *Villoſe Arethuſa.*

Lin. ſyſt. 817. *ſuppl.* 405.

Bulb round, leaves ovate ciliate, pubeſcent.

6. Arethuſa ciliaris. *Ciliated Arethuſa.*

Lin. ſyſt. 817. *ſuppl.* 405.

Orchis burmanniana. *Lin. ſyſt. ed.* 13. *p.* 405. *ſpec.* 1334.

Root fleſhy, leaf kidney-ſhaped orbiculate, lip ciliate.

7. Arethuſa biplumata. *Two-feathered Arethuſa.*

Lin. ſyſt. 817. *ſuppl.* 405. *Smith ic. ined. t.* 23.

Scape ſheathed, ſpathe cowled, the two lower petals elongated bearded on the upper ſide.

DESCRIPTIONS, &c.

The three firſt of theſe plants are inhabitants of watery places and bogs in Virginia, Carolina and Canada. The three next are from the Cape. And the laſt was found at Buenos Ayres in South America, by Commerſon. The firſt was introduced here in 1784, by Mr. William Young[a].

4. Leaves two, alternate, ſheathing, awl-ſhaped. Found at the Cape of Good Hope, by Thunberg[b].

5. This, which was alſo found at the Cape by Thunberg, reſembles the Commelina[c].

6. Bulb villoſe, double, longiſh. Scape ſix or ſeven inches high, ſcarcely pubeſcent. Leaf one ſubradical, heart-ſhaped, ſuborbiculate, nerved, ſtem-claſping, ſubſeſſile, ſubpubeſcent. Spathe ovate, ſtem-claſping, rather acute, ſmall, pubeſcent. Flower one nodding. Germ hairy, the length of the petals. The three upper petals rather erect, lanceolate: the two lower longer, lanceolate-enſiform. Horn of the nectary moon-ſhaped, ſhorter than the germ: lip large, ſubtripartite, ciliated, the middle diviſion bifid: raments ſetaceous, longer than the lip itſelf: column of ſtamens riſing, half the length of the petals: ſtyles parallel, ſtanding out, the length of the column: ſtigmas oblong, a little narrower than the ſtyles. Found at the Cape by Sparrmann[d]. Introduced in 1787, by Mr. Fr. Maſſon[e].

7. Stem quite ſimple, a foot high, upright: radical leaves linear-lanceolate, acute, membranaceous at the baſe, equitant: ſtem-leaves ſix or ſeven, membranaceous, acute, ſheathing, alternate, cloathing the ſtem, the uppermoſt broader, ſerving for a ſpathe, the height of the flower. Flower terminal, ſolitary, erect, handſome, purple. Germ inferior, obconical, ſmooth. The three outer petals of the corolla longer, irregular; the upper ſomewhat vaulted, acute, naked; the two lower ones ſubulate, very broad at the baſe, aſcending, bearded on the upper ſide towards the top with club-ſhaped hairs or ſtipitate glands; the two inner petals ſhorter, oppoſite, ſomewhat rhomb-ſhaped, acute, netted with purple veins[f]. Roots faſcicled or in bundles[g].

PROPAGATION AND CULTURE.

The three firſt are hardy, and will endure the rigour of our climate. The three next muſt be kept in the conſervatory or cape-ſtove. The laſt muſt be preſerved in the bark-ſtove. But none of theſe plants have been yet introduced in England, except the firſt and ſixth. Conſidering their places of growth, in bogs or watery places, it will be no eaſy matter to preſerve them long with us.]

[ARETĪA. (*Given by Haller in honour of Benedictus Aretius, a clergyman of Berne, in the* 15*th century; from whom the famous Geſner learnt Botany.*)

Hall. helv. t. 8. *f.* 1. *Lin. gen. n.* 195. *Reich.* 208. *Schreb.* 256. *Juſſ.* 96.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Preciæ. Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, bell-ſhaped, ſemiquinquifid, bluntiſh, permanent.

COR. monopetalous, ſalver-ſhaped: *tube* ovate, the length of the calyx, contracted at the neck: *limb* five-parted: *diviſions* obovate.

STAM. *Filaments* five, conic, in the middle of the tube, very ſhort: *anthers* erect, ſharpiſh, within the throat of the corolla.

PIST. *Germ* roundiſh: *ſtyle* filiform, the length of the tube: *ſtigma* flat-headed.

PER. *Capſule* one-celled, five-valved.

SEEDS five. *Jacq.* three and five. *Reich.*

ESSENTIAL CHARACTER.

Cor. ſalver-ſhaped five-cleft, tube ovate. *Stigma* flat-headed. *Capſ.* one-celled, globular, with about five ſeeds.

SPECIES.

1. Aretia helvetica. *Imbricated Aretia.*

Lin. ſyſt. 191. *Reich.* 1. 407. *Hall. helv. n.* 617. *t.* 11.

Diapenſia helvetica. *Lin. ſpec.* 203. *mant.* 335. *Jacqu. vind.* 303.

Androſace Diapenſia. *Villars dauph.* 2. 472.

Leaves imbricate, flowers ſubſeſſile.

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[a] Hort. kew. [b] Linn. ſuppl. [c] Ibid. [d] Ibid. [e] Hort. kew.
[f] Linn. ſuppl. corrected from Smith. [g] Juſſieu.

2. Aretia alpina. *Linear-leaved Aretia.*
Lin. ſpec. 203. *ſyſt.* 192. *Reich.* 408. *mant.* 335. *Jacq. auſtr.* 5. 36. *app. t.* 18. *Hall. helv. n.* 618. *t.* 11. *f. ſup.*
Androſace cauleſcens, &c. *Amæn. acad.* 1. 164.
Andr. Aretia. *Villars dauph.* 2. 473.
Leaves linear, ſpreading; flowers pedunculated.

3. Aretia Vitaliana. *Graſs-leaved Aretia.*
Lin. ſyſt. 192. *Reich.* 408. *Hall. helv. n.* 616.
Primula Vitaliana. *Lin. ſpec.* 206. *Amæn.* 1. 160. *Allion. pedem. n.* 333. *Villars dauph.* 2. 470.
Vitaliana perennis, &c. *Seſt. epiſt. t.* 10. *f.* 1.
Sedum alpinum, &c. *Columm. ecphr.* 2. *t.* 65. *f.* 1. *Raii hiſt.* 1044. 1.
Sanicula alpina, &c. *Pluk. alm. t.* 108. *f.* 6.
Leaves linear, recurved; flowers ſubſeſſile.

DESCRIPTIONS, *&c.*

Theſe are ſmall, perennial, alpine, creeping plants; the little ſtems are covered with leaves; the flowers are axillary and almoſt ſolitary.

This genus is very nearly allied to *Primula*, differing from it principally in having the tube of the flower contracted at the neck, whereas it is open in that. It is ſtill more nearly allied to *Androſace*, and is therefore united with it by Scopoli, Allioni, Villars, and others. Haller leaves only *A. maxima* in the genus *Androſace*, and places all the other ſpecies under *Aretia*. Amidſt this diſſention it ſeems beſt to arrange theſe genera as Linneus left them.

1. Root perennial, producing innumerable ſtems forming thick tufts, which cover the rocks where it grows; they riſe only two or three inches, and are entirely covered with hard, dry, ſmall, very ſhort leaves, having a pile of forked hairs on them. One flower terminates each branch: a large calyx, rough with hairs like the leaves, covers the whole: corolla white, with five bifid yellow glands and a greeniſh-yellow circle at the entrance of the tube. Fruit roundiſh with angles, incloſed in the calyx, opening at top by five valves, whence iſſue two or three blackiſh, oblong ſeeds, convex on the outſide, angular on the inner ſide, plunged in a ſpungy receptacle which partly fills the capſule[a].

The ſeeds are longer, darker and fewer in number than in *Primula* and *Androſace*. The germ contains rudiments of five ſeeds, two or three of which are abortive[b].

Native of the weſtern alps of Switzerland, and of Dauphiné.

2. This forms a leſs hard turf than the foregoing with its tufts of leaves, which are linear, wider than the other, and drop from the baſe of the ſtems every year. Peduncles filiform, five or ſix lines in length. Calyx cylindric, cut half way into five hairy diviſions reſembling the leaves. Corolla a little larger than the calyx, with the five diviſions rounded. Fruit frequently abortive, but ſometimes it has ten or twelve ſeeds in dry airy ſituations[c].

Haller has three varieties of this plant. α. Harder, and the leaves almoſt ſmooth. Stems covered with the old leaves, finiſhing at top in a roſe of leaves that are elliptic, ciliate, marked with lines, diverging, much longer. From the middle of this iſſues a ſcape two lines in length. Calyx hirſute, not angular, divided two thirds of its length, with ſtraight narrow ſegments. Flower larger; tube ſhort, cylindric; ſegments emarginate, ſerrate, white. From the tube of the flower two longiſh glands go to each ſegment, ſo that each is ſplit into two. The five ſtamens are in the middle of the tube of the flower. Fruit round, compreſſed, five-valved.

β. More tender, with the leaves more villoſe, not ſpreading ſo much, and ſhorter. The flowers are like the others, and iſſue from roſe-like tufts of leaves, frequently from the ſide, but from the top alſo, on peduncles two lines in length. Calyx ſimilar, white with five raiſed lines, ending in ſtout lanceolate ſegments. Flower roſe-coloured; ſegments roundiſh, ovate, with five glands, and a five-cornered ſtar. Stamens at the top of the tube.

γ. With the leaves and calyx covered with a cloſe white pile; the flower purple on ſomewhat longer peduncles; the ſtems purple; the fruits four-valved.

Theſe are found on different parts of the Swiſs alps; the ſecond on Mont St. Bernard, Simplon, *&c.*; the third in the Griſons, and the valley of St. Nicholas.

Monſ. Villars has alſo given three varieties, which he ſuſpects may poſſibly be diſtinct ſpecies. a. *Hoary*, with the hairs of the leaves branching; the flowers white, often terminating. b. *Hirſute*, with the hairs of the leaves branching; the flowers purpliſh, axillary. c. *Hirſute*, with the hairs of the leaves ſimple; the flowers white, with a purple eye. This laſt is ſometimes found with round, dry, very cloſe leaves, approaching to the foregoing ſpecies, but removed from it by the axillary leaves, and the ſimple hairs. The firſt reſembles it ſtill more in its terminating flowers, but theſe flowers are larger, and the leaves wider, though gathered on the ſame rock. The ſecond forms very fine tufts of red flowers on Mont St. Bernard, 400 toiſes perpendicular to the eaſt of the *hoſpice*, which is 1260 toiſes above the level of the ſea; and thus carries vegetation there to the height of near 1700 toiſes, not a great deal leſs than two miles[d].

This ſpecies occurs alſo in Auſtria. Both this and the foregoing were introduced in 1775, by Drs. Pitcairn and Fothergill[e].

3. This is a very ſmall plant, always lying on the ground. The root, which is perennial, puts up many diſtant tufts, forming roſes, like the *Sedum*, of hardiſh, narrow, pointed leaves, which are villoſe, a little aſh-coloured, ciliate round the edge. Stems very ſhort, one-flowered. Calyxes the length of the tube of the corolla, villoſe, five-cleft beyond the middle, ſegments long, lanceolate. Corolla deep yellow, with a long tube, half of it naked; in the opening are five large glands: the five diviſions of the border ovate-oblong. Fruit round, ſmall; with five kidney-ſhaped ſeeds[f].

According to Allioni, the fruit is deeply divided into five parts, and contains only three ſeeds, two of which only ripen; they are black, large, triangular with the outer ſide arched. Columna obſerved long ſince that there are only two ſeeds in a capſule.

Villars remarks, that there are the rudiments of five ſeeds in the germ, but that two always, and very often three, are abortive: he adds, that the receptacle is very large and ſpungy; and that the hairs on this plant are branched, as in the other Aretias. He has not been able to diſcover the glands which Haller deſcribes; and Allioni obſerves, that if theſe glands are to ſeparate this genus from *Primula*, the *farinoſa*, having them, would alſo be an *Aretia*.

Native of the Pyrenees, the high alps between the Valais and Italy, and in Dauphiné.

Introduced here in 1787, by Monſ. Cels[g].

PROPAGATION AND CULTURE.

Theſe little alpine plants are not preſerved in gardens without ſome difficulty. They require a ſhady ſituation; and if the ſeeds can be procured, they ſhould be ſown as ſoon as poſſible. They may alſo be propagated from offsets or ſlips, and by parting the roots.]

ARGAN. See *Sideroxylon.*

ARGEMŌNE. (*'Αργεμώνη Dioſc. from* 'Αργέμα, *a diſorder of the eye, which this plant is ſaid to cure.)*
Lin. gen. n. 649. *Reich.* 705. *Schreb.* 882. *Tournef.* 121. *Gærtn. t.* 60. *Juſſ.* 236.
Claſſ. 13. 1. Polyandria Monogynia.
Nat. order of *Rhoeadeæ*. *Papaveraceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* three-leaved, roundiſh: *leaflets* roundiſh with a point, concave, caducous.

COR. *Petals* ſix, roundiſh, from erect ſpreading, larger than the calyx.

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[a] Haller and Villars. [b] Villars. [c] Ibid.

[d] Dauph. 474. [e] Hort. kew. [f] Haller, Villars, Linn. [g] Hort. kew.

Stam. *Filaments* numerous, filiform, the length of the calyx: *anthers* oblong, erect.

Pist. *Germ* ovate, five-angled: *ſtyle* none: *ſtigma* thickiſh, obtuſe, reflex, quinquefid, permanent.

Per. *Capſule* ovate, five-angled, one-celled, half-valved.

Seeds numerous, very ſmall. *Receptacles* linear, faſtened to the angles of the pericarp, not gaping.

Obs. *The half-valved capſule diſtinguiſhes this from* Papaver. *The ſecond ſpecies is three-valved; the third four-valved; and the firſt ſix-valved.*

ESSENTIAL CHARACTER.

Cor. ſix-petalled. *Cal.* three-leaved. *Capſ.* half-valved.

SPECIES.

1. Argemone mexicana. *Prickly Argemone* or *Poppy.*
Lin. ſpec. 727. *ſyſt.* 490. *Reich.* 2. 575. *hort. cliff.* 201. *upſ.* 135. *Gærtn. fruct.* 1. 287. *Merian. ſur. t.* 24. *Mill. fig. t.* 50. *Brown. jam.* 244.
Papaver ſpinoſum. *Bauh. pin.* 171. *prodr.* 93. *t.* 92. *Cluſ. hiſt.* 2. *p.* 93. *Mor. hiſt. ſ.* 3. *t.* 14. *f.* 5. *Ger.* 993. *f.* 2. (Carduus) *Park. theat.* 366. *f.* 5. *Beſl. eyſt. æſt.* 12. *t.* 5. *f.* 1. *Raii hiſt.* 856. 8.
Capſules ſix-valved, leaves ſpiny.

[2. Argemone armeniaca.
Lin. ſpec. 727. *Reich.* 2. 575.
Papaver orientale, hypecoi folio, fructu minimo. *Tournef. cor.* 17.
Capſules three-valved.

3. Argemone pyrenaica.
Lin. ſpec. 728. *Reich.* 2. 575.
Capſules four-valved, ſtem naked.

DESCRIPTIONS, &c.

1. This is an annual plant, riſing to the height of two or three feet, with ſtems armed with prickles. Leaves ſinuate or jagged, ſoft, ſhining, ſtem-claſping, the points of the jags ending in ſharp yellow ſpines; on the upper ſide are milky veins, as in our Lady's Thiſtle, on the under are ſmall prickles along the midrib and veins. Flowers ſolitary at the ends of the ſtem and branches: corolla yellow, with from four to ſix petals; the calyx conſiſts of two or three prickly leaves; ſtigma capitate, ſmall, with five notches. Capſule ſuperior, having five or ſix ribs from top to bottom, and between the ribs armed with briſtle-ſhaped ſpines; at the top is the flatted ſtigma. Seeds very numerous, round, black, rough, with a compreſſed ſcar on one ſide. The valves of the capſule vary in number, as well as the petals, from four to ſix[a].

It is common in Mexico and all the iſlands of the Weſt-Indies, where it is a troubleſome weed in their cultivated lands. The Spaniards firſt brought it into Europe under the title of *Figo del inferno*, or Devil's Fig, which name it obtained from the form of the fruit, armed, as Parkinſon expreſſes it, with cruel ſharp prickles or thorns. It is now found in a wild ſtate in ſome of the ſouthern countries of Europe; and was cultivated by Gerard in 1597. It flowers in july and auguſt[b].

The whole plant abounds with a milky glutinous juice, which turns in the air to a fine bright yellow, and when reduced to conſiſtence is not diſtinguiſhable from Gamboge. In very ſmall doſes it is probably of equal efficacy given in dropſies, jaundice, and cutaneous eruptions[c]. It is eſteemed very deterſive, and generally uſed in diſeaſes of the eyes: but the infuſion is looked upon as a ſudorific and reſolutive, which may be uſed, with ſucceſs, on many occaſions[d].

The ſeeds are ſaid to be a much ſtronger narcotic than Opium[e]. They are thought to be an excellent remedy, and are frequently adminiſtered by the inhabitants, in the ſugar colonies in diarrhœas and bloody fluxes: they have a pungent warm taſte; but it does not manifeſt itſelf for ſome time upon the palate. They work both by ſtool and vomit, and have been frequently adminiſtered in the dry belly-ach; but we have much ſafer and better medicines for both theſe diſorders; though this may be given with ſucceſs, when the parts are relaxed or weakly, or the diſorder proceeds from indigeſtion, which is frequently the caſe in hot climates[f]. It is called the Yellow Thiſtle in the Weſt-Indies.

2. This was diſcovered in Armenia by the celebrated Tournefort.

3. This approaches much in habit to *Papaver alpinum*; and is a native of the Pyrenees. Linneus diſtinguiſhes the ſpecies by the number of valves, which ſeems to be inconſtant; at leaſt it is ſo in the firſt. He remarks, that they may either be kept together under a diſtinct genus, or may be referred to *Papaver*. They are certainly allied very nearly to that genus, but are ſufficiently diſtinguiſhed from it, by the capſule opening half way by valves, inſtead of being perforated with holes under the cap, as in *Papaver*. Mr. Miller ſays, that the ſecond and third ſorts more properly belong to the genus Papaver, where Tournefort had placed them, becauſe they agree in their character with the Welſh Poppy (*Papaver cambricum*); but Gærtner obſerves, with more reaſon, that *P. cambricum* is a genuine ſpecies of *Argemone*, becauſe the capſule opens by valves and not by holes[g].]

PROPAGATION AND CULTURE.

1. The ſeeds muſt be ſown on a bed of light earth in the ſpring, where they are to remain: if they come up too thick, the plants muſt be thinned to four inches diſtance; and when once they have ſhed their ſeeds, a ſupply of plants will not be wanting for ſeveral years after.

The two other ſorts have not yet been introduced into cultivation.

Argemone. See *Papaver*.

Argentina. See *Potentilla*.

[ARGOPHYLLUM. (Αργος *and* φυλλον, *White-leaf. The leaves being of a ſilky whiteneſs beneath.*)
Forſter. gen. n. 15. *Linn. ſuppl. p.* 22. *gen. Schreb. n.* 393. *Juſſ.* 161.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Ericæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* ſhort, quinquefid: *diviſions* ſharp.

Cor. *Petals* five, lanceolate-ſpreading, three-times greater than the calyx. *Nectary* five-angled, pyramidal, open at the top, conſiſting of many converging papillas, connate at the baſe.

Stam. *Filaments* five, ſubulate, inſerted into the receptacle; ſhorter than the nectary: *anthers* ovate.

Pist. *Germ* turbinate, faſtened at bottom to the calyx, flat above: *ſtyle* filiform, the length of the nectary: *ſtigma* globular.

Per. *Capſule* hemiſpherical, flat above, growing to the calyx, three-celled, opening into three parts.

Seeds very many, globular, porous.

ESSENTIAL CHARACTER.

Capſ. three-celled. *Nectary* pyramidal, five-angled, the length of the corolla.

SPECIES.

1. Argophyllum nitidum.
Forſt. gen. n. 15. *Lin. ſyſt.* 242. *ſuppl.* 156.

DESCRIPTION.

Perennial. Stems, petioles, leaves underneath, and panicles with the calyxes ſhining with a ſilky down. Leaves alternate, petiolate; ovate, pointed at both ends, quite entire, green above, ſmooth. Peduncles axillary, ſolitary, elongated, terminating in a panicle. Found in New Caledonia[h].

Loureiro[i] has a genus of plants which he calls *Argyreia*, from the ſilvery appearance of the leaves. He has ſet down three ſpecies, two ſhrubs and a tree. The habit of the firſt and ſecond reſembles that of this genus. They are of the ſame claſs and order with *Argophyllum*, but the character of the fructification is different: the calyx being five-leaved, the corolla one-petalled divided into five parts, and having no remarkable nectary, and the ſeed-veſſel a four-celled berry, with one ſeed in each cell.

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[a] Gærtner. [b] Hort. kew. [c] Long's jam. 3. 845. [d] Browne. [e] Long.

[f] Browne. [g] Fruct. 1. 288. [h] Linn. ſuppl. [i] Fl. cochinch. 134.

Arguzia. See *Meſſerſchmidia.*

Argyrocome. See *Baccharis, Gnaphalium,* and *Xeranthemum.*

Argyrodendros. See *Protea.*]

[ARGYTHAMNIA. (*From* αργος, *white, and* θαμνιον, *a little ſhrub.*)

Lin. gen. Schreb. n. 1418. *Brown.* 338. *Swartz. prodr.* 39. *Juſſ.* 386.

Claſſ. 21. 4. Monoecia Tetrandria.

Nat. order of *Tricoccæ. Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male flowers.*

Cal. *Perianth* four-leaved: *leaflets* lanceolate, erect.

Cor. *Petals* four, lanceolate-ovate, ciliate on the margin, ſhorter than the calyx. *Nectary*: four glands between the petals, roundiſh, depreſſed.

Stam. *Filaments* four, longer than the petals, approximated at the baſe, dilated. *Anthers* ſimple.

Pist. rudiment of a *ſtyle.*

* *Female flowers* in the ſame raceme under the male ones.

Cal. *Perianth* five-leaved: *leaflets* lanceolate.

Cor. none.

Pist. *Germ* ovate, ſomewhat three-cornered. *Styles* three, ſpreading, half-two-cleft: each of the clefts bifid. *Stigmas* lacerate.

Per. *Capſule* tricoccous, three-celled, ſix-valved.

Seeds ſolitary, roundiſh.

ESSENTIAL CHARACTER.

Male. *Cal.* four-leaved. *Cor.* four-petalled.

Fem. *Cal.* five-leaved. *Cor.* none. *Styles* dichotomous. *Capſ.* tricoccous, with ſolitary ſeeds.

SPECIES.

1. Argythamnia candicans.

Swartz. prodr. 39. *Brown. jam.* 338.

Ricino affinis odorifera fruticoſa minor, &c. *Sloan. jam.* 1. 133. *t.* 86. *f.* 3.

DESCRIPTION, *&c.*

This ſhrub ſeldom riſes above five feet in height; and the trunk and branches are covered with a whitiſh bark[a]. The branches are four or five feet long, ſometimes riſing upright, and at other times lying along the ſurface of the earth. The twigs have leaves at their ends, ſtanding round them, about an inch and one-third in length, and an inch in breadth; they are oval, ſerrate, and of a very dark green colour, ſomething like Germander. Flowers axillary, on very ſhort peduncles. Calyx five-leaved. Stamens ſix, greeniſh. Seed-veſſel tricoccous, green, becoming as big as that of *Heliotropium tricoccon,* only it is ſmooth, and of a very pleaſant pale purple colour. The leaves when bruiſed are very odoriferous[b].

Adanſon refers the *Ateramnus* alſo of Browne to this genus; uniting both to the order of *Euphorbias,* and giving them ſix ciliate ſtigmas, alternate leaves, and axillary flowers in ſpikes[c].

This ſhrub is a native of Jamaica, where it is pretty frequent in the lower hills, on a dry gravelly ſoil[d].

Aria-Bepou. See *Melia.*

Aria Theophraſti. See *Cratægus.*

Aria-veela. See *Cleome.*

Arisarum. See *Ambroſinia* and *Arum.*]

[ARISTEA.

Lin. gen. Schreb. n. 1712. *Aiton kew.* 3. *p.* 506.

Claſſ. 3. 1. Triandria Monogynia.

Nat. order of *Enſatæ. Irides* Juſſ.

GENERIC CHARACTER.

Cal. *Spathes* bivalve.

Cor. *Petals* ſix, oblong, ſpreading, nearly equal.

Stam. *Filaments* three, filiform, ſhorter than the petals. *Anthers* oblong, erect-incumbent.

Pist. *Germ* inferior, three-cornered. *Style* filiform, longer than the filaments, declinate. *Stigma* funnel-form, gaping, fimbriated on the margin, ſomewhat three-cornered.

Per. *Capſule* oblong, three-cornered, three-celled, three-valved.

Seeds very many.

ESSENTIAL CHARACTER.

Pet. ſix. *Style* declinate. *Stigma* funnel-form, gaping. *Capſ.* inferior, with many ſeeds.

SPECIES.

1. Ariſtea cyanea. *Graſs-leaved Ariſtea.*

Ait. hort. kew. 1. 67.]

Ixia africana. *Lin. ſpec.* 51. *Reich.* 1. 98. *hort. cliff.* 490. *Mill. dict. n.* 2. *Burm. afr.* 191. *t.* 70. *f.* 2.

Moræa africana. *Lin. ſyſt.* 93.

DESCRIPTIONS, *&c.*

This is a low plant, which rarely riſes more than three or four inches high. The leaves are narrow and veined. The flowers are ſmall, growing in a downy head on the top of the ſtalk, but they make little appearance. It grows naturally at the Cape of Good Hope.

[In the catalogue of the royal botanic garden at Kew, it is ſaid to have been introduced by Mr. Francis Maſſon; and to flower from april to june.

Aristella. See *Stipa.*]

[ARISTIDA. (*From* ariſta, *an awn or beard.*)

Lin. gen. n. 94. *Reich.* 100. *Schreb.* 125.

Claſſ. 3. 2. Triandria Digynia.

Natural order of *Gramina, Gramineæ* or *Graſſes.*

GENERIC CHARACTER.

Cal. *Glume* one-flowered, bivalve; *valves* linear-ſubulate, membranaceous, unequal.

Cor. *Glume* bivalve, thicker than the calyx: *outer valve* linear, converging longitudinally, hirſute at the baſe, terminated by three awns, ſubequal, patulous: *inner valve* lanceolate, ſharp, very ſhort, wrapped within the outer valve. *Nectary* two-leaved; leaflets lanceolate, obtuſe.

Stam. *Filaments* capillary: *anthers* oblong.

Pist. *Germ* turbinate: *ſtyles* capillary: *ſtigmas* villoſe.

Per. none. *Glume* converging, involving, gaping.

Seed one, filiform, the length of the corolla, naked.

ESSENTIAL CHARACTER.

Cal. two-valved. *Cor.* one-valved: with three terminal awns.

SPECIES.

1. Ariſtida adſcenſionis.

Lin. ſpec. 121. *Reich.* 1. 229. *Swartz. obſ.* 40. *Brown. jam.* 135. 1.

Gramen avenaceum, &c. *Sloan. jam.* 1. *p.* 16. *t.* 2. *f.* 56.

Panicle branching, ſpikes ſcattered, corollas one-valved.

2. Ariſtida americana.

Lin. ſpec. 122. *Reich.* 1. 229. *amæn. acad.* 5. *p.* 393. *Swartz. obſ.* 41. *t.* 2. *f.* 2. *Brown. jam.* 135. 2.

Panicle ſimple, corollas two-valved, one with dorſal, the other with terminating awns.

3. Ariſtida plumoſa.

Lin. ſpec. 1666. *Reich.* 229.

Panicled, the middle awn longeſt and woolly, culms villoſe.

4. Ariſtida arundinacea.

Lin. ſyſt. 124. *Reich.* 230. *mant.* 186.

Panicled, corollas two-valved, middle awn longer, ſmooth.

5. Ariſtida gigantea.

Lin. ſyſt. 124. *ſuppl.* 113.

Panicle elongated, looſe, one-ranked; calyxes one-flowered; awns of the corolla ſubequal ſtraight.

6. Ariſtida Hyſtrix.

Lin. ſyſt. 124. *ſuppl.* 113. *Pluk. alm. t.* 191. *f.* 3.

Panicle divaricated, very ſpreading; flowers quite ſimple, ſmooth, awns ſtraight, divaricated.

DESCRIPTIONS, *&c.*

1. Culms in tufts, from one to two feet high, decumbent, jointed, ſimple, looſe, even. Leaves very ſlender, filiform, upright, even. Panicle branched, ſomewhat contracted; branches preſſed cloſe, ſubdivided, upright; florets on ſhort pedicels, narrow, brown. Valves of the calyx nearly equal; the outer a little lower, ſubulate, awnleſs; the other ſimilar, ſhining, awnleſs, keeled, incloſing the glume of the corolla; the valve of which is ſubulate, convoluted, longer, awned at the tip, ſhining, villoſe at the baſe. Awn three-parted at the baſe: briſtles capillary, cartilaginous-ſerrate. Anthers dark purple. Stigmas villoſe, of the ſame colour. Seed very minute, acuminate[a].

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[a] Browne. [b] Sloane. [c] Juſſ. gen. 386. [d] Browne.

Linneus ſays, it has the habit of *Feſtuca ovina*, but that it is rather larger; that the culms branch at bottom; that the leaves from a broader baſe narrow gradually, are flat, channelled and ſubulate; that the panicle is oblong, with the ſingle glume of the corolla filiform, longitudinally convoluted, and terminated by a triple awn; and that it is one of the four plants in the iſle of Aſcenſion, which conſtitute its entire Flora. The other three are, *Sherardia fruticoſa*, *Euphorbia origanoides*, and *Portulaca*[b]. It will be curious to compare this with the ſtate of the iſland in future times.

It is alſo native of Jamaica, in dry ſands. Browne calls it the bearded Graſs.

2. Culm half a foot high, riſing, jointed, ſubdivided. Leaves linear, ſtiff, even. Panicle with ſimple, alternate ſpreading branches; the florets moſtly pointing one way, alternate, approximated, preſſed cloſe (8—10). Rachis compreſſed, ſomewhat flexuoſe. Valves of the calyx awnleſs: outer keeled, lanceolate, acute; inner linear, ſmaller. Glume of the corolla two-valved: outer valve lanceolate, awned outwardly at the baſe, awn three-parted, twice as long as the valve; lower valve keeled, three-awned at the tip, awns ſhort, the middle one longeſt. Anthers red. Stigmas feathered, white. Seed linear, acuminate. Native of Jamaica with the foregoing[c]. This being leſs than that, Dr. Browne calls it the ſmaller bearded Graſs.

3. The woolly awns give this ſpecies the air of *Stipa pennata*, but the panicle is more compound, all the parts ſmaller, and the culm villoſe: the awn alſo is naked towards the baſe, where it has two briſtles or little awns, which are oppoſite, ſhort, capillary, and ſpreading[d]. By the reference to Tournefort's corollary we may preſume this to be a native of the eaſt; and Linneus ſays, that it was found in America by Schreber.

4. Culms four feet high, narrow, even, full. Leaves rolled inwards, narrow, even, ſtriated. Panicle oblong, upright, with capillary pedicels. Flowers oblong, hoary with white hairs intermixed. The calyx has about five flowers, is two-valved, and attenuated. The outer valve of the corolla is awned at the tip; the awn is the length of the flower, naked, and ſomewhat curved backwards; at the baſe of this on each ſide is a minute awn, ſcarcely viſible without attentive obſervation.

Found in the Eaſt-Indies, by Koenig[e].

5. This is a very lofty Graſs, branching and very ſmooth. Panicles terminating, about eight inches long, not contracted as in the firſt ſpecies. Calyxes very ſmooth, unequal, blueiſh. Corolla ſmooth, with equal, ſhort awns, almoſt naked. Found on the iſland of Teneriffe by Maſſon[f].

6. This is a creeping, ſtoloniferous, and very ſmooth Graſs. Culms very tough, leafy, and ſhort. Leaves convoluted. Panicle terminating, large: peduncles and pedicels binate: rachis angular. Flowers filiform, long. Calyx one-flowered; valves unequal, the longer ſubulate. Corolla longer than the calyx, convoluted, terminated by three, equal, ſtraight, ſpreading awns, ſcabrous backwards, twice the length of the flower. Obſerved in Malabar by Koenig.—It varies with downy ſheaths to the root-leaves[g].

ARISTOLOCHĬA. (Αριστολοχια *Dioſc.* ἄριστος and λόχια or λοχεῖα; *becauſe it was ſuppoſed to be of ſovereign uſe in diſorders incident to child-birth.*)

Lin. gen. 1022. *Reich.* 1111. *Schreb.* 1383. *Tournef.* 71. *Juſſ.* 73. *Gærtn.* 14.

Claſſ. 20. 5. Gynandria hexandria.

Nat. order of *Sarmentaceæ*. *Ariſtolochiæ* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. monopetalous, tubulous, irregular; *baſe* ſwelling, ſubglobular, toruloſe: *tube* oblong hexagon-cylindric: *limb* dilated, extended below into a long tongue.

STAM. *Filaments* none: *anthers* ſix, faſtened at bottom to the ſtigmas, four-celled.

PIST. *Germ* oblong, inferior, angular: *ſtyle* ſcarcely any: *ſtigma* ſubglobular, ſix-parted, concave.

PER. *Capſule* large, ſix-angled, ſix-celled.

SEEDS ſeveral, depreſſed, incumbent.

OBS. *Fruit varies in figure; being in ſome ſpecies roundiſh, in others long.*

ESSENTIAL CHARACTER.

Stigmas ſix. *Cal.* none. *Cor.* monopetalous, tongue-ſhaped, entire. *Capſ.* ſix-celled, inferior.

SPECIES.

[1. Ariſtolochia bilobata. *Two-lobed Birthwort.*
Lin. ſpec. 1361. *Reich.* 4. 56. *Jacqu. miſc. auſtr.* 2. *p.* 346. *Swartz. obſ.* 340.
A. longa ſcandens, foliis ferri equini effigie. *Plum. ſpec.* 5. *amer.* 91. *t.* 106. *Raii ſuppl.* 395. *n.* 11.
Leaves two-lobed, ſtem twining.

2. Ariſtolochia trilobata. *Three-lobed Birthwort.*
Lin. ſpec. 1361. *ſyſt.* 823. *Reich.* 4. 56. *Jacqu. obſ.* 8. *t.* 3. *Plum. ſpec.* 5. *Brown. jam.* 329. 3. *Swartz. obſ.* 341.
Leaves three-lobed, ſtem twining, flowers very large, bagged at the baſe, tongue linear very long.

3. Ariſtolochia pentandra. *Five-ſtamened Birthwort.*
Lin. ſpec. 1361. *Reich.* 4. 56. *Jacqu. amer.* 232. *t.* 147. *pict. p.* 115. *t.* 224.
Leaves cordate, haſtate-ſubtrilobate, ſtem twining, bracte cordate, embracing.

4. Ariſtolochia peltata. *Peltated Birthwort.*
Lin. ſpec. 1361. *ſyſt.* 824. *Reich.* 4. 57. *Jacqu. obſ.* 1. 4. *t.* 4. *amer. pict. p.* 114. *t.* 222. *Plum. ſpec.* 5. *ic.* 32. *f.* 2. *Swartz. obſ.* 341.
Leaves kidney-ſhaped, ſubpeltate, ſtem twining.]

5. Ariſtolochia maxima. *Greateſt Birthwort.*
Lin. ſpec. 1361. *ſyſt.* 824. *Reich.* 4. 57. *Jacqu. amer.* 223. *t.* 146. *pict. p.* 114. *t.* 223.
Leaves oblong, acuminate, ſtem twining, peduncles many-flowered.

[6. Ariſtolochia bilabiata. *Two-lipped Birthwort.*
Lin. ſpec. 1361. *Reich.* 4. 57. *Plum. ſpec.* 5. *ic.* 32. *f.* 1. *Swartz. obſ.* 342.
Leaves cordate-tongue-ſhaped obtuſe, ſtem twining, corollas two-lipped.]

7. Ariſtolochia erecta. *Upright Birthwort.*
Lin. ſpec. 1362. *Reich.* 4. 57. A. repens. *Mill. dict. n.* 12.
Leaves lanceolate, ſeſſile, ſubhirſute: ſtem erect, peduncles ſolitary, one-flowered, flowers very long.

8. Ariſtolochia arboreſcens. *Tree Birthwort.*
Lin. ſpec. 1362. *Reich.* 4. 57. *Pluk. alm.* 50. *t.* 78. *f.* 1?
Leaves cordate-lanceolate, ſtem erect, ſhrubby.

[9. Ariſtolochia caudata. *Tailed Birthwort.*
Lin. ſpec. 1362. *ſyſt.* 824. *Reich.* 4. 58. *Jacq. amer.* 233. *t.* 145. *pict. p.* 114. *t.* 221.
Leaves cordate, obtuſe, emarginate at the tip, lobes incumbent, lip tailed.]

10. Ariſtolochia odoratiſſima. *Sweet-ſcented Birthwort.*
Lin. ſpec. 1362. *Reich.* 4. 58. *Brown. jam.* 329. 1. *Sloan. jam.* 1. *p.* 162. *t.* 104. *f.* 1. *Raii ſuppl.* 394? *Plum. ſpec.* 5. *ic.* 34?
A. indica. *Mill. dict. n.* 8.
Leaves cordate; ſtem twining, ſhrubby, peduncles ſolitary, lip of the corolla very large.

[11. Ariſtolochia Sipho. *Broad-leaved Birthwort.*
L'Heritier. ſtirp. nov. 1. *p.* 13. *t.* 7. *Ait. hort. kew.* 3. 311.
Leaves cordate, petioled; flowers ſolitary, border trifid, equal, bracte ovate; ſtem twining, ſhrubby.

12. Ariſtolochia anguicida. *Snake-killing Birthwort.*
Lin. ſpec. 1362. *ſyſt.* 864. *Reich.* 4. 58. *Jacqu. amer.* 232. *t.* 144. *pict. p.* 114. *t.* 220. *Mor. hiſt.* 3. *f.* 12. *t.* 17. *f.* 7.
Leaves cordate, acuminate, ſtem twining, ſhrubby, peduncles ſolitary, ſtipules cordate.

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[a] Swartz. [b] Oſbeck in Linn. ſpec. [c] Swartz. [d] Linn. ſpec. [e] Linn. mant. [f] Linn. ſuppl. [g] Ibid.

13. Ariſtolochia maurorum. *Mooriſh Birthwort.*

Lin. ſpec. 1363. *Reich.* 4. 59. *Gron. orient. n.* 280. *Tourn. cor.* 161. *Bauh. pin.* 307. *n.* 9. *Mor. hiſt.* 3. *ſ.* 12. *t.* 17. *f.* 11. *Cluſ. hiſt.* 2. *p.* 71. *Ranw. itin.* 121. *t.* 23. *Cluſ. hiſt.* 2. 72. *Raii hiſt.* 763.

Leaves haſtate, quite entire; ſtem weak, ſimple; flowers ſolitary, recurved.

14. Ariſtolochia indica. *Indian Birthwort.*

Lin. ſpec. 1362. *Reich.* 4. 59. *zeyl.* 323. *Lour. cochinch.* 528. *Gærtn. fruct.* 1. 45. *Burm. ind.* 191. *zeyl.* 32.

Carelu-vegon. *Rheed. mal.* 8. *p.* 48. *t.* 25. *Raii ſuppl.* 394. *n.* 10.

Leaves cordate, rather acute, ſtem twining, peduncles many-flowered.

15. Ariſtolochia bœtica. *Spaniſh Birthwort.*

Lin. ſpec. 1363. *Reich.* 4. 59. *Bauh. pin.* 307. *Mor. hiſt.* 3. *ſ.* 12. *t.* 17. *f.* 6. *Cluſ. hiſt.* 2. *p.* 71. *Ger.* 697. *f.* 3. *emac.* 847. 3. *Park. theat.* 292. *n.* 6.

Leaves cordate, rather acute, ſtem twining, peduncles about three, longer than the petiole.]

16. Ariſtolochia ſempervirens. *Evergreen Birthwort.*

Lin. ſpec. 1363. *Reich.* 4. 59. *hort. cliff.* 432. *Sauv. monſp.* 111. *Sabb. hort.* 2. *t.* 82.

Piſtolochia cretica. *Bauh. pin.* 307. *Mor. hiſt. ſ.* 12. *t.* 17. *f.* 16.

Piſt. altera. *Cluſ. hiſt.* 2. *p.* 260.

Leaves cordate-oblong, acuminate, waved; ſtem weak, flowers ſolitary.

17. Ariſtolochia Serpentaria. *Virginia Birthwort* or *Snake-root.*

Lin. ſpec. 1363. *ſyſt.* 824. *Reich.* 4. 60. *mat. med.* 196. *Woodv.* 291. *t.* 106. *Gron. virg.* 140. *Pluk. alm.* 50. *t.* 148. *f.* 5. *Cateſb. car.* 1. 29. *Raii ſuppl.* 394. *n.* 6. *Mor. hiſt. t.* 17. *f.* 14. *Ger. emac.* 848. *f.* 6. *Park. theat.* 420.

Leaves cordate-oblong, flat; ſtems weak, flexuoſe, round: flowers ſolitary.

18. Ariſtolochia Piſtolochia.

Lin. ſpec. 1364. *ſyſt.* 824. *Reich.* 4. 60. *hort. cliff.* 433. *Gouan. fl. monſp.* 476. *Sauv. monſp.* 111. *Bauh. pin.* 307. *n.* 7. *Hall. helv. n.* 1029. *p.* 444. *Villars dauph.* 274. *Raii hiſt.* 763. *n.* 7.

Piſtolochia. *Cluſ. hiſt.* 2. *p.* 72. *Dod. pempt.* 525. *Ger. emac.* 847. 5.—vulgatior. *Park. theat.* 292. *f.* 7.

Leaves cordate, crenulate, netted underneath, petioled; flowers ſolitary.

19. Ariſtolochia rotunda. *Round-rooted Birthwort.*

Lin. ſpec. 1364. *Reich.* 4. 60. *mat. med.* 196. *hort. cliff.* 432. *Gouan. monſp.* 476. *Sauv. monſp.* 111. *Scop. carn. n.* 1135. *Villars dauph.* 275. *Sabb. hort.* 2. *t.* 80. *Blackw.* 256. *Ger. herb.* 696. 2. *emac.* 846. 2. *Park. theat.* 291. 1. *Bauh. pin.* 307. *n.* 1. *Cluſ. hiſt.* 2. *p.* 70. *Bauh. hiſt.* 3. 559. *Raii hiſt.* 761.

Leaves cordate, ſubſeſſile, obtuſe; ſtem weak; flowers ſolitary.

20. Ariſtolochia longa. *Long-rooted Birthwort.*

Lin. ſpec. 1364. *Reich.* 4. 61. *mat. med.* 197. *Gouan. monſp.* 477. *Sauv. monſp.* 111. *Scop. carn. n.* 1136. *Sabb. hort.* 1. *t.* 81. *Mill. fig. t.* 51. *f.* 2. *Bauh. pin.* 307. *hiſt.* 3. 560. *Cluſ. hiſt.* 2. *p.* 70. *Woodv. med. bot.* 294. *f.* 107. *Ger.* 696. 1. *emac.* 846. 1. *Raii hiſt.* 762. *Park. theat.* 291. 3.

α. A. longa hiſpanica. *Bauh. pin.* 307. *Park.* 292. *n.* 4. *Raii hiſt.* 762. 4.

Leaves cordate, petioled, obtuſe; ſtem weak, flowers ſolitary, fruits ovate.

21. Ariſtolochia hirſuta. *Rough Birthwort.*

Lin. ſpec. 1365. *Reich.* 4. 61. *Tournef. itin.* 1. *t.* 147.

Leaves cordate, rather obtuſe, ſhaggy: flowers ſolitary, pendulous, recurved, ſubtruncate.

22. Ariſtolochia clematitis. *Common Birthwort.*

Lin. ſpec. 1364. *ſyſt.* 825. *Reich.* 4. 61. *mat. med.* 197. *hort. cliff.* 432. *Hudſ. angl.* 394. *With.* 1003. *Relh. cantabr. n.* 665. *Hall. helv.* 1029. *Mill. illuſt. Mill. fig. t.* 51. *f.* 1. *Sauv. monſp.* 111. *Scop. carn. n.* 1137. *Pollich pal. n.* 863. *Villars dauph.* 275. *Bauh. pin.* 307. *Cluſ. hiſt.* 2. *p.* 71. *Fuchſ. hiſt.* 90. *Dod. pempt.* 326. *Lob. obſ.* 332. 2. *ic.* 1. 697. 2. *Blackw. t.* 255. *Rivin. mon. t.* 116. *Mor. hiſt.* 12. *t.* 17. *f.* 5. *Ger.* 697. *emac.* 847. 4.

Leaves cordate, ſtem erect, flowers axillary, crowded.

* *New ſpecies.*

23. Ariſtolochia ſcandens.

Mill. dict. n. 10.

Leaves cordate, on very long petioles; ſtem climbing, flowers terminal, on very long peduncles.

24. Ariſtolochia conferta.

Mill. dict. n. 11.

Leaves cordate, petioled; ſtem climbing: flowers axillary, crowded.

[25. Ariſtolochia bracteata.

Retz. obſ. 5. 29. *n.* 80.

Leaves cordate obtuſe, ſtem weak, flowers ſolitary, bractes cordate petioled.

26. Ariſtolochia obtuſata.

Swartz. prodr. 126. *Plum. ic.* 27. *t.* 33.

Leaves cordate, rounded at the tip, three-nerved, beneath netted and tomentoſe; ſtem twining; peduncles ſolitary.

27. Ariſtolochia grandiflora.

Swartz. prodr. 126. *Brown. jam.* 327. *n.* 2.

Leaves broad-cordate, ſtem twining ſubherbaceous, peduncles ſolitary, lip of the corolla very large, with a very long tail.

DESCRIPTIONS, *&c.*

Roots perennial. Stems of ſome ſhrubby, but of moſt dying to the ground annually; erect in ſome, but in moſt, eſpecially the exotic ſorts, twining. (1—6. 9—11. 13, 14, 15. 23. 27.) Leaves alternate. Flowers axillary, irregular and of a ſingular form, the tube in ſome ſhaped like a drinking-glaſs, but bent inwards; allied to *Cytinus* by their ſhort ſtyle, and their large ſtigma to which the anthers are faſtened at bottom.

1. Stem filiform, ſubdivided, round, ſmooth. Leaves petioled, patulous, cordate; lobes oblong, obtuſe, entire, nerved, ſmooth, glaucous beneath. Petioles ſhort, filiform, crooked, ſmooth. Peduncles longer than the leaves and petioles, thickiſh, round, one-flowered, ſhrivelling after flowering time. Corolla ligulate, ſuperior: tube globoſe at the baſe, many-keeled, glaucous, narrower above the baſe, curved, hexagonal, blueiſh; throat funnel-ſhaped, pale with longitudinal brown lines; limb or border elongated, ſpatulate, compreſſed at the baſe, acuminate at the tip, the edges rolled back, villoſe in front with a blueiſh-purple pile, purpliſh within, glaucous on the outſide. Anthers ſix, longitudinal, ovate, faſtened to the ſtigmas at the bottom of the tube, yellow. Germ columnar, elongated, hexagonal: ſtyle none: ſtigmas ſix, upright, triangular, with the edges rolled back. Capſule oblong, hexagonal, black, marked with ſix ſtreaks, ſhaped like a baſket, opening from the top into ſix parts, with a peduncle divided into ſix parts, hanging down, ſix-valved: partitions membranaceous. Seeds very many, incumbent, compreſſed, membranaceous, cordate, acuminate, ſmooth, brown[a].

Native of Dominica and Hiſpaniola, covering the trees and ſhrubs, and flowering from november to january.

2. This alſo is a climbing plant. The ſtem is aromatic. The flowers are very large and ventricoſe[b].

The roots of this and of the tenth ſpecies have a ſtrong ſmell, and are looked upon as warm attenuants, and active diaphoretics and ſtomachics: they are adminiſtered in infuſions, and greatly uſed among the ſlaves in Jamaica, where they grow naturally. This ſpecies is moſt common on the north ſide of the iſland, and is therefore called there Contrayerva of the north ſide[c]. It is native not only of the iſlands, but alſo of the continent of South

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[a] Swartz.

[b] Linn. ſyſt.

[c] Browne.

America. It was introduced here about 1775, and flowers in june and july[d].

3. The flowers of this are ſmaller, and have only five ſtamens. It is a native of America[e].

4. Root woody, corky, perennial. Stem twining, filiform, ſubdivided, round, ſtriated, ſmooth. Leaves petioled, ſmaller, nerved, entire, ſmooth, ſomewhat rigid. Petioles embracing the ſtem like tendrils. Peduncles longer and thicker than the petioles, and oppoſite to them, ſmooth, round, one-flowered. Corollas middle-ſized, brown, dotted and ſpotted: tube globoſe at the baſe, crooked, reflex, an inch in length, brown dotted with green; throat and tube pubeſcent at bottom, and funnel-ſhaped; border having a lip an inch in length, tongue-ſhaped, retuſe at the tip, ſlightly emarginate, ſet with convex, acute, dark-purple dots, green below the tip to the throat. Anthers ovate, yellow, fixed to the ſtigmas under their revolute edges. Germ attenuated at the baſe, hexangular: ſtyle none: ſtigmas ſix, triangular. Capſule oblong, opening from the top, ſix-valved. Seeds compreſſed. It is not very properly named *peltata*, for the petiole is at the edge of the leaf, and makes an obtuſe angle with it. In Jacquin's figure, the tube ſhould have been repreſented more crooked, reflex, and ſlightly angular, and the lip leſs hairy; in other reſpects it is a good one.

Native of St. Domingo, in very dry coppices, flowering there in february and march[f]; alſo of the continent of South America.

5. Stem corky next the root. Flowers curved. Fruit like a purſe, very large, ſix-valved, cohering at the top, opening at the baſe even in the peduncle; it is all interwoven with tranſverſe threads[g].]

It has ſtrong climbing ſtalks, by which it mounts up to the top of the talleſt trees; the leaves are four inches long and two broad, of an oval ſhape, rounded at their ends, and nearly as thick as thoſe of the common Laurel; the flowers come out in looſe cluſters at the ends of the ſhoots, each ſtanding on a very long peduncle; the ſeed-veſſels are four inches long, and as much in circumference, with ſix longitudinal ribs which are very prominent. Seeds heart-ſhaped. This ſort was diſcovered, and ſent to England by Mr. Robert Millar, from Carthagena in New Spain. [It has been found alſo ſince by Profeſſor Jacquin, who has given an elegant figure of it.

6. Stem twining, filiform, ſubdivided, round, ſmooth; branchlets alternate, ſpreading, looſe, three-leaved or four-leaved. Leaves petioled, entire, ſtiffiſh, ſmooth. A ſhort tendril at the baſe of each petiole. Peduncles longer than the petioles, round, one-flowered. Corollas middle-ſized, brown-purple, ſtriated: tube globoſe at the baſe, contracted in the middle, round, villoſe within; border elongated, oblong, blunt, reflex; the funnel of the tube is ſplit into two parts, when the corolla is, as it were, bilabiate. Capſules roundiſh, hexagonal, blunt, ſmooth, pendulous. Native of Hiſpaniola, in hedges, on a calcareous ſoil; flowering in ſpring[h]: alſo of the continent of South America.]

7. This riſes with an upright ſtalk to the height of three feet. Leaves long, narrow, hairy, growing cloſe to the branches, having ſcarce any foot-ſtalk. The flowers come out ſingly from the axils, are near four inches long, of a dark purple colour, and grow erect; theſe are ſucceeded by ſlender veſſels, about one inch long, filled with flat heart-ſhaped ſeeds. It was diſcovered at La Vera Cruz in New Spain, by the late Dr. Houſtoun, who ſent the ſeeds to Europe: [and was cultivated by Mr. Miller before 1733, in which year the doctor died.]

8. This riſes about two feet high. The branches are not very woody, but are ſtrong enough to ſupport themſelves. The flowers come out ſingly at the axils. It grows naturally in North America, and is by ſome called *Snakeroot*, but is not near ſo ſtrong as the ſeventeenth ſort. The branches of this grow erect, and are perennial, whereas thoſe of the other ſort decay to the root every winter.

[9. The lobes of the leaves lap over each other at the baſe. The lip of the corolla ends in a briſtle-ſhaped tail[i]. Jacquin's figure is excellent. The ſynonym from Browne will be found under the 27th ſpecies[k]. Native of America.

10. This has a long, round, geniculated root, as thick as a finger; whence riſes a round, green, climbing ſtem, taking hold of any tree or ſhrub it comes near, to the height of ſix or eight feet, covering them with its numerous branches, and putting forth leaves at every two or three inches. Leaves cordate or triangular, roundiſh at the baſe, where they are three inches and a half long from one round ear to the other, their length is four inches, they are of a dark green colour, ſmooth, and have longitudinal ribs, taking their original from the end of the foot-ſtalk, which is an inch and half long. Peduncles three inches in length. Corolla yellowiſh, the lip covered with a purple farina. Fruit two inches long, hexangular, containing in ſix cells ſo many rows of ſmall, flat, brown ſeeds, exactly the ſhape of a heart, the points lying inwards, and the baſes to the angular capſule, which, when ripe, opens, and the ſeeds drop out. The whole plant ſmells very ſtrongly, and very gratefully[l].

This is a native of Jamaica, where it is called Contrayerva of the ſouth ſide, to diſtinguiſh it from the ſecond ſpecies. It has the ſame qualities with that, and is uſed for the ſame purpoſes[m].

It was cultivated in 1752, by Mr. Miller[n].

11. This is a tall twining ſhrub. Root woody, ſparingly branched, fragrant, having the ſmell of camphor. Stems wrinkled, gray, fragrant. Branches and twigs alternate, ſarmentoſe, obſcurely flexuoſe, round, even, green, becoming gray. Leaves ſpreading, remote, roundiſh, ſinuate-cordate, acuminate or ſcarcely acute, entire, villoſe and paler beneath, veined; the nerves prominent on the lower ſurface; flat, in length and breadth ſix inches. Petioles ſhorter than the leaves, ſemicylindric, grooved above, ſomewhat villoſe. Peduncles lateral, at the joints below the leaf, pendulous, longer than the petiole, one or two together, one-flowered. Bracte embracing the middle of the peduncle, decurrent a little, leafy, roundiſh, cordate, villoſe beneath, ſpreading, caducous. Corolla purpliſh-brown, one inch and a half long, ten or twelve lines broad: tube ſhaped like a ſiphon, marked with lines, bellying at the baſe, in the middle broader and flatted a little, at the end narrow and cylindrical; border marked with brown lines, ſpreading, inclined, waved, trifid, the clefts rounded and ſlightly acuminate. Filaments none: anthers ſix, faſtened to the ſtigma by pairs beneath, ovate, two-celled, yellow. Germ a hexangular column, finely villoſe: ſtigma at the bottom of the corolla, very large, roundiſh, three-valved, furniſhed with three points. Capſule cylindrical, with a blunt point, ſix-nerved, ſix-valved, ſplitting into ſix parts from the very peduncle; the cells covered with a tranſparent membrane forming a ſort of common aril for the ſeeds; it is three or four inches long, and one inch broad. Seeds numerous, obovate, flat, rufous, incumbent; faſtened to each other by pairs, only one of which is fixed to the partition.

This ſpecies is diſtinguiſhed by the form of its flower, bent like a ſiphon or ſome tobacco-pipes; by the trifid, flat border; by the very large bracte placed on the middle of the peduncle; by the diſpoſition of the ſeeds, and the aril common to all the ſeeds of each cell[o]. Native of North America. Mr. John Bartram introduced it here about 1763. It flowers in june and july[p]. Monſ. L'Heritier ſays, that it flowers in the ſpring, and ripens its ſeed in autumn, but rarely.

12. Root long, thick, pale-coloured. Stems ſlender, long, jointed, purple. Corollas purple[q], ſtraight, truncated, as it were, with a lanceolate lip[r].

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[d] Hort. kew. [e] Linn. ſpec. [f] Swartz. [g] Lin. ſyſt. [h] Swartz.

[i] Linn. ſpec. [k] Swartz. [l] Sloane. [m] Browne. [n] Hort. kew. [o] L'Heritier. [p] Hort. kew. [q] Moriſon. [r] Linn. ſpec

If the juice of the root mixed with the ſaliva, be put into the mouth of a ſerpent, it may be handled with ſafety; but will return to itſelf after ſome hours[s].

Several of the other ſpecies have the reputation of being fatal to ſerpents. This is a native of Mexico and the Weſt-Indies.

13. Stems ſeveral, ſlender, filiform, whitiſh, from the upper part of which come ſeven or eight leaves on each ſide, aſh-coloured, oppoſite, in ſize and ſituation reſembling thoſe of *Oſmunda regalis*, but eared at the baſe, like ſome ſorts of Sage; among the lower of theſe, which are ſomewhat more diſtant from each other than the upper ones, come out the flowers, rather larger than thoſe of common Birthwort, of a browner colour, and on longer peduncles. The plant has an unpleaſant ſmell; and the root, which runs deep into the ground, appears to be of the ſame quality with ſeveral other ſorts of Birthwort[t]. Rauwolff obſerved it about Aleppo, in olive-grounds.

14. Stems ſhrubby, round, ſlender, ſtriated, branched, long, interwoven. Leaves quite entire, ſmooth, frequently retuſe or emarginate, never acuminate, on petioles two or three lines in length; on the twigs they are blunt, almoſt tranſverſe at the baſe. Peduncles many-flowered, axillary, about the ſame length with the petioles, with alternate, acute bractes, within each of which is a ſingle flower on its proper pedicel: corolla duſky-purple; anthers ſix, on a very ſhort, thick ſtyle. Capſule roundiſh, hexagonal[u].

Native of the Eaſt-Indies and Cochinchina. The whole plant is bitter, without much ſmell. The root is thought to be attenuant and deobſtruent[x].

15. Root very long, pale-coloured, ſomewhat aſtringent with manifeſt acrimony. The whole plant is odorous. Stems ſlender and ſtriated, ramping over hedges and buſhes. Leaves acuminate, the upper ſurface ſmooth and green, the lower whitiſh purple, on long petioles. Flower crooked, oblong, very dark purple, pubeſcent within, on very long peduncles[y]. The ſtipules are ovate-rhombed and mucronate[z]. Found by Cluſius about Seville, and in ſeveral other places of Andaluſia. Evergreen, and flowering in january and february.

Cultivated by Gerard, in 1597, and called by him and Ray *Climbing Birthwort.*]

16. Roots many, ſlender, odorous. Stems many, trailing, ſlender, a foot or eighteen inches in length, angular, ſtriated, branched, tough, and pliable, dark green, ſpreading on the ground. Leaves nerved, very dark coloured, evergreen, on long petioles. Flowers axillary, crooked, longer than the leaves, of a dark purple colour on the outſide, but yellowiſh within. Fruits like thoſe of long-rooted Birthwort, but ſmaller[a]. Native of the iſland of Crete or Candia. It flowers in may and june; and was cultivated in the botanic garden at Chelſea, in 1739[b].

17. Root a congeries of ſmall fibres, of a yellow colour, and aromatic ſmell and taſte. One or two ſtems riſe from it, ſmooth or very little hairy, the joints very knotty, generally erect. Leaves, one at each knot, ſlender, long, acuminate, ſomewhat hairy above, rough with protuberant nerves underneath, rather glutinous. One or two flowers grow cloſe to the ground; theſe differ in form from the other ſpecies, terminating in a broad, round heel, ſupporting the lip, the centre of which opens into the hollow of the flower, and is of a dark purple, the reſt of the flower is of a muddy colour. Capſule pear-ſhaped, near an inch in diameter. After the ſeeds are ripe, the ſtems decay. It flowers in may, and perfects its ſeeds in auguſt[c].

The root is a warm diaphoretic and diuretic. It is reckoned one of the principal medicines of the alexipharmic kind; and as ſuch is in general uſe in low malignant fevers and epidemic diſeaſes. It is given in ſubſtance from a few grains to a ſcruple or half a dram; in decoction or infuſion, to a dram and upwards. A tincture of it is prepared by digeſting three ounces in a quart of ſpirit of wine eight days; and a ſpirituous alexeterial water mixed with one-ſixth its quantity of diſtilled water. It is alſo an ingredient in the compound tincture of Bark, and the *Cataplaſma Cumini*[d].

Native of Virginia and Carolina. Cultivated by Mr. John Tradeſcant at South Lambeth in 1632[e]. Introduced in 1770, by Mr. William Young[f].

18. Roots round, numerous. Stems angular, branching, ſeldom riſing to a foot in height, and ſcarcely able to ſupport themſelves. A ſmall heart-ſhaped bracte ſits cloſe at the baſe of the peduncle. The flower is ſmall, the lip is bent inwards: the tube and beginning of the petal are yellow, the broader end is blood-coloured. The fruit is petioled, ovate and grooved[g].

Native of the ſouth of France, Switzerland, and Spain. Cultivated by Gerard in 1596.]

19. Roots roundiſh, growing to the ſize of ſmall Turneps, in ſhape and colour like thoſe of the common Cyclamen, which are frequently ſold for roots of the round Birthwort in the markets. They ſend out three or four weak trailing branches, which lie on the ground where they are not ſupported, and extend to the length of two feet. The leaves are rounded at the end. The flowers come out ſingly, cloſe to the petioles, towards the upper part of the ſtalk: they are of a purpliſh black colour. Capſules oval.

[The ſtems are angular: the lip of the corolla curved inwards[h]; the tube hexagonal below the middle; the peduncles pentagonal[i].

The leaves of this ſpecies have ſcarcely any petioles; but there is a variety, named by Caſpar Bauhin *A. rotunda, flore ex albo purpuraſcente*, which has the leaves on longer petioles[k]. It differs, he ſays, from the other, not only in the colour of the flower, but in the leaves and fruit[l]. It is ſaid alſo to be hardier, and to flower earlier[m].

Round-rooted Birthwort is a native of the ſouth of Europe, and flowers from june through the autumn.]

20. This has long tap roots, ſhaped like thoſe of Carrots; theſe ſend out weak trailing branches, which extend little more than a foot: the leaves are paler, and have longer foot-ſtalks than the foregoing: the flowers are not ſo long, and are of a pale purple colour. Capſules oblong. The ſtalks of both decay in the autumn, and new ones are produced in the ſpring.

[Long-rooted Birthwort is a native of the ſouth of Europe, and alſo of Japan; it flowers at the ſame time with the other. Linneus indeed thinks, that they are ſcarcely diſtinct ſpecies. They were both cultivated by Gerard, in 1596[n].]

21. This has ſome reſemblance to the foregoing, but the leaves are hairy, and not ſo deeply eared at the bottom; the flowers alſo are much larger. [The ſtem is ſtriated and hairy; the leaves obtuſe with a dagger point; the corolla incurved and recurved without an elongated lip[o]. It is thus deſcribed by the elegant Tournefort, who firſt obſerved it. The root is a foot and half or two feet in length, and two inches in thickneſs, hard, woody, yellowiſh marbled with rays of white and ruſſet, covered with a rough bark of a purpliſh colour: it has only few fibres, and is inſupportably bitter. Stems two feet high, firm, ſolid, two lines in thickneſs, pale green, channelled, purpliſh at the baſe, lying on the ground. At each knot is a ſingle leaf, three inches long, and two wide at the baſe, which is rounded into two ears, above theſe it becomes ſenſibly narrower; the upper ſurface is browniſh-green, ſhining, and veined in trapeziums. From their axils ſpring a flower, bent in ſhape of an S, three inches and a half long, on a peduncle from one to two inches in length: the baſe is eight or nine lines wide, pale-green mixed

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[s] Jacquin.
[t] Rauwolff.
[u] Loureiro & Linn. zeyl.
[x] Loureiro.
[y] Cluſius.
[z] Linn. ſpec.
[a] Cluſius.
[b] Hort. kew.
[c] Baniſter in Ray's hiſt. vol. 3.

[d] Lewis.
[e] Johnſon in Ger. herb.
[f] Woodville.
[g] Haller, Linn. Villars.
[h] Linn. ſpec.
[i] Scopoli.
[k] Linn. ſpec.
[l] Bauh. pin. 307. 2.
[m] Cluſius.
[n] Hort. kew.
[o] Linn. ſpec.

with purple, and angular; the tube is half an inch over, terminated by a throat eighteen or twenty lines in diameter, and almoſt oval; the hollow of it is beſet with white hairs, a line and half in length; the bottom is purple, black, and livid, with ſome ſtreaks of a paler colour inclining to yellow; and it has a large ſwelling where the throat begins to contract; the inſide of the tube is blackiſh-purple, and covered with hairs, as is alſo the baſe, which is of a paler colour. This flower has no ſmell. The whole of the plant is bitter.

It is a native of the iſland of Scio or Chios [p].

22. Common Birthwort has an erect ſtem, from two to three feet high, ſimple, ſtriated, round and ſmooth, taking a different direction at each joint, which is ſmooth and ſhining. Leaves obtuſely heart-ſhaped, above bright, beneath pale green, ſmooth, veiny, on footſtalks nearly as long as the leaves. Flowers axillary, ſometimes ſix or more, on peduncles erect or hanging down, yellowiſh green, ſtriated, the lip often tinged with purple. Capſule ovate, obtuſe, hanging down [q]. *Tipula pennicornis* is ſaid to fecundate the flowers [r]. It dyes wool of a good yellow; and is in flower from june to ſeptember. Native of France, Spain, Italy, Auſtria, Carniola, Germany, Hungary, and Tartary. Haller thinks it hardly a native of Switzerland. Mr. Miller will not allow that it grows wild in England; it is however found, though rarely remote from gardens, in hedges and woods; as in a wood two miles from Thorndon in Eſſex [s]; near Maidſtone, and other places in Kent [t]. Mr. Woodward obſerved it near Stuſton in Suffolk [u]; and Profeſſor John Martyn, in the hedges at Whittleſford in Cambridgeſhire, before the year 1732.

All the Birthwort roots (n. 18, 19, 20, and 22) have an aromatic ſmell, and a warm, bitteriſh taſte. Boerhaave ſays they are the hotteſt of the aromatic plants: he probably ſpeaks of the freſh roots, for thoſe which are uſually met with in the ſhops, have no great pungency. The long and round ſorts, on firſt chewing, ſcarcely diſcover any taſte, but in a little time prove nauſeouſly bitteriſh; the round ſomewhat the moſt ſo. The other two inſtantly fill the mouth with a kind of aromatic bitterneſs, not very ungrateful.

They are celebrated as warm attenuants and deobſtruents, particularly in ſuppreſſions of the uterine purgations: the doſe is from a ſcruple to a dram and upwards. They have been likewiſe recommended, particularly the 21ſt, as alterants in the gout: Boerhaave obſerves, that the pituitous gout, as he calls it, is often relieved by an infuſion of theſe roots in ſpirit of juniper-berries, ſweetened with ſugar, and taken to the quantity of a ſpoonful at a time; but that in other kinds of the gout, and in ſubjects of a tender conſtitution, this medicine occaſions a loſs of appetite, a weakneſs of the ſtomach, and a languidneſs, leſs ſupportable than the gout itſelf: a powder compoſed of this and other ſimilar materials, which was preſcribed by the ancients as an antiarthritic, and has come again into eſteem, has alſo produced complaints of the ſame kind. Externally theſe roots have been uſed as diſcutients, detergents, and antiſeptics: Simon Paulli relates, that the long Birthwort roots applied as an epithem or in fomentation, were found remarkably ſerviceable in ſtubborn ulcers of the legs [x].]

23. This ſends out climbing ſtalks, which ſupport themſelves by faſtening to the neighbouring trees, and thereby riſe to a very great height: the leaves are very broad, and have ſeveral longitudinal veins; the flowers grow in looſe bunches at the extremities of the branches, each have a long peduncle. It grows naturally about Tolu in New Spain, where it was diſcovered by Mr. Robert Millar, who ſent the ſeeds to England.

24. This ſeldom climbs above three or four feet high: the leaves are ſhort, in ſome meaſure like thoſe of the 19th ſort: the flowers come out in ſmall cluſters from the axils, and are of a dark purple colour. It was diſcovered by Mr. Robert Millar at Campeachy in New Spain, whence he ſent the ſeeds. [Theſe two ſpecies are not noticed by Linneus or any other author. The three following ſpecies are alſo new ones.

25. Stem flexuoſe ſtriated. Leaves petioled. Flowers peduncled, ſhorter than the leaf, with a long, curved lip. Found by Koenig about Madras. It is uſed in medicine by the Indians [y].

26. Native of the Caribbee iſlands [z].

27. This bears very large flowers, which are ſeldom under five or ſix inches round the margin; but the *rima*, or opening of the flower, continues glewed up, longitudinally, for a conſiderable time; and terminates in a long ſlender appendix, at the lower extremity. Native of Jamacia, where it is very common in St. Ann's [a].]

PROPAGATION AND CULTURE.

All theſe ſorts, which are natives of hot climates, (as n. 1 to 7, 9, 10, 12, 14, 23—27.) are too tender to thrive in the open air in this country, therefore require a ſtove to preſerve them. They are propagated by ſeeds, which muſt be procured from the countries where they grow naturally, for they do not produce any here. As the ſeeds are a conſiderable time in their paſſage, they ſhould be brought over in their pods; for many of the ſorts have very thin light ſeeds, which are ſoon dried in a hot country, when they are out of their covers, which will prevent their growing. So ſoon as the ſeeds arrive, they ſhould be ſown in ſmall pots filled with light earth; and if this happens in the autumn, or winter, the pots ſhould be plunged into the tan in the bark-ſtove, between ſome of the pots with large plants, which will ſcreen them from the ſun; for as theſe plants delight in ſhade, ſo, by thus placing the pots, the earth will not dry very faſt, which will be of great advantage to the ſeeds, which ſhould not be too often watered. Here the pots may remain till march, at which time they ſhould be removed, and plunged into a hot-bed, under frames, where, if the ſeeds are good, the plants will appear in may: but if the ſeeds arrive in ſpring or ſummer, they muſt be immediately ſown in ſmall pots, and plunged into a moderate hot-bed, obſerving to ſhade them conſtantly in the heat of the day; but the ſeeds ſown at this ſeaſon ſeldom grow the ſame year; therefore if the plants do not appear, the pots ſhould be plunged in the tan-bed of the ſtove in autumn, and in the ſpring following, treated as before directed, which will bring up the plants. When theſe are ſtrong enough to tranſplant, they ſhould be each put into a ſeparate ſmall pot, and plunged into the tan-bed in the ſtove, and treated as other tender plants from the ſame countries.

8. Tree Birthwort will live abroad in a warm border, with a little protection in hard froſts. It is generally kept in a pot, and ſheltered in winter, but will thrive much better when planted in the full ground.

11. Is hardy: and may be increaſed by ſeeds, and ſuckers, or by parting the roots.

13, 15, 16, 18. Are propagated by parting the roots. They are too tender to thrive in the open air in hard winters: they are preſerved therefore in pots, and placed under a common frame, where they may have as much free air as poſſible in mild weather, but may be ſcreened from ſevere froſt: ſome plants at leaſt ſhould be ſheltered to preſerve the ſpecies.

17, 19, 20, 21. Are propagated by ſeeds, which ſhould be ſown in the autumn, in pots filled with light earth, and placed under a frame, to be ſcreened from the froſt; but the glaſſes ſhould be taken off at all times when the weather is mild. If theſe pots are put into a gentle hot-bed in march, it will bring up the plants much ſooner than they otherwiſe would riſe. As the ſeaſon advances, the plants ſhould be inured by degrees to bear the open air: when the pots are taken out of the bed, they muſt be placed where they may enjoy the morning ſun, but ſcreened from it in the heat of the day. Gentle refreſhings of water muſt be in dry weather given to the plants during the ſummer, but in the autumn, when their ſtalks begin to decay, they muſt have little wet. In the winter the pots muſt be ſheltered as before; and in march, before the roots begin to ſhoot, they ſhould be tranſplanted into ſeparate ſmall pots filled with light earth, and ſet under the frame, where they ſhould remain till ſpring; then they may be removed into the open air, and treated in the ſame manner as in the former ſummer, and ſheltered alſo the following winter. The next ſpring they may be turned out of the pots, and planted in a warm border, where, during the ſummer, they will require no other care but to keep them clean from weeds; and in the autumn when their ſtalks are decayed, if the border is covered with old tanners bark to keep out the froſt, the roots will be ſecured; but where this care is not taken, the roots are frequently killed by froſt. With this management the roots will thrive much better than thoſe which are kept in pots, and continue longer; and when they are three years old, they will flower and produce plenty of ſeeds, whereas thoſe in pots ſeldom perfect their ſeeds in England.

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[p] Tournefort voyage, 2. p. 79. edit. 1717. 8vo.

[q] Woodw. M.S. With.

[r] Schreber in Linn. ſyſt.

[s] Blackſtone.

[t] Hudſon.

[u] Withering.

[x] Lewis.

[y] Retz.

[z] Swartz.

[a] Browne.

When the ſeeds of theſe plants are ſown in the ſpring, the plants will not appear till the ſpring following; ſo that a whole ſeaſon is loſt, and many times they fail, therefore they ſhould always be ſown in the autumn.

22. Is a terrible plant for creeping at the root; ſo that if it has once taken in a garden, it will be difficult to extirpate it again, and it will overrun whatever plants grow near it; therefore it ſhould be planted in ſome abject part of the garden, and it will thrive in any ſoil and ſituation.

[The Birthworts are all perennials, and the greater part of them having weak ſtems, require ſome ſupport. When ſeeds cannot be procured, moſt of them may be increaſed by the roots, or by cuttings, in the ſpring.]

[ARISTOTELIA. (*From the celebrated ancient philoſopher and naturaliſt,* Ariſtotle.)

Lin. gen. Schreb. n. 816. *L'Heritier Stirp. nov.* 31. *t.* 16. *Juſſ.* 433.

Claſſ. 11. 1. Dodecandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted; *diviſions* lanceolate, concave, acute, upright.

COR. *Petals* five, wedge-ſhaped, concave, erect, lying over each other at the ſides, ſcarcely longer than the calyx.

STAM. *Filaments* fifteen; (to each petal three, one of which is interior, oppoſed to the petal:) very ſhort: *anthers* linear, ſhorter than the germ.

PIST. *Germ* ſuperior, roundiſh, rather three-cornered: *ſtyle* filiform, longer than the corolla; *ſtigmas* three, recurved.

PER. *Berry* ſubglobular, obtuſely three-cornered, three-celled.

SEEDS two, or ſolitary in each cell, angular.

OBS. *All the anthers ſeen by M. L'Heritier being barren, it may perhaps be dioecous.*

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* five-petalled. *Berry* three-celled. *Seeds* two in each cell.

SPECIES.

1. Ariſtotelia Macqui. *Shining-leaved Ariſtotelia.* *L'Heritier ſtirp. nov.* 31. *t.* 16. *Ait. hort. kew.* 2. 116.

DESCRIPTION, *&c.*

This is a ſmall ſhrub, native of Chili, whence it was firſt ſent to Europe by Dombey. It is known there by the name of *Macqui.* The root is woody, branching, very full of fibres, and of a browniſh colour. Stem upright, brachiate, round, gray with tubercles of a paler colour. Branches and twigs patulous, oppoſite, round, green or red, with wart-like glands. Leaves oppoſite, ſpreading or hanging down a little, oblong-ovate, acuminate, ſerrate, the point almoſt entire, the baſe towards the petiole obſcurely glandular, nerved, beneath three-nerved and veined, the midrib beneath red and prominent, but ſcarcely riſing on the upper ſurface; ſmooth, dry, green, flat, three inches long, and from fifteen to eighteen lines broad: the younger leaves are ſhining, bright green, and a little viſcid. Petioles ſpreading very much, round on the outſide, and ſcarce viſibly furrowed on the inſide, reddiſh, pubeſcent when young, one-third of the length of the leaves. Stipules in pairs, very minute, reſembling glands, ſcarcely ſubulate, becoming tubercles as the twig advances, and then vaniſhing. Peduncles racemed, nodding, terminating or from the upper axils; from the uppermoſt of all they come out by threes; the middle peduncle being longeſt, and bearing from three to five flowers, the others only two or three; they are patulous, pubeſcent, bracted, and eight or nine lines in length. Flowers pedicelled, drooping, globoſe, herbaceous, one or two lines in length and breadth. Pedicels one-flowered, bent back a little, all except the middle ones jointed. Bractes under the pedicels, minute, very narrow, villoſe. Calyx villoſe, one line and a half in length. Style ſometimes three-cleft, ſometimes quite ſeparate into three. Berry the ſize of a pea, very dark purple becoming at length black [a].

Juſſieu remarks, that the number in the parts of the flower is uncertain; the calyx being five or ſix-cleft; the petals five or ſix; the ſtamens fifteen to eighteen, or three to each petal: there are three diſtinct ſtyles.

It flowers in april and may; and was introduced here about 1773, by Meſſrs. Kennedy and Lee [b].

The berries are ſlightly acid, and eatable. The inhabitants of Chili make a wine from them, which they give in malignant fevers. Dombey uſed this remedy with ſucceſs in Chili, againſt the plague, in 1782 [c].

It is hardy enough to bear the open air, in general. Severe winters will probably kill it, unleſs it has the protection of a greenhouſe.

Loureiro has given the name of *Ariſtotelea,* to a genus of the claſs Gynandria, reſembling *Ophrys ſpiralis,* and found near Canton in China.]

ARMENIACA. See *Prunus.*

ARMERIA. See *Dianthus.*

ARMERIUS. See *Dianthus* and *Silene.*

ARMORACIA. See *Cochlearia.*

ARNICA. (*From* πταρνυμαι, *ſternuo, to ſneeze.*)

Lin. gen. 958. *Reich.* 1038. *Schreb.* 1296. *Juſſ.* 182. *Gærtn. t.* 173.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Natural claſs of *Compoſitæ Diſcoideæ.—Corymbiferæ.* Juſſ.

GENERIC CHARACTER.

CAL. *Common* imbricate, ſhorter than the ray of the corolla: *leaflets* lanceolate, the length of the calyx, erect.

COR. *Compound* radiate. *Corollules* hermaphrodite in the diſk very numerous. *Females* in the ray about twenty. *Proper* of the hermaphrodite tubular, erect, five-cleft, equal. *Female* lanceolate, very long, three-toothed, ſpreading.

STAM. to the hermaphrodites. *Filaments* very ſhort: *anther* cylindric.—to the females. *Filaments* ſubulate, erect: *anthers* none.

PIST. *Germ* oblong: *ſtyle* ſimple, the length of the ſtamens: *ſtigma* bifid.

PER. none. *Calyx* unchanged.

SEEDS ſolitary, oblong. *Down* ſimple—in the hermaphrodites pubeſcent, long.

REC. naked.

OBS. *Corollules of the diſk often trifid: with the outer diviſion twice as broad as the others.*

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[a] L'Heritier. [b] Hort. kew. [c] L'Heritier.

ESSENTIAL CHARACTER.

Recept. naked. *Down* ſimple. *Corollules* of the ray have five filaments without anthers.

SPECIES.

1. Arnica montana. *Mountain Arnica.*
Lin. ſpec. 1245. *Reich.* 3. 833. *mat. med.* 187. *ſuec.* 760. *Gærtn. fruct.* 2. 451. *Fl. dan. t.* 63. *Hall. helv. n.* 90. *Allion. pedem. n.* 743. *Scop. carn. n.* 1086. *Leers herb. n.* 651. *Pollich pal. n.* 809.. *Krock. ſileſ. n.* 1420. *Villars dauph.* 207. *Blackw. t.* 595.
Doronicum. *Lin. lapp. n.* 304. *Gmel. ſib.* 2. *p.* 153. *Bauh. pin.* 185.
β. Arn. alpina. *Lin. ſpec.* 1245. *lapp. n.* 305. *Tabern. icon.* 336.
Caltha alpina. *Tabern. ic.* 336. *Beſl. eyſt. æſt.* 14. *t.* 8. *f.* 2. *Dod. pempt.* 254.
Leaves ovate entire, ſtem-leaves twin, oppoſite.

[2. Arnica piloſelloides.
Lin. ſpec. 1245. *Reich.* 3. 833. *amæn.* 6. *afr.* 73.
After æthiopicus, &c. *Raii hiſt. ſuppl.* 165. *n.* 95.
Leaves quite entire, elliptic, villoſe; ſcape one-flowered, woolly; calyx equalling the ray.]

3. Arnica Scorpioides. *Alternate-leaved Arnica.*
Lin. ſpec. 1246. *ſyſt.* 768. *Reich.* 3. 833. *Hall. helv. n.* 89. *Gouan. monſp.* 446. *Allion. ped. n.* 744. *Jacqu. vind.* 152. *fl. auſtr.* 4. 26. *t.* 349. *Villars dauph.* 208.
Doronicum. *Bauh. pin.* 184. 2. *Cluſ. pann.* 520. 521. 3. *Dalech. hiſt.* 1203. *Lob. ic.* 649. *Blackw. t.* 503. *Geſn. de acon.* 11. *fig.*
After ſcorpioides. *Scop. carn. n.* 1075.
Aconitum pardalianches minus. *Camer. epit.* 824.
α. Doronicum radice dulci. *Bauh. pin.* 184. 1. *Lin. ſpec.* 1246.
Leaves alternate, toothed.

[4. Arnica Doronicum.
Lin. ſyſt. 768. *Jacqu. fl. auſtr.* 1. *t.* 92.
Arn. Cluſii. *Hall. helv. n.* 91. *Allion. pedem. n.* 745. *t.* 17. *f.* 1. 2.
A. ſtiriaca. *Villars dauph.* 210.
Doronicum primum vel minus. *Cluſ. pann. p.* 518. & 2.—auſtriacum. *hiſt.* 17.
Leaves alternate, ſubſerrate, oblong, rough.

5. Arnica maritima. *Sea Arnica.*
Lin. ſpec. 1246. *Reich.* 3. 834.
After f. Helenium maritimum, &c. *Gmel. ſib.* 2. *p.* 175.
Leaves lanceolate, the lower ones ſerrate: ſtem leafy, many-flowered.]

6. Arnica crocea.. *Saffron-flowered Arnica.*
Lin. ſpec. 1246. *ſyſt.* 768. *Reich.* 3. 834.
Gerbera. *Burm. afr.* 157. *t.* 56. *f.* 2.
Dens leonis enulæ folio. *Pet. muſ.* 393. *Raii ſuppl. app.* 238.
Doronicum pumilum, &c. *Pluk. mant. t.* 343. *f.* 4.
Carlina. *Burm. afr.* 154. *t.* 55.
Leaves ovate, repand-toothletted, tomentoſe underneath.

[7. Arnica ciliata. *Ciliate-leaved Arnica.*
Lin. ſyſt. 768. *Thunb. jap.* 318.
Leaves ſtem-claſping, ovate, toothed, ciliate, ſmooth; ſtem ſimple, one-flowered.

8. Arnica japonica. *Japoneſe Arnica.*
Lin. ſyſt. 768. *Thunb. jap.* 319.
Leaves gaſh-palmated, toothletted, flowers terminal, ſub-binate.

9. Arnica palmata. *Palmate-leaved Arnica.*
Lin. ſyſt. 768. *Thunb. jap.* 319.
Arn. japonica. *Linn. ſuppl.* 376.
Leaves gaſh-palmated, toothed; flowers panicled.

10. Arnica Gerbera.
Lin. ſpec. 1246. *Reich.* 3. 834.
Gerbera. *Burm. afr.* 155. *t.* 56. *f.* 1.
After africanus, &c. *Raii ſuppl.* 161. *n.* 44.
Doronicum africanum, &c. *Buxb. cent.* 5. *p.* 12. *f.* 24.
Scolopendriæ, &c. *Pluk. alm. t.* 313. *f.* 5.
Leaves pinnatifid, lobes rounded.

11. Arnica coronopifolia.
Lin. ſpec. 1247. *Reich.* 3. 835.
Leaves pinnate, diviſions linear.

12. Arnica oporina.
Forſt. fl. auſtr. n. 299.
Shrubby, leaves lanceolate callous-crenate tomentoſe beneath, peduncles one-flowered ſolitary terminating ſcaly.

DESCRIPTIONS, *&c.*

Some of the ſpecies are cauleſcent, but more have ſcapes bearing one flower only; ſometimes theſe have one pair of leaves. The flowers are yellow [a].

1: Root woody, blackiſh, ſuperficial, appearing as if cut off, having bunches of long fibres, perennial. Stem a foot or a foot and half high, not more than ſix inches in alpine ſituations, obſcurely angular, ſimple, terminated by three (ſometimes only two or even one) upright peduncles, each bearing one flower, two inches in diameter, of a deep yellow colour, tinged with brown or ruſſet and orange. Calyx dirty green, cylindric and hairy, compoſed of fifteen or ſixteen ſcales: in the ray about fourteen ligulate florets, twice as long as the calyx, a line or more in breadth, ſtriated, three-toothed, having hairs at their baſe. Seeds oblong, blackiſh, roughiſh and hairy, crowned with a ſtraw-coloured, or ruſſet-coloured down. Receptacle with deep excavations, on the edges of which are very ſmall briſtles, which makes the whole ſeem a little hairy.—The root is aromatic; the whole plant has a ſtrong ſcent, and is acrid [b].

Linneus remarks [c], that the florets of the ray have not only piſtils, but five diſtinct ſtamens, with as many anthers, diſtinct, and longer than the filaments. Haller and Juſſieu affirm that there are no barren filaments in this ſpecies; but Villars, Krocker, and Gærtner have ſeen them.

The flowers follow the ſun. Kine do not touch the plant; but goats are very fond of it. In Smoland, they ſnuff the powder of the leaves up the noſtrils, to make them ſneeze, and ſmoke them as tobacco. Linneus, in his *Flora Lapponica*, ſeparated the alpine from the meadow plant, but he afterwards conſidered them as one ſpecies. The former has very narrow leaves, like *Plantago lanceolata*; the latter has broad ones, like *P. major*; ſo that they have the appearance of being very different [d]: but this difference is probably owing to ſituation; the former being an alpine plant, and the latter growing among graſs on open hills. It is a native of moſt parts of the continent of Europe, and alſo of Siberia. It flowers with us in july, and was cultivated by Mr. Miller, in 1759 [e].

In Germany it is eſteemed a ſpecific for reſolving coagulated blood, occaſioned by falls or bruiſes. It is recommended likewiſe in ſundry obſtinate chronical diſorders. It appears to be too violent in its operation for general uſe, unleſs repeated ſmall doſes ſhould be accompanied with the good effects, without the diſturbance, which a full doſe is ſaid to produce [f].

Dr. Collin, of Vienna, recommends beginning with an infuſion of one dram of the herb in flower, morning and evening, increaſing the doſe gradually to half an ounce, and keeping the body open. Infuſed in ſmall beer, and taken as common drink, it is reported to have cured the chronical rheumatiſm of the loins; and in one or two doſes, taken two hours before the fit, to have put a ſtop to intermittents of long ſtanding [g]. Bergius tried this infuſion, and alſo the powder of the root, in quartan agues without ſucceſs [h].

Allioni relates his having cured the palſy by the flowers; but that it did not anſwer with him in putrid fevers. He adds, that his patients could not endure an ounce of the flowers in infuſion, which is what Dr. Collin recommends; and that he never ventured on more than three drams, and that divided into ſeveral doſes.

Villars celebrates the *Arnica* as one of the beſt remedies in the vegetable kingdom: as eminently diuretic and tonic; as a febrifuge, antiparalytic and antiarthritic. He ſays, that all parts of it may be uſed in infuſion or decoction, in a doſe of half a grain: or, if given in ſubſtance, leſs, eſpecially at the beginning, becauſe it is apt to diſcourage patients by giving them the heart-burn. How many ſick, he exclaims, have I benefited, and even cured of the dropſy, by this ſimple remedy[i]!

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[a] Juſſieu. [b] Krocker, Villars, Haller. [c] Fl. ſuec. [d] Ibid. [e] Hort. kew. [f] Lewis. [g] Soc. med. hafn. collect. vol. 2. [h] Mat. med. 2. 685.

2. A copious down iſſues from the crown of the root, involving the leaves and ſtem. The leaves are two or three inches long, and an inch and half broad, hairy, eſpecially on the back, entire and ending in a point[k]. The ſcape is twice as long as the leaves, more woolly towards the top[l]. The flower is large[m]. The calyx is tomentoſe, but ſmooth above, the ſame length with the ray of the corolla[n]: the florets of the ray are very narrow, dark red[o], or purple, and male; the down is ruſſet-coloured[p]. Native of the Cape of Good Hope.]

3. Roots much jointed, dividing into many irregular fleſhy offsets, which are variouſly contorted; whence ſuperſtitious perſons were formerly led to imagine, that they would expel the poiſon of ſcorpions, and cure the wounds made by the bite of that animal. [Stems ſeveral, from ſix or eight inches to a foot in height, terminated by one handſome flower, of a deep yellow colour, two inches over. Root-leaves almoſt round or oval, deeply ſerrate, terminating ſuddenly in a ſhort point, and placed on long petioles: ſtem-leaves few, almoſt ſeſſile: all ſoft, ſhaggy, and viſcid. Calyx ſhaggy, open; the outer ſcales longer and wider. Ray of the corolla very open. Seeds a little hairy, ſhort, crowned with an egret. The root and the whole plant has a ſtrong diſagreeable ſmell, eſpecially in the ſhade and expoſed to the north[q].

Monſ. Villars has found this plant with the florets of the ray hermaphrodite. He has alſo found a plant like it, but with the marginal ſeeds naked, the leaves wider, heart-ſhaped, and the whole plant more robuſt: he thinks it may be *Doronicum majus officinarum* of Moriſon, III. 127.; and perhaps *D. auſtriacum* of Jacquin, *fl. auſtr.* 2. *t.* 130. but it has more reſemblance to an *Arnica* than a *Doronicum*[r].

A. ſcorpioides is native of Switzerland, Savoy, Dauphiné, and Auſtria.] Mr. Miller ſays, that he received the ſeeds from Bohemia, and Siberia. [He cultivated it in 1759[s].

4. This plant varies in its leaves, which are ovate or elliptic, or eſpecially on the ſtem very long ellipſes; ſometimes they are quite entire about the edge, but they have generally a few teeth; theſe are ſometimes large, and ſo remote that the leaf becomes angular: the ſurface of the leaves is hairy more or leſs, ſhorter or longer. The height is generally four inches, but ſometimes it is twice as high. The ſtem always bears one flower[t].

Haller ſays, from Cluſius, that the root-leaves are ovate; the ſtem-leaves petioled, tongue-ſhaped, obtuſe, ſoft and ſhaggy: the flower golden. He adds, from Scheuchzer, that the root-leaves are not ſerrate, and that they ſtand on long petioles; that the ſtem-leaves are ſeſſile, ſhaggy, rough, and broader than in Cluſius's figure.

According to Villars, his *A. ſtiriaca* is a middle ſpecies between *A. ſcorpioides* and *Senecio Doronicum.* The root-leaves are oval and pointed, quite entire and petioled: the ſtem-leaves are few and narrower; they are all pale-green inclining to yellow, though covered with ſtraight ſhort hairs. The florets in the ray have neither ſtamens nor filaments. All the ſeeds are crowned with down. The root-leaves are ſometimes toothed[u].

Native of the high alps of the Griſons, Dauphiné, Piedmont, and Auſtria.

5. Native of Kamtſchatka and North America.

6. Crown of the root woolly. Root-leaves petioled, an inch and half or two inches long and an inch broad, rigid, ſmooth on the upper ſurface, generally oval, but ſometimes heart-ſhaped. Scapes one-flowered, with a few linear bractes. The florets of the ray are furniſhed with ſtamens. Native of the Cape of Good Hope[x].

7. Stem angular, hiſpid with white briſtles, upright, a foot high. Leaves alternate; the lower attenuated at the baſe, obovate, gaſh-toothed, with unequal teeth, the edge and keel beneath ciliate, ſmooth above, two inches long; the upper ones roundiſh, ſcarcely toothed, ciliate, ſmaller. Flower terminating, red, the ſize of a ſmall pear.

8. Stem hollow, round, ſtriated, ſmooth, upright, a foot or more in height. Leaves petioled, alternate, ſmooth, green above, pale beneath, the lobes gaſh-pinnatifid, toothed. Petioles of the lower leaves long and ſtriated; of thoſe on the branches broad, ſtem-claſping, ſtriated and ſhort. Flowers peduncled, two or few at the moſt, red.

9. Stem round, very finely ſtreaked, upright, ſmooth, two feet high. Leaves alternate, petioled, ſmooth, green above, pale beneath, the lobes of the lower leaves unequal, toothed; the upper undivided, ſerrate. Petioles of the lower an inch long, of the upper ſcarcely a line in length. Flowers terminating, ſmall, yellow. This, and the two foregoing are natives of Japan[y].

10. Crown of the root woolly. The leaves have the lobes imbricated backwards, and whilſt young they are tomentoſe underneath. The ſcape is ſurrounded with very ſlender leaves, and ſupports one large flower, with a dark purple diſk, and a yellow ray purple underneath. Native of the Cape of Good Hope[z].

11. Very nearly allied to the foregoing; and a native alſo of the Cape[a].

12. Native of New Zealand[b].]

PROPAGATION AND CULTURE.

1, 2, 3, 4, 5. The European ſorts are hardy, and require a moiſt ſhady ſituation. They may be propagated by parting the roots in autumn when the ſtalks begin to decay; or by the ſeeds ſown in autumn, ſoon after they are ripe, for thoſe ſown in the ſpring often fail: but if the ſeeds are permitted to ſcatter, the plants will often come up of themſelves, without any other care but to keep them clean from weeds.

[The other ſpecies muſt be kept in pots under a frame, or in a dry ſtove. They may be increaſed by ſeeds, cuttings, or parting the roots; and muſt be treated as other plants from the Cape of Good Hope.

ARNICA. See *Doronicum.*

ARNOSERIS. See *Lapſana.*

ARNOTTO. See *Bixa.*

ARONIA. See *Orontium.*

ARROW-HEAD. See *Sagittaria.*

ARROW-HEADED GRASS. See *Triglochin.*

ARROW-ROOT, Indian. See *Maranta.*

ARSMART. See *Polygonum.*

ARTANICA. See *Cyclamen.*]

ARTEDIA. (*From Peter Artedi, ſtudent of medicine in Sweden. He arranged the umbellate plants from the calyx, and died in* 1735.)

Lin. gen. n. 332. *Reich.* 363. *Schreb.* 465. *Juſſ.* 224. *Gærtn. t.* 85.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ* or *Umbelliferæ.*

GENERIC CHARACTER.

CAL. *Umbel univerſal* ſpreading, flat, manifold. *Partial* ſmall, ſimilar.—*Involucre univerſal* about ten-leaved: *leaflets* ovate-oblong, three-briſtled at the end, nearly the length of the umbel.—*Partial* two or three-leaved, verging outwards: *leaflets* linear, pinnate, longer than the umbellule.

COR. *univerſal* difform, radiate. *Floſcules* of the diſk abortive. *Proper of the diſk* male: petals five, cordate-inflex, erect——*of the ray* hermaphrodite, with ſimilar petals, but the outmoſt larger.

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[i] See more in Krocker, Allioni, Haller, Collin, Bergius, Murray, Woodville, &c.
[k] Ray.
[l] Linn. amæn.
[m] Ray.
[n] Linn. amæn.
[o] Ray.
[p] Amæn.
[q] Villars and Haller.
[r] Villars dauph. 210.
[s] Hort. kew.
[t] Allioni.
[u] Dauph. 211.

[x] Linn. ſpec. & ſyſt.
[y] Thunberg.
[z] Linn. ſpec. & Ray hiſt.
[a] Linn. ſpec.
[b] Forſter.

Stam. *Filaments* five, capillary in all the flowers: *anthers* ſimple, roundiſh.

Pist. *of the ray, germ* ſmall, inferior: *ſtyles* reflex: *ſtigmas* ſimple.

Per. none. *Fruit* roundiſh, compreſſed, leafy-ſcaled on the edge, bipartile.

Seeds two, oblong, ſet about the edge with roundiſh, ſpreading, ſcales.

ESSENTIAL CHARACTER.

Invol. pinnatifid. *Floſcules* of the diſk male. *Fruit* rough with ſcales.

SPECIES.

1. Artedia ſquamata.
Lin. ſpec. 347. *Reich.* 667. *hort. cliff.* 89. *upſ.* 58. *Gron. orient. n.* 81. *Gærtn. fruct.* 2. 33.
Thapſia orientalis. *Tourn. cor.* 22. 1. *itin.* 3. 298. *Mor. hiſt. ſ.* 9. *t.* 18. *f.* 11. (bad).
Gingidium foeniculi folio. *Bauh. pin.* 151. *Raii hiſt.* 416. *n.* 3.
G. Dioſcoridis. *Rauw. itin.* 287. *t.* 38.
G. Rauwolffii. *Cam. hort.* 67. *t.* 16.

DESCRIPTION, &c.

This is a native of the eaſt. Rauwolff found it on mount Libanus; and Tournefort afterwards in Natolia. It is an annual plant, whoſe ſtalks riſe about two feet high, ſending out a few ſide branches, with linear multifid leaves, reſembling thoſe of Dill; the extremity of the ſtalk is terminated by a large umbel of white flowers.

[The fruit-bearing umbel converges; the involucre is many-leaved, the leaflets margined at the baſe, once or twice ternate at the tip; umbellules contracted, the florets of the diſk male, involucel two or three-leaved, halved, pinnatifid. Petals as in *Tordylium*[a]. Fruit orbicular, or ovate, compreſſed, pale, bay-coloured. Seeds ſlightly convex on one ſide, marked with five capillary longitudinal ſtreaks, having a membranaceous edge, divided into ten or twelve lobes; flattiſh on the other ſide, muricated with little ſcaly wrinkles, and having a riſing longitudinal line in the middle[b].

It flowers in july, and was introduced in 1788, by Monſ. Thouin[c].]

PROPAGATION AND CULTURE.

This plant decays as ſoon as the ſeeds are perfected, and many times in England before they are ripe; for unleſs they are ſown in autumn, and the plants come up before winter, they rarely produce good ſeeds here. They ſhould be ſown on a warm border, where the plants are to remain, for they will not bear tranſplanting. All the care they require, is to keep them clean from weeds, and to thin the plants to ſix or eight inches diſtance. [But to ſecure their ſeeding here, they ſhould be raiſed in a hot-bed, and kept in the greenhouſe.]

Artedia muricata. See *Daucus.*

ARTEMISIA. (Αρτεμισια. *Hippocr. & Dioſc. from Artemiſia, wife of Mauſolus, king of Caria.* Or from Αρτεμις, Diana.)
Lin. gen. n. 945. *Reich.* 1025. *Schreb.* 1281. *Tournef.* 260. *Vaill. act. gall.* 1719. *f.* 23, 31, 36, 45. *Juſſ.* 184. *Gærtn. t.* 164. Engl. *Mugwort.* Fr. *Armoiſe.*—Abrotanum. *Tournef.* Engl. *Southernwood.* Fr. *Aurone.*—Abſinthium. *Tournef.* 260. *Gærtn. t.* 164. *Vaill. f.* 32. Engl. *Wormwood.* Fr. *Abſinthe.*
Claſſ. 19. 2. Syngeneſia Polygamia Æqualis.
Nat. order of *Compoſitæ Nucamentaceæ. Corymbiferæ.* Juſſ.

GENERIC CHARACTER.

Cal. *Common* roundiſh, imbricate: *ſcales* rounded, converging.

Cor. compound: *corollules* hermaphrodite, tubular, ſeveral, in the diſk. *Females* almoſt naked, in the circumference. *Proper of the hermaphrodite* funnel-ſhaped: *border* five-cleft.

Stam. in the hermaphrodites. *Filaments* capillary, very ſhort: *anther* cylindric, tubular, five-toothed.

Pist. in the hermaphrodites. *Germ* ſmall: *ſtyle* filiform, the length of the ſtamens: *ſtigma* bifid, revolute.—*Females, germ* very ſmall: *ſtyle* filiform longer than in the hermaphrodites: *ſtigma* ſimilar.

Per. none. *Calyx* ſcarcely changed.

Seeds ſolitary, naked.

Rec. flat, naked, or villoſe.

Obs. Abſinthium T. *has a villoſe receptacle, and a more globular calyx.*—Abrotanum T. *and* Artemiſia T. *have a naked receptacle.*

ESSENTIAL CHARACTER.

Recept. ſubvilloſe, or almoſt naked. *Down* none. *Cal.* imbricate with rounded, converging, ſcales. *Cor.* of the ray none.

SPECIES.

* *Shrubby, erect.*

[1. Artemiſia vermiculata.
Lin. ſyſt. 743. *Reich.* 3. 737. *mant.* 281.
Abſinthium africanum arboreſcens, folio vermiculato incano. *Tournef. inſt.* 358.
Frutex cineraceus muſcoſus. *Breyn. cent.* 24. *t.* 12.
Leaves aceroſe, crowded, very ſmall; panicle racemed, flowers ſeſſile.

2. Artemiſia capillaris.
Lin. ſyſt. 743. *Thunb. jap.* 309.
Leaves ſimple, capillaceous.

3. Artemiſia judaica.
Lin. ſyſt. 743. *Reich.* 3. 738. *mant.* 281. 111. *mat. med.* 183. *Stechm. artem.* 20. *Lour. cochinch.* 489?
Abſinthium halepenſe, &c. *Pluk. alm. t.* 73. *f.* 2.
Leaves obovate, obtuſe, lobed, ſmall; flowers panicled, pedicled.]

4. Artemiſia æthiopica.
Lin. ſpec. 1184. *ſyſt.* 743. *Reich.* 3. 738. *mant.* 283.
Abrotanoides africanum, &c. *Raii ſuppl.* 233. *n.* 14.
Leaves palmate, linear, very minute; flowers racemed, peduncled.

[5. Artemiſia contra.
Lin. ſyſt. 743. *Reich.* 3. 738. *mant.* 282.
Leaves palmate, linear, minute, panicled racemed, flowers ſeſſile.]

6. Artemiſia Abrotanum. *Southern-wood.*
Lin. ſpec. 1185. *Reich.* 3. 739. *hort. cliff.* 403. *upſ.* 257. *mat. med. n.* 412. *p.* 183. *Gouan. monſp.* 432. *Scop. carn. n.* 1034. *p.* 144. *Allion. pedem. n.* 605. *Krock. ſileſ. n.* 1364. *Blackw. t.* 555. *Woodv.* 326. *t.* 119. *Stechm. artem.* 22. *Lour. cochinch.* 490.
Abrotanum vulgare. *Bauh. hiſt.* 3. *p.* 192.
Abrot. mas. *Dod. pempt.* 21. *Ger.* 947. *f.* 2. *emac.* 1105. *f.* 2. *Raii hiſt.* 371.——vulgare. *Park. theat.* 92. *f.* 1.
α. Stem erect. *Common Southernwood.*
β. Abrot. humile. *Dwarf Southernwood.*
Hort. par. Mill. dict. n. 7. *fig. t.* 2. *f.* 1. *Tournef. inſt.* 459.
Leaves ſetaceous, pinnatifid; ſtem decumbent, underſhrubby.
Leaves ſetaceous, very branching.

7. Artemiſia arboreſcens. *Common Narrow-leaved Tree Wormwood.*
Lin. ſpec. 1188. *Reich.* 3. 739. *Allion. pedem. n.* 611.
Abſinthium arboreſcens. *Lob. ic.* 753. *Park. theat.* 93. *f.* 3.
Leaves tripinnatifid, ſilky, cinereous, leaflets linear, flowers globoſe; flower-bearing branchlets ſimple.

[8. Artemiſia argentea. *Broad-leaved Tree Wormwood.*
L'Herit. ſert. angl. tab. 28. *Ait. hort. kew.* 3. *p.* 170.
Leaves bipinnatifid, ſilky, white: leaflets lanceolate-linear; flowers globoſe, flower-bearing branchlets wand-like.

9. Artemiſia aragoniæ.
D'Aſſo arag. n. 811.
Leaves linear, bipinnate, hoary: flowers racemed.

10. Artemiſia Meſſerſchmidii.
Stechm. p. 19. *n.* 9.
Leaves linear, multifid; racemes erect, ſlender, looſe.

11. Artemiſia tatarica.
Stechm. p. 19. *n.* 10.
Lower leaves bipinnate, pinnas equal; upper leaves pinnate, linear: racemes erect, looſe, many-flowered.

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[a] Juſſieu gen.
[b] Gærtner.
[c] Hort. kew.

12. Artemiſia nitroſa.

Stechm. p. 24. *n.* 17. *Gmel. ſib.* 2. *p.* 113. *n.* 98. *t.* 50. *f.* 1.

Lower leaves finely multifid; upper entire, obtuſe: corymbs erect, hoary, oblong, ſpiked, ſeſſile.

13. Artemiſia Lerchiana.

Stechm. n. 18. *Gmel. ſib.* 2. *n.* 99. *t.* 50. *f.* 2. 3.

β. *Gmel. ſib. n.* 97. *t.* 49. *f.* 2.

Lower leaves pinnate, ſhort, finely divided, pinnas palmate; upper leaves linear, undivided: corymbs ſeſſile, very copious, ſpiked, oblong.

14. Artemiſia tenella.

Stechm. 20. *Pluk. phyt. t.* 1. *f.* 3.

Abſinthium ſeriphium hiſpanicum. *Tournef. inſt.* 458. *Quer. fl. Eſpan.* 2. *p.* 143. 3.

Leaves ſhort, very finely multifid; panicles ſlender, looſe, leafy, peduncles one or two-flowered.

15. Artemiſia pauciflora.

Stechm. n. 21. *Gmel. ſib.* 2. *n.* 101. *t.* 52. *f.* 1. 2.

Branches virgate; filiform: corymbs one-ranked, ſpiked, ſubſeſſile.

16. Artemiſia italica.

Stechm. n. 23. *Hall. gott. p.* 373. *Zinn. cat. p.* 398. *Vaill. act. par.* 1719. *p.* 287. 24. *Pluk. phyt. t.* 121. *f.* 2. *Tournef. inſt. p.* 459.

Leaves tomentoſe, looſely pinnate; pinnas long, linear; root-leaves dotted, ſpikes denſe: flowers erect.

17. Artemiſia hiſpanica.

Stechm. n. 24.

Leaves looſely pinnate; pinnas long, linear, ſpikes very denſe; calyxes oblong.

18. Artemiſia Gmelini.

Stechm. n. 27. *Gmel. ſib.* 2. *n.* 106. *t.* 56. *f.* 1.

Leaves doubly pinnate, obtuſe, linear; corymbs green, roundiſh, nodding.

19. Artemiſia Lobelii.

Allion. pedem. n. 607.

A. camphorata. *Villars dauph.* 242.

Abrot. mas anguſtifolium minus. *Bauh. pin.* 136. *Raii hiſt.* 371.

Abrot. odoratum humile, denſe fruticoſum. *Lob. ic.* 769. *obſ.* 444.

Leaves petiolate, palmate-multifid, linear; the upper ones ſimple, angular.]

** *Procumbent before flowering.*

20. Artemiſia ſantonica. *Tartarian Southernwood,* or *Worm-ſeed.*

Lin. ſpec. 1185. *ſyſt.* 743. *Reich.* 3. 739. *Stechm. artem.* 25. *Woodv.* 335. *t.* 123.

A. fruticoſa incana, &c. *Gmel. ſib.* 2. *p.* 115. *t.* 51.

Semen ſanctum. *Lob. ic.* 756.

Abſinthium ſantonicum alexandrinum. *Bauh. pin.* 130. *Raii hiſt.* 368.

β. Abſ. ſantonicum gallicum.

Bauh. pin. 139. *Camer. epit.* 457.

Stem-leaves pinnate multifid, branches undivided, ſpikes one-ranked, reflex: flowers with five florets.

21. Artemiſia campeſtris. *Field Southernwood.*

Lin. ſpec. 1185. *ſyſt.* 743. *Reich.* 3. 740. *hort. cliff.* 403. *fl. ſuec.* 732. *Hudſ. angl.* 357. *With.* 889. *Gmel. ſib.* 2. *p.* 117. *Hall. helv. n.* 131. *Scop. carn. n.* 1037. *Pollich palat. n.* 780. *Krock. ſileſ. n.* 1365. *Villars dauph.* 247. *Bauh. hiſt.* 3. *p.* 194. 2. *Stechm. artem. n.* 26. *Camer. epit.* 597.

Abrotanum campeſtre. *Bauh. pin.* 136. *Raii hiſt.* 371. *ſyn.* 190. *Garid. p.* 2. *t.* 1. *Ger.* 948. 5. *emac.* 1106. 5. *Park.* 94. 7. *Pet. brit.* 20. 4.

β. Abrot. camp. incanum Carlinæ odore.

Bauh. pin. 136. *Prodr.* 71. *Mill. fig. t.* 2. *f.* 2.

Leaves multifid, linear; ſtems procumbent, wand-like.

[22. Artemiſia paluſtris. *Marſh Southernwood.*

Lin. ſpec. 1185. *Reich.* 3. 740. *Gmel. ſib.* 2. *p.* 119. *t.* 55.

Abſinthium. *Amm. ruth.* 197.

Leaves linear, pinnate, quite entire; flowers glomerate, ſubſeſſile.]

23. Artemiſia erithmifolia. *Sampire-leaved Southernwood.*

Lin. ſpec. 1186. *Reich.* 3. 740.

Abrot. hiſpanicum maritimum, &c. *Tournef. inſt.* 459.

Abrot. inodoratum, &c. *Mor. hiſt.* 3. *p.* 11. *Raii ſuppl.* 232. *n.* 5.

Leaves compound, divaricate, linear, fleſhy, ſmooth; ſtem riſing, panicled.

[24. Artemiſia valleſiaca. *Downy Southernwood.*

Allion. pedem. n. 614. *Ait. hort. kew.* 3. 170. *Hall. helv. n.* 128.

Artemiſia filaginoidea. *Stechm. n.* 28.

Art. Herba alba. *D'Aſſo Arrag. n.* 810. *t.* 8. *f.* 1.

Abſinthium Seriphium montanum candidum. *Bauh. pin.* 139. *Tournef. inſt.* 458. *Scheuch. it.* 4. 328. 1. 29. *t.* 3. *f.* 1. (very bad.)

Abſ. valeſiacum tenuifolium candidum, ſeu, Herba alba. *Bauh. hiſt.* 3. 179. *Mor. hiſt.* 3. *p.* 9.

Abſ. album valleſianum. *Park. theat. p.* 99. 8. *Raii hiſt.* 369.

Herba alba. *Geſn. hort.* 244.

Leaves pinnate, many-parted, filiform, tomentoſe; flowers ſeſſile, erect, ſubcolumnar, having few florets.]

25. Artemiſia maritima. *Sea Wormwood.*

Lin. ſpec. 1186. *Reich.* 3. 741. *ſuec. n.* 734. *Hudſ. angl.* 358. *With.* 890. *Sauv. monſp.* 264. *Stechm. artem.* 17. *Woodv.* 334. *t.* 122. *Krock. ſileſ. n.* 1366.

Abſinthium marinum album. *Ger.* 940. 1. *emac.* 1099. 1. *Raii hiſt.* 370. *ſyn.* 188. *Petiv. brit. t.* 20. *f.* 2. *Mor. hiſt. ſ.* 6, *t.* 2. *f.* 19, 20.

Abſ. ſeriphium belgicum. *Bauh. pin.* 139. *hiſt.* 3. *p.* 178.

α. Abſ. maritimum Seriphio belgico ſimile, latiore folio, odoris grati. *Pluk. Raii ſyn. n.* 3. *Petiv. t.* 20. *f.* 3.

β. Abſ. Seriphium gallicum—item, germanicum. *Bauh. pin.* 139. *Raii ſyn. n.* 4. *Lin. ſpec.* β. *ſyſt.* γ.

γ. Abſ. Seriphium tenuifolium marinum narbonenſe. *Bauh. hiſt.* 3. 177. *Raii ſyn. n.* 5.

δ. Abſ. maritimum noſtras. *Raii ſuppl.* 231. *ſyn. n.* 6.

Leaves many-parted, tomentoſe; racemes drooping, female florets three.

26. Artemiſia glacialis. *Silky Wormwood.*

Lin. ſpec. 1187. *ſyſt.* 743. *Reich.* 3. 741. *Jacqu. auſtr.* 5. *app. t.* 35. *Allion. pedem. n.* 617. *t.* 8. *f.* 3. *and t.* 9. *f.* 1. *Villars dauph.* 243.

Abſinthium. *Hall. helv. n.* 125. *Raii ſuppl.* 231. 8. *Bauh. pin.* 139. 3. *prodr.* 71. 3.

Leaves palmate, multifid, ſilky; ſtems aſcending; flowers glomerate, level-topped.

27. Artemiſia rupeſtris. *Creeping Wormwood.*

Lin. ſpec. 1186. *Reich.* 3. 741. *ſuec. n.* 733. *Fl. dan. t.* 801. *Allioni pedem. n.* 615. *Gmel. ſib.* 2. *p.* 111. *t.* 49. *f.* 1. *Scop. carn. n.* 1038. *Stechm. artem. n.* 9. *Krock. ſileſ. n.* 1367.

α. Muttellina. *Villars dauph.* 244.

Apſinthium. *Hall. helv. n.* 126.

α. Abſ. viride, foliis multifidis linearibus. *Gmel. ſib.* 2. *t.* 64. *f.* 2.

Leaves pinnate, ſtems aſcending; flowers globoſe, nodding, receptacle pappoſe.

[28. Artemiſia ſpicata. *Spiked Wormwood.*

Lin. ſyſt. 744. *Jacq. fl. auſtr.* 5. *app. t.* 34. *Hall. helv. n.* 127. *Allion. pedem. n.* 616. *t.* 8. *f.* 1. *Stechm. p.* 17. *Villars dauph.* 246. *Bocc. muſ. t.* 71.

Root-leaves biternate, ſtem aſcending, ſpiked, flowers erect.

*** *Erect, herbaceous, with compound leaves.*

29. Artemiſia anethifolia. *Dill-leaved Wormwood.*

Stechm. n. 25. *Gmel. ſib.* 2. *n.* 103. *t.* 54.

Leaves multifid, very ſlenderly divided; corymbs roundiſh, nodding, one-ranked, looſely ſpiked.]

30. Artemiſia pontica. *Roman Wormwood.*

Lin. ſpec. 1187. *Reich.* 3. 742. *hort. cliff.* 404. *upſ.* 257. *mat. med.* 184. *Jacqu. auſtr.* 1. *t.* 99. *Hall. helv. n.* 129. *Pollich pal. n.* 781. *Stechm. artem. p.* 31. *Krock. ſileſ. n.* 1368.

Abſinthium ponticum tenuifolium incanum. *Bauh. pin.* 138. *Dod. pempt.* 24. *Raii hiſt.* 367. *n.* 5.

Leaves many-parted, tomentoſe beneath; flowers roundiſh, nodding; receptacle naked.

[31. Artemiſia auſtriaca. *Auſtrian Wormwood.*

Lin. ſyſt. 744. *Jacqu. auſtr.* 1. *t.* 100.

Leaves many-parted, tomentoſe, hoary; flowers oblong, nodding, receptacles naked.]

32. Artemiſia annua. *Annual Wormwood.*

Lin. ſpec. 1187. *Reich.* 3. 743. *hort. upſ.* 257. *Gmel. ſib.* 2. *p.* 125. *n.* 108. *Amm. ruth.* 142. *n.* 193. *t.* 23. *Lour. cochinch.* 490.

β. Abſinthium folio tenui multifido, camphoram ſpirans. *Boerh. lugdb.* 1. *p.* 126.

Leaves three-fold pinnate, ſmooth on both ſides, flowers ſub-globoſe, nodding; receptacle ſmooth, conical.

33. Artemiſia tanacetifolia. *Tanſy-leaved Wormwood.*

Lin. ſpec. 1188. *Reich.* 3. 743. *Stechm. artem. n.* 12. *Allion. pedem. n.* 608. *t.* 70. *f.* 2. *and. t.* 10. *f.* 3. *Gmel. ſib.* 2. *p.* 122. *t.* 58. *Villars dauph.* 248.

Leaves bipinnate, underneath tomentoſe ſhining; pinnas tranſverſe, racemes ſimple.

34. Artemiſia Abſinthium. *Common Wormwood.*

Lin. ſpec. 1188. *Reich.* 3. 743. *hort. cliff.* 404. *fl. ſuec. n.* 735. *mat. med.* 184. *Gærtn. fruct.* 2. 393. *Hudſ. angl.* 358. *With.* 890. *Allion. pedem. n.* 610. *Scop. carn. n.* 1035. *Leers herb. n.* 636. *Stechm.* 14. *Woodv.* 328. *t.* 120. *Krock. ſileſ. n.* 1369. *Villars dauph.* 241.

Apſinthium. *Hall. helv. n.* 124.

Abſinthium ponticum. ſ. romanum, &c. *Bauh. pin.* 138. *Blackw. t.* 17.

Abſ. vulgare majus. *Bauh. hiſt.* 3. 168. *Mor. hiſt. ſ.* 6. *t.* 1. *f.* 1. *row.* 3.

Abſ. vulgare. *Park.* 98. 1. *Raii hiſt.* 366. *ſyn.* 188.

A. latifolium, ſeu ponticum. *Ger.* 937. 1, 2. *emac.* 1096. 1.

β. A. inodora. *Mill. dict. n.* 16.—inſipida. *Villars dauph.* 249.

Abſ. inſipidum. *Bauh. pin.* 139. *n.* 7. *Ger.* 943. 4. *emac.* 1102. 3. *Park. theat.* 98. *n.* 5.

Leaves compound, multifid: flowers ſubgloboſe, pendulous; receptacle villoſe.

35. Artemiſia vulgaris. *Mug-wort.*

Lin. ſpec. 1188. *Reich.* 3. 744. *mat. med.* 184. *fl. ſuec. n.* 731. *lapp. n.* 297. *Hudſ. angl.* 359. *With.* 891. *Lightf. ſcot.* 468. *Allion. pedem. n.* 609. *Hall. helv. n.* 130. *Scop. carn. n.* 1033. *Pollich pal. n.* 782. *Krock. ſileſ. n.* 1370. *Villars dauph.* 248. *Stechm. artem.* 32. *Woodv.* 331. *t.* 121. *Lour. cochinch.* 491. *Thunb. jap.* 310.

Art. vulgaris. *Bauh. hiſt.* 3. 184. 3. *Raii hiſt.* 372. *ſyn.* 190. *Park.* 90 *&* 91. 2.

A. vulg. major. *Bauh. pin.* 137.

A. mater herbarum. *Ger.* 945. 1. 2. *emac.* 1103. 1.

A. latifolia vulgaris major. *Mor. hiſt. ſ.* 6. *t.* 1. *f.* 1. *row* 2.

Leaves pinnatifid, flat, gaſhed, tomentoſe underneath: racemes ſimple, recurved; ray five-flowered.

[36. Artemiſia pectinata.

Lin. ſyſt. 744. *ſuppl. p.* 362. *Pallas itin.* 3. *p.* 755. *t. H. h. f.* 2.

Leaves pinnate, pectinate, ſmooth, ſeſſile; flowers axillary, ſolitary, ſeſſile, having four florets.]

**** *Leaves ſimple.*

37. Artemiſia integrifolia. *Entire-leaved Mugwort.*

Lin. ſpec. 1189. *Reich.* 3. 744. *Gmel. ſib.* 2. *p.* 109. *t.* 48. *f.* 1.

Leaves lanceolate, tomentoſe underneath, quite entire or with one or two teeth; female florets five.

[38. Artemiſia japonica. *Japoneſe Mugwort.*

Lin. ſyſt. 744. *Thunb. jap.* 310. *Kæmpf. amæn.* 5. *p.* 897.

Leaves ſmooth; thoſe on the branches lanceolate and entire, on the ſtem oblong and trifid; flowers racemed nodding.]

39. Artemiſia cæruleſcens. *Lavender-leaved Wormwood.*

Lin. ſpec. 1189. *Reich.* 3. 745. *hort. cliff.* 403. *Hudſ. angl.* 359. *With.* 892. *Scop. carn. n.* 1036. *Stechm. artem.* 36. *Gmel. ſib.* 2. 131. *t.* 64. *f.* 1.

Abſ. maritimum lavandulæ folio. *Bauh. pin.* 139. *Mor. hiſt.* 3. *ſ.* 6. *t.* 1. *f.* 5. *Raii hiſt.* 370. *Duh. arb.* 1. *t.* 24. *f.* 5.

A. marina. *Ger.* 946. *emac.* 1104. 3.

Abſ. anguſtifolium. *Dod. pempt.* 26. 2.

Abrotanum latifolium rarius, artemiſiæ folio. *Col. ecphr.* 2. *p.* 75. *t.* 76.

Stem-leaves lanceolate, entire; root-leaves multifid; female florets three.

40. Artemiſia Dracunculus. *Tarragon.*

Lin. ſpec. 1189. *Reich.* 3. 745. *hort. cliff.* 403. *upſ.* 256. *Gmel. ſib.* 2. *p.* 126. *t.* 59 *and* 60. *f.* 1. *Scop. carn. n.* 1032. *Krock. ſileſ. n.* 1371. *Stechm. artem.* 37. *Gron. orient.* 106.

Dracunculus hortenſis. *Bauh. pin.* 98. *Blackw. t.* 116.

Draco herba. *Dod. pempt.* 709. *Ger.* 193. *emac.* 249. *Park. parad.* 500. *Raii hiſt.* 373.

Leaves lanceolate, ſmooth, quite entire.

[41. Artemiſia chinenſis. *Chineſe Mugwort.*

Lin. ſpec. 1190. *Reich.* 3. 745. *Gmel. ſib.* 2. *p.* 61. *f.* 1. 2. *Lour. cochinch.* 492.

Abſ. maritimum Sinarum, &c. *Pluk. amalth.* 3. *t.* 153. *f.* 5.

Leaves ſimple, tomentoſe, obtuſe, lanceolate; the lower ones wedge-ſhaped, three-lobed.

42. Artemiſia maderaſpatana. *Madras Wormwood.*

Lin. ſpec. 1190. *Reich* 3. 746.

Tanacetum ægyptiacum. *Jacq. hort.* 3. *p.* 46. *t.* 88.

Abſinthium maderaſp. &c. *Pluk. amalth.* 3. *t.* 357. *f.* 3.

Abſ. gangeticum, &c. *Pluk. alm.* 2. *t.* 1. *f.* 2. (bad.)

Nelampala. *Rheed. mal.* 10. *p.* 97. *t.* 49.

Leaves ſimple, lyrate-ſinuate; ſtems procumbent; flowers pedunculate, ſolitary, globoſe, oppoſite to the leaves.]

43. Artemiſia minima. *Leaſt Wormwood.*

Lin. ſpec. 1190. *ſyſt.* 745. *Reich.* 3. 746. *Burm. ind.* 1. *t.* 58. *f.* 3. *Thunb. jap.* 311.

Centipeda orbicularis. *Lour. cochinch.* 493.

Leaves wedge-ſhaped, repand, ſtem procumbent, flowers axillary, ſeſſile.

[44. Artemiſia littoralis.

Retz. obſ. 5. 28. *n.* 77.

Procumbent, ſtrigoſe; leaves ſpatulate ſerrate-toothed, calyxes naked, pedicelled.

DESCRIPTIONS, *&c.*

The plants of this genus are either underſhrubs or herbs. The leaves are uſually multifid, in ſome ſpecies hoary. The flowers are commonly diſpoſed in panicles [a].

1. This is a ſtiff, upright ſhrub, inclining to aſh-colour, and panicled. Leaves linear, tomentoſe and flat on the upper ſurface, naked and rather convex beneath. Panicle very copious, conſiſting of racemes, which are formed of ſeſſile, ovate, imbricate ſpicules. Flowers tomentoſe, with the loweſt ſcale naked. Native of the Cape of Good Hope [b].

2. Stem ſtriated, reddiſh, ſmooth, branching a foot or more in height. Branches ſcattered, ſubfaſtigiate, from upright ſpreading, like the ſtem. Leaves frequent, ſmooth, half an inch long. Flowers in cloſe racemes on the extreme twigs. Native of Japan, where it flowers in october [c].

Loureiro has a ſpecies which he names *Artemiſia aquatica*, becauſe it delights in the water, and will grow many years and flower in a veſſel filled with water, without any earth. He ſuſpects that it may be the ſame with this ſpecies of Thunberg; and thus deſcribes it. Stem arboreſcent, twiſted, knotty, eight feet high, about the thickneſs of the human leg: branches diſtorted, ſpreading, ſmooth; twigs, petioles and peduncles reddiſh-brown. Leaves ſcattered, roundiſh, deeply many-parted, with the ſegments capillary, ſlender, ſmooth on both ſides, dark green, inodorous. Flowers white, very ſmall, globular, on long, terminating racemes, ending in linear ſpikes. All the florets are tubuloſe. Receptacle and ſeeds naked. It is cultivated both in China and Cochinchina[d].

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[a] Juſſieu. [b] Linn. mant. [c] Thunberg.

3. Stem ſuffruticoſe, a foot and half high, panicled, ſubpubeſcent, aſh-coloured. Leaves three or five-lobed, flat, ſubtomentoſe, aſh-coloured, the middle diviſion broadeſt. Panicle racemed; the laſt racemes peduncled and pedicelled. Flowers roundiſh, rather depreſſed, the ſize of coriander ſeeds[e].

Native of Caramania, the Mogul country, China, Judea, Arabia, *&c.* Rauwolff found it about Bethlehem; and Shaw in Arabia and the deſerts of Numidia, plentifully. It has a bitter taſte. Both leaves and ſeeds are uſed in medicine, in the eaſtern countries; and are reputed to be tonic, ſtomachic, and anthelmintic.

4. This is a ſhrubby plant, a foot high, branching, white and very obſcurely tomentoſe. Leaves the ſize of heath, in cluſters, ſubtomentoſe; the diviſions linear, and very narrow. Flowers nodding, ſubgloboſe, the ſize of thoſe of Wormwood. Receptacle naked. Native of the Cape of Good Hope, and of Spain[f].

5. This alſo is a ſhrub, panicled, upright, tomentoſe and white; the branches more tomentoſe than the ſtem. Leaves often crowded, rather obtuſe, tomentoſe. The ſpikes ſit cloſe to the branches, are alternately diſperſed, ovate, very ſmall, conſiſting of very ſmall flowers, imbricate and leſs tomentoſe. Found by Lerche in Perſia[g].]

6. Common Southernwood is an under-ſhrub ſeldom riſing more than three or four feet high. [Columna however mentions, that it ſometimes grows in gardens, with a ſtout ſtraight ſtem, almoſt to the height of a man. In mountainous ſituations, on the contrary, it is low and ſlender, with the ſtems lying on the ground, and only from a foot to two feet in length. Mr. Miller has made a diſtinct ſpecies of this; and Mr. Ray obſerved long ſince, that theſe differences occaſioned falſe ſpecies to be enumerated by the older botaniſts[h]. Leaves alternate, petioled, multifid; leaflets linear, very narrow, pale green, tomentoſe-ſcabrous; leſs divided towards the top, till they become trifid and even linear next the flowers; which come forth in linear, upright racemes, or ſpikes, from the axils at the extremities of the branches, on one-flowered peduncles; they are ſmall, abundant, nodding, and yellow; but rarely open in England. It is a native of Italy, Spain, the ſouth of France, Sileſia, and Carniola, in Europe; of Siberia, Syria, Galatia, Cappadocia, China and Cochinchina, in Aſia. It was cultivated by Gerard in 1596[i], and probably much earlier. Southernwood is called in Greek Αϐροτονον, which is variouſly derived, from αϐροτον, *inhumanum*, bitterer than Wormwood; from αϐρωτον, unfit for food; δια το προς οψιν αϐρον και απαλον φαινεσθαι, from the delicacy and ſoftneſs of its appearance; or from ἁϐρος & τονος, οτι αϐρως τεινεται, becauſe it is extended or grows in a very ſoft manner. I know not therefore why Linneus and others write it Abrotanum.——In Latin, *Abrotonum.* In Italian, Spaniſh, and Portugueſe, *Abrotano.* In French, *L'aurone des jardins*, la *Citronelle*, la *Garde-robe.*— In German, *Stabwurz, Aberraute, Gartenwurz*, &c.

Southernwood is bitter and aromatic, with a very ſtrong ſmell. It is not much in uſe, but promiſes conſiderable effects, outwardly in diſcuſſing contuſions and tumours, inwardly for deſtroying worms, and in diſorders peculiar to the female ſex. In catarrhal malignant fevers, it may have great efficacy, by its quality of promoting perſpiration, which it poſſeſſes in a high degree. A table ſpoonful of the expreſſed juice may be given, half an ounce of the decoction, or a whole ounce of the infuſion of the herb[k]. In the preſent practice it is ſcarcely otherwiſe made uſe of than as an ingredient in diſcutient and antiſeptic fomentations; and for this purpoſe only it is ordered by the medical college of London. The branches dye wool a deep yellow.]

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[d] Fl. cochinch. 490.
[e] Linn. mant.
[f] Linn. ſpec. & mant.
[g] Linn. mant.
[h] Hiſt. 371.
[i] Hort. kew.
[k] Allioni.

7. This riſes with a woody ſtalk ſix or ſeven feet high, ſending out many woody branches, with leaves ſomewhat like thoſe of common Wormwood, but more finely divided, and much whiter. The branches are terminated by ſpikes of globular flowers in the autumn, but are ſeldom followed by ſeeds here.

[It is ſo nearly allied to common Wormwood, that Linneus doubts whether it be a diſtinct ſpecies. Allioni obſerves, that the taſte and ſmell are much weaker in this than in that. It is a native of the Levant, and was cultivated here in 1640[l]. Mr. Miller ſays that it grows naturally near the ſea in Italy; and Allioni gives it as a native of Piedmont.

8. The whole plant is of a ſilvery colour. The receptacle is villoſe. It is a native of Madeira, where it was found by Maſſon[m]. It was introduced here in 1777, and flowers in june and july[n].

9. Scarcely a foot high. The lower leaves linear, bipinnate at the end; pinnas linear, acute, hoary: upper leaves ſimple, linear. Small racemes proceed from the axils of theſe. It ſeems to be a diſtinct ſpecies, but ſhould be examined more accurately[o]. Perhaps it may be the ſame with the *hiſpanica* of Stechmann (n. 17.); but he ſays that the leaves are not tomentoſe.

10. This is tomentoſe all over. The ſtem is upright and ſuffruticoſe.

11. This alſo is an underſhrub, and is tomentoſe all over. Both theſe were found in Tartary, by Meſſerſchmidt.

12. Shrubby and rather hoary. Native of Siberia.

13. Shrubby and hoary. Obſerved in Aſtracan, and on the banks of the Volga: and the variety between the rivers Jeniſea and Irtis, by Gmelin.

14. Stem woolly. Native of Spain.

15. Shrubby. Calyxes three or four-flowered. Native of the banks of the Volga.

16. An underſhrub. Native of Italy.

17. An underſhrub. The leaves not tomentoſe. Native of Spain.

18. Shrubby. Leaves aſh-coloured underneath, found by Gmelin, near the rivers Lena and Angara[p].

19. This ſpecies is of lower growth than common Southernwood, and has a ſtrong, balſamic, camphorated ſmell. The leaves are leſs hoary, and thoſe about the flowers broader, longer, and not ſo much cut. The corymbs are much larger and thinner, and the flowers are of a fine yellow. The receptacle is hirſute[q].

Monſ. Villars ſays that it differs from Southernwood (n. 6.) in having procumbent ſtalks, a more agreeable ſmell, and a hairy receptacle. It has alſo much larger flowers, coming out long before thoſe of common Southernwood. Sometimes it becomes almoſt green, and has then leſs ſmell, but always camphorated and pleaſant; uſually it is entirely white, reſembling n. 24. in its colour, and the fineneſs of its leaves; but the habit is different.

Native of Piedmont, the Genoeſe alps, and Dauphiné.

20. This has the habit of the next ſpecies, but is upright. Stem panicled, rather hoary. The lower leaves pinnate-multifid, linear, hoary. Branches wand-like. Racemes or ſpikes alternate, recurved, with the flowers all directed the ſame way; the pedicels with here and there linear, bluntiſh, recurved leaves. Flowers ſolitary, cylindric. In the fruiting plant all the ſtems are upright, and loſe their hoarineſs. The leaves on the branches are very ſmall, linear and undivided. Receptacle naked[r].

Native of Perſia and Tartary.—Cultivated in 1768, by Mr. Miller. It flowers from ſeptember to november[s].

The ſeeds both of this and of the third ſort are brought over for *Semen Santonicum*, or Worm-ſeed;

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[l] Hort. kew.
[m] L'Heritier.
[n] Hort. kew.
[o] D'Aſſo.
[p] Stechmann.
[q] Allioni.
[r] Linn. ſpec.
[s] Hort. kew.

and are uſed in worm caſes: they are reckoned a good balſamic, tonic, ſtomachic medicine.

21. The root of Field Southernwood is perennial, hard, woody, and branching. Stems numerous, angular, declining, much branched; branches oppoſite, the middle ones longeſt. Upper leaves frequently ſimple, very narrow. Flowering heads very ſmall, ſcarcely exceeding one line in breadth, numerous, ſingle, either ſeſſile or in ſhort branched ſpikes. Scales of the calyx few, bluntly ovate, green and ſlightly pubeſcent at the back, with whitiſh membranaceous margins, ſhining, converging. Flowers few, not longer than the calyx. Receptacle naked[t].

It grows on open dry heaths, and by road ſides, in moſt parts of Europe. With us, at Elvedon or Elden in Suffolk, between Newmarket and Lynn; alſo near Barton mills and Thetford; flowering in auguſt. Our old authors call it Wild Southernwood; and Ray fine-leaved May-wort.

It has the ſame qualities with Garden Southernwood, but is much weaker. Linneus recommends an infuſion of it in the pleuriſy.

β. Caſpar Bauhin deſcribes the variety as having an oblong, fibroſe, reddiſh root: the ſtem a foot high; the leaves divided in the ſame manner as the lower ones of Garden Southernwood, hoary, and with the ſame ſmell and taſte as thoſe of *Carlina*. Burſer ſent it from Lintz in Auſtria, where he found it by road ſides[u].

Mr. Miller received the ſeeds both from Auſtria and Spain; and ſays, that it approaches near to the common Field Southernwood, but that it has ſtrong woody branches, which grow erect, and are of long duration; whereas that has trailing branches, which ſeldom continue longer than two years, and the flowers generally hang downwards, but theſe have erect ſpikes, and the whole plant has a much ſtronger ſcent, and is hoary[x].

22. The leaves are like thoſe of *Coronopus* or Buck's-horn Plantain with five or ſeven ſegments. Flowers yellow. Receptacle naked. Native of Siberia[y].

23. This has the habit of Field Southernwood (n. 21), but is ſmooth. Stems from half a foot to a foot in height. Leaves pinnatifid, and trifid. It has the flowers of Field Southernwood; and the receptacle is naked. Native of Portugal, and found by Loefling on the ſandy ſhores there[z]. Cultivated in 1768, by Mr. Miller. It flowers from auguſt to october[a].

24. This is an erect ſhrub, a foot high. Leaves hoary, bipinnate; the pinnas pinnate, and alſo trilobate. Flowering branches tomentoſe, alternate. Flowers ſolitary, with linear bractes. Scales of the calyx concave, the outer tomentoſe, the inner membranaceous. Florets four or five, hermaphrodite (no females), red at the end[b]. Receptacle naked[c]. Sheep feed on it. Sometimes it occurs with green ſmooth leaves[d].

Native of Spain, Piedmont and the Valais.—Introduced in 1775, by the Doctors Pitcairn and Fothergill. It flowers in july and auguſt[e].

25. Sea Wormwood is a low underſhrub, creeping at the root. The whole plant is white with a thick down, and has a very ſtrong ſmell of Marum or Camphor in its native ſoil; but becomes much leſs grateful when cultivated[f]. The leaves vary much in their diviſion; the upper ones are generally ſimple, linear and blunt[g]. Receptacle naked[h].

Native of Britain, Sweden, Germany, Holland, France, Egypt, &c. on the ſea coaſt; flowering in auguſt.

It is uſed as an ingredient in diſtilled waters. A conſerve of the tops, made by beating them with thrice their weight of fine ſugar, is directed by the London college; and they are an ingredient in the decoction for fomentations.

This is leſs unpleaſant, but weaker than common Wormwood: it is leſs effectual therefore as an antiſeptic and anthelmintic, but more eligible as a ſtomachic[i].

There is a conſiderable variation in this ſpecies, with reſpect to the leaves, ſtems, branches and corymbs. The leaves are broader or narrower, more or leſs hoary and even greeniſh: the ſtems and branches are ſometimes thicker and more diffuſed, ſometimes ſtiffer, more upright and cloſer together: the corymbs alſo are thicker, or narrower; ſcattered and diffuſed, or cloſer together and heaped into ſpikes; pendulous and nodding, or upright: all which differences are owing to age, ſituation, and other accidents[k].

α. Leaves hoary, lanuginoſe, branches ſpreading, heads ſmaller, pendulous. Near Sheerneſs in the iſle of Shepey.

β. Leaves broader. In the ſame place; and in Merſey iſland, near Colcheſter.

γ. Heads of flowers narrow, upright, in ſpikes. Leaves narrow. In the ſame places, and at Harwich[l].

δ. About a foot high. Leaves ſmall, white, finely cut. Flowers oblong, yellow, in ſpikes along the ſtem. About Fifeneſs in Scotland[m].

26. This is of the ſame ſtature with *A. rupeſtris*. Leaves ſmall, three-parted, linear with trifid ſegments, ſubfaſtigiate, ſilky-white, tomentoſe, very ſhort, on long petioles, thoſe of the lower ones ſheathing the ſtem; which is a ſpan in height, quite ſimple, ſubtomentoſe, leafy. Flowers globoſe, yellow, terminating, on very ſhort peduncles: calyxes ſubtomentoſe. Receptacle hairy[n].

Monſ. Villars deſcribes ſome particulars not mentioned by Linneus. Stems ſtraight, three or four inches long; terminated by three, four, or five large yellow flowers; calyx equal, rounded, and a little open. Root-leaves numerous, and more cut, divided into five ſegments, ſubdivided into three ſmaller ones, each about a common centre, and terminating in a rounded circumference. They are white and ſilky, as is the whole plant. The ſcales of the calyx are brown at the tip: it incloſes from forty to fifty flowers, and as many ſeeds, on a hairy, conical receptacle[o]. Native of Switzerland, the Valais, Auſtria, Dauphiné, and Piedmont. Cultivated in 1748, by Mr. Miller. It flowers in july and auguſt[p].

27. Stems ſomewhat higher than in the *glacialis*, but not exceeding a foot, ſomewhat hirſute. Leaves ſilky, flat, on long petioles, narrow, having two or three pairs of pinnas with an odd one; each pinna petioled, three and five-parted: the ſtem-leaves have only two or three pairs, and the top ones are ſimple and lanceolate. The flowers proceed from the axils all along the ſtem, on long peduncles, the lower ones only nodding. The flowers are alſo ſmaller; the calyxes paler, with the edge leſs brown, and even white, they are likewiſe much more hairy. The florets in the circumference female; the others bell-ſhaped, yellow. Receptacle hairy[q].

Native of Oeland, Siberia, Switzerland, and many other parts of Europe, in alpine ſituations. Cultivated in 1748, by Mr. Miller; flowering in auguſt[r].

28. Linneus made this only a variety of the foregoing, differing in having longer branches, and in ſome other circumſtances owing perhaps to ſituation. Allioni, who names it *A. Boccone*, commends Haller for ſeparating it from the *rupeſtris*. Stechmann calls it *A. Genipi*, and makes it a diſtinct ſpecies. Haller thus diſtinguiſhes it.—This has the ſame habit with the foregoing. The root-leaves are ſilky, petioled, and three-parted, as in that. Each pinna is palmate, trifid from the petiole, the middle ſegment equally, the ſide one leſs. The laſt diviſions lanceolate, obtuſe; in the ſtem-leaves even more ſo. The leaves are much broader than in

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[t] Woodw. M. S.
[u] Prodr, p. 71.
[x] Miller's figures.
[y] Linn. ſpec.
[z] Ibid.
[a] Hort. kew.
[b] D'Aſſo.
[c] Haller.
[d] D'Aſſo.
[e] Hort. kew.
[f] Lin. ſuec.
[g] Woodw. M. S.
[h] Lin. ſpec.

[i] Lewis.
[k] Dillen. in Raii ſyn.
[l] Raii ſyn. ed. 3. p. 189.
[m] Raii hiſt. 3. 231.
[n] Linn. ſpec.
[o] Villars.
[p] Hort. kew.
[q] Haller.
[r] Hort. kew.

A. rupeſtris; the nerve eſpecially is very broad. On the ſtem they are ſeſſile, ſemipinnate, with four pairs, the laſt largeſt, ſhortly trifid. The ſtems are like thoſe of the foregoing, but not branching, ſcarcely a long ſpan in height. Peduncles one-flowered, ſtraight, the lower longiſh, the upper very ſhort, forming from the axils a leafy ſpike, thicker towards the top. Leaflets of the calyx ovate, generally dark-coloured, whence its alpine name of *Genipi noir*. From the paleneſs of theſe in the foregoing ſpecies, that is called *Genipi blanc*. Florets as in that, but the receptacle naked [s].

Native of the alps of Switzerland, Auſtria, Piedmont, and Dauphiné.

Theſe three ſorts of alpine Wormwood are in great requeſt among the inhabitants of the alps, under the common name of *Genipi*, for reſtoring a ſuppreſſed perſpiration, in pains of the ſide, and in intermitting fevers. They are an uſeful medicine in caſes where ſtrong diaphoretics are ſerviceable, as in the rheumatiſm, and in intermittent and catarrhal fevers; but are dangerous in the pleuriſy, though they are uſed indiſcriminately by the peaſants in all inflammatory diſorders [t].

29. Stems herbaceous. Florets reddiſh; calyxes rather large, green and white ſtreaked. Native of Siberia.

30. Root creeping. Stems one or two feet high, (in gardens four feet); below ſmooth, reddiſh-brown; above hoary, leafy, with many axillary branches, almoſt upright. Stem-leaves bipinnate, tomentoſe on both ſides, with ſharp linear ſegments: thoſe at the bottom of the branches and top of the ſtem are ſimply pinnate: the uppermoſt are quite entire and ſimple. Flowers in racemes, nodding, roundiſh and hoary; diſk yellow: leaflets of the calyx about fifteen, and imbricate; the outer oblong, glaucous, the inner more rounded, concave, membranaceous, whitiſh, ſubpellucid: florets twenty-four, ſmooth, often furniſhed with pedicelled glands; in the circumference about ſix females, apetalous and greeniſh yellow; the others hermaphrodite. Seeds naked. Receptacle conical, naked. The whole plant has a pleaſant aromatic ſmell; and is leſs bitter to the taſte than common Wormwood [u]. Its bitterneſs indeed is ſo mixed with a kind of aromatic flavour as ſcarcely to be diſagreeable. It appears to be more eligible than either common or ſea Wormwood as a ſtomachic and corroborant; for which purpoſe a conſerve of the tops has been greatly recommended; and it is undoubtedly an elegant and uſeful preparation [x].] Mr. Miller ſays, that it is now never uſed in any of our ſhops, though it might be had in as great plenty as Sea Wormwood, which is univerſally ſubſtituted for it, and is indeed ordered by the London college, if it were cultivated by thoſe who ſupply the markets with medicinal herbs.

Native of Hungary, Germany, Auſtria, Piedmont, *&c.*—Cultivated in 1683, by Mr. James Sutherland. It flowers in ſeptember [y].

31. Stems upright, annual, but at the baſe woody and permanent, round, ſmooth below, the reſt covered with a white nap, from ſix inches to a foot and half in height. Branches axillary, numerous, decreaſing towards the top and riſing, ſending forth very ſhort twigs, ſimple and one-flowered on the ſhorter ſtems, but on the greater many-flowered. Leaves glaucous-hoary, tomentoſe, flat; on the twigs firſt coming out quite entire, then trifid, and ſo on increaſing the diviſions, till they become ſubtriplicate-pinnate and roundiſh: the diviſions in the firſt being more obtuſe and ſpreading; in the latter linear, more narrow, acute and converging. The upper leaves again decreaſe. Flowers ovate-oblong, ſcarcely two lines in length, nodding, externally villoſe-tomentoſe, brown in the diſk, in ſeſſile racemes on the tops of the twigs. Scales of the calyx imbricate; the outer linear, and like the leaves; the inner longer, ovate, obtuſe, membranaceous, concave, pale, ſubpellucid, erect, hairy. Hermaphrodites about eight, browniſh and almoſt hid in white villoſe hairs: females apetalous, from four to ſeven. Seeds naked, oblong. Receptacle naked. The whole plant is pleaſantly and ſtrongly aromatic; and the taſte very bitter. It differs from Sea Wormwood (n. 25), in the leaves being much leſs tomentoſe and hoary, roundiſh not oblong. Native of Auſtria [z].

32. This is an annual plant, with an upright, ſimple, round, ſtreaked, ſmooth ſtem, very ſtraight, growing to eight feet in height, (with us ſeldom much more than two), green when young, but becoming reddiſh brown when old, and ſomewhat woody at the baſe: branches oblique, three-fold alternate. Flowers pale yellow, in many, oblong, upright, axillary racemes, on longiſh peduncles, with a lanceolate bracte, which is quite entire. Calyx hemiſpherical, imbricate in two rows; leaflets oblong, bent in, ſomewhat converging. All the florets hermaphrodite. Receptacle ovate, ſubvilloſe. The whole flower is ſmaller than a pepper-corn. The plant has a moſt agreeable ſcent, which it retains a long time after it has been dried [a].

Native of Siberia, and China near Pekin, whence Loureiro introduced it into Portugal, where the ſeeds produced plants ten feet in height [b]. It was cultivated in England by Mr. Miller, in 1759, and flowers in july and auguſt [c]. Loureiro recommends the leaves and flowers in hectic fevers, the dyſentery, and putrid ulcers.

33. Root perennial. Stems numerous, ſimple, from ſix inches to a foot in height. Root-leaves petioled, ſheathing, ovate-pointed, aſh-coloured: pinnas five to eight without an odd lobe, not entirely oppoſite: pinnules three or four deeply three-toothed, with long, elliptic, ſharp lobes; they are ſometimes four-toothed, and ſometimes have only two teeth. Stem-leaves the ſame, only the pinnules are ſimple; the upper ones oval-lanceolate, entire. The ſtems are terminated by a compound ſpike of flowers, with ſpikelets or rather racemes coming out of all the axils; the firſt five-flowered, and then decreaſing to one-flowered: in the terminating ſpike there is a ſtipule to each peduncle, which is one-flowered. Calyx hemiſpherical, with two rows of imbricate ovate ſcales, green with a black membranaceous edge. Diſk almoſt flat: naked female florets in the circumference, having a deeply bifid ſtyle: in the hermaphrodite florets the ſtyle ſcarcely extends beyond the corolla; the tube is green, but the border ſulphur-coloured. The flowers nod in pairs all towards the ſame ſide. Receptacle and ſeeds naked: according to Haller, the former is hairy. The ſtems and peduncles are more evidently tomentoſe than the other parts: but in different ſituations the upper ſurface of the leaves is either hairy or ſmooth, the pinnules fewer, or the ſpikes ſimple [d].

Native of Dauphiné, Piedmont, and Siberia. It has no ſenſible odour. On very high ſituations it is ſometimes entirely tomentoſe [e].

34. Common Wormwood has a perennial branching root. Stems from a foot and half to two feet and upwards in height, upright, grooved, whitiſh with a very ſhort nap, eſpecially towards the top, branched, the branches making half a right angle with the ſtem. Leaves petioled, pinnate-multifid, pinnas alternate (five to ſeven), the ſubdiviſions, eſpecially of the lower leaves wide, irregular and unequal, the extreme ſegments blunt; they are tomentoſe on both ſides, and very ſoft; the young ones ſilvery white, but as they advance the whiteneſs wears off till they become green to the eye on the upper ſurface: the lower leaves are on very long angular petioles, deeply channelled above: the leaflets are decurrent along the partial footſtalks: on the ſtem-leaves they are narrower, and retain their whiteneſs longer: the uppermoſt leaves among the flowers

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[s] Haller.

[t] Allioni and Villars.

[u] Jacquin.

[x] Lewis.

[y] Hort. kew.

[z] Jacquin.

[a] Loureiro.

[b] Ibid.

[c] Hort. kew.

[d] Allioni.

[e] Villars.

are trifid or even ſimple, ſeſſile and bluntly lanceolate. Flowers in racemes, continued half the length of the ſtem, each from the axil of a leaf, directed one way, nodding: calyx hemiſpherical, with ſcales bluntly ovate, very tomentoſe, having membranaceous edges: florets fifty and upwards in a ſingle flower, duſky yellow, ſcarcely longer than the calyx; with about fifteen naked, female florets in the circumference. Seeds ſmall, ovate, oblong, pale, naked. Receptacle flattiſh, covered with white ſilky villoſe hairs, ſhorter than the calyx.

Common Wormwood is found wild in almoſt every part of Europe, in rocky places, by road ſides, among rubbiſh, about farm-yards, *&c.* flowering from july to october.

The leaves and flowers are very bitter; the roots are warm and aromatic. A conſiderable quantity of eſſential oil riſes from it in diſtillation. This oil is uſed both externally and internally to deſtroy worms. The leaves put into ſour beer ſoon deſtroy the aceſcency. They reſiſt putrefaction, and are therefore a principal ingredient in antiſeptic fomentations. An infuſion of them is a good ſtomachic, and with the addition of fixed alkaline ſalt, a powerful diuretic in ſome dropſical caſes. The aſhes afford a more pure alkaline ſalt than moſt other vegetables, excepting bean-ſtalks, broom, and the larger trees. Linneus (Amæn. acad. 2. 160.) mentions two caſes, wherein an eſſence prepared from this plant, and taken for a conſiderable time, prevented the formation of ſtones in the kidnies or bladder; the patients forbearing the uſe of wine and acids. It will, like other bitters, weaken the action of the nervous ſyſtem, but in theſe inſtances no ſuch effect took place. An infuſion of it given to a woman that ſuckles, makes her milk bitter: and it gives a bitterneſs to the fleſh of ſheep that eat it. The plant ſteeped in boiling water, and repeatedly applied to a bruiſe, will remove pain in a ſhort time, and prevent the ſwelling and diſcoloration of the part[f].

Wormwood leaves give out nearly the whole of their ſmell and taſte both to aqueous and ſpirituous menſtrua. The watery infuſions, prepared without heat, are the leaſt ungrateful. The quantity of eſſential oil, which comes over in diſtillation varies greatly, according to the ſoil and ſeaſon, ten pounds having afforded two ounces, and twenty pounds little more than one.

Wormwood as a ſtomachic and corroborant has given place to bitters leſs unpleaſant. A bitter however ſufficiently elegant, of little or no particular flavour, may be obtained from it, either in a ſolid form, or in that of a watery or ſpirituous ſolution.

The ſpirituous extract ſeems preferable as a vermifuge to the pure oil, as it contains, along with the oil, all the bitter matter of the herb.

The roots, being moderately warm and aromatic, promiſe to be applicable to ſome uſeful purpoſes. Their virtue reſides in the bark[g].

This powerful plant, though it appears in the liſt of materia medica, is not admitted into any preparation in the London Pharmacopœia. It is however more efficacious than either the ſea or roman Wormwood, and may be had in quantity, in moſt places, without cultivation: which recommends it much, moſt plants in their wild ſtate being abundantly ſtronger, and more fit for medicinal purpoſes, than when cultivated in a garden.

Our common or broad-leaved Wormwood is called in French *Abſinthe commune*, in Italian *Aſſenzio* or *Abſintio*, in Spaniſh *Ajenjo* or *Alozna*, in Portugueſe *Abſinthio* or *Loſna*, in German *Wermuth*, in Dutch *Alſem*, in Swediſh *Malört*, in Daniſh *Malurt*, in Ruſſian *Polin* or *Gliſtnik*. The Latin name *Abſinthium*, by which it is commonly known among medical writers and practitioners, is from the Greek Αψινθιον, *indelectable*, *unpleaſant*, from α and ψινθος the ſame with τερψις; others derive it from Απινθιον, *undrinkable*; others again from απτεσθαι, *to touch*, by the ridiculous figure antiphraſis; becauſe it is left *untouched* by cattle.

β. Inſipid Wormwood, or Wormwood without ſcent, reſembles the common ſort, ſays Dodonæus, as one egg does another, except that it is deſtitute of ſmell and taſte. Ray ſuppoſes it only to be an accidental variety.] Miller ſays, that the ſegments of the leaves are broader and whiter, and that it continues conſtant from ſeed.

[Monſ. Villars gives it as a diſtinct ſpecies, obſerving that it bears a reſemblance both to this and the thirty-third ſpecies.—He thus deſcribes it. The creeping roots produce ſeveral ſtraight ſtems, from one to two feet in height. Leaves petioled, flat, bipinnate; the ſegments a little raiſed and linear, cottony and like thoſe of common Wormwood as to colour. The upper half of the ſtem has peduncled flowers on ſeparate ſpikes, approximating to the ſtem, all turned one way, and pendulous. At the baſe of each is a pinnate leaf, on a petiole ſhorter and ſhorter as it approaches the top. The ſtem finiſhes in a pointed ſpike, in which the flowers and leaves are ſeſſile. Calyx open; the ſcales tomentoſe, ſhort, obtuſe, ſcarcely membranaceous. Receptacle naked, conical. There are about forty hermaphrodite florets, and a few naked females. It has no ſenſible ſmell or taſte; and differs from *A. tanacetifolia*, in having creeping roots, a higher ſtem furniſhed with a greater number of ſmaller flowers, and leaves with the circumference more lengthened and the ſegments obtuſe.

Bauhin[h] and others mention another variety, which Ray[i] calls *Common Mountain Wormwood.* It is a more ſlender and lower plant than the other, with a pleaſanter ſmell and taſte; but theſe differences are probably occaſioned only by its ſituation on mountains.

35. Roots of Mugwort perennial, creeping far. Stems angular, ſtriated, branched, three, four or five feet in height. Leaves dark green above, white underneath, alternate, ſeſſile and ſtem-claſping, four inches long and three or more wide; the pinnas or diviſions are lanceolate and run one into another, the extreme ones having a tooth on each ſide; the upper ones among the flowers ſimple, lanceolate. Flowers ſmall, upright, in ſmall, ſimple, axillary racemes, moſtly pointing one way, and containing four or five flowers, ſeſſile or on very ſhort peduncles, each having a briſtle-ſhaped bracte. Scales of the calyx lanceolate, blunt, extremely woolly, converging; the outer ones ſhorter, with a pellucid edge, and a dark-green line running along the back. Florets (thirteen to twenty) purpliſh or red, with a few naked females in the circumference. Seeds columnar, ſmooth, naked. Receptacle flat, ſmooth, naked.

Mugwort is found wild over the greateſt part of Europe, China, Japan, *&c.* on the borders of fields, and ditch banks, by way-ſides, in waſte places, and about farm-yards. It flowers with us in auguſt and ſeptember.

Mugwort has been chiefly recommended for promoting the uterine evacuations, and abating hyſteric ſpaſms; for which purpoſes, infuſions of it have been drank as tea, and uſed as a bath. It appears to be one of the mildeſt of the ſubſtances uſed in ſuch intentions, and may perhaps be of ſervice, where medicines of more activity would be improper. The flowery tops are conſiderably ſtronger than the leaves[k].

In ſome countries it is uſed as a culinary aromatic. A decoction of it is taken by the common people to cure the ague. A dram of the leaves powdered was given four times a day by Dr. Home, to a woman who had been affected with hyſteric fits for many years. The fits ceaſed in a few days. In this patient Aſſafœtida and Æther had been given to no purpoſe[l].

Thunberg informs us that the *Moxa* is prepared in Japan from this ſpecies. The leaves are collected in june, dried in the ſhade, and beat in a mortar till they become like tow; this ſubſtance is then rubbed between the hands, till the harder fibres and membranes are ſeparated, and there remains nothing but a very fine cotton. The Japoneſe uſe it for tinder; and twice in a year men and women, young and old, rich and poor are indiſcriminately burnt with it, either to prevent diſorders, or to cure the rheumatiſm, *&c.*[m].

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[f] Withering.

[g] Lewis.

[h] Pinax 138. 2.

[i] Ray hiſt. 367. 4. Park. theat. 98. n. 2.

[k] Lewis.

[l] Withering.

No quadruped ſeems to feed on this plant.

Mugwort is called in French *Armoiſe*, in Italian *Artemiſia* or *erba di S. Giovanni*, in Spaniſh and Portugueſe *Artemiſia* or *hierba de San Juan*, in German *Beyfuſs*, *Johannis gurtel*, in Dutch *Byvoet*, *S. Jans gordel*, in Swediſh *Grabe*, *Rodbo*, in Daniſh *Bynke*, in Ruſſian *Tſchernobilnik*. It is remarkable that our Engliſh name is totally unlike the other European names, and the derivation is no where given, as far as I know.

There are ſeveral varieties of Mugwort——

1. With red ſtalks. *Blackw. t.* 431. *Tournef. inſt.* 460. *Vaill. act. par.* 1719. *p.* 285. 1, &c.
2. With white ſtalks. *Tournef. inſt. p.* 460, &c.
3. With ſulphur-coloured flowers. *Vaillant*, *ibid. Haller* β.
4. A. vulgaris minor: *Bauh. pin.* 137. *Park.* 91. *f.* 2. *Raii hiſt.* 372.
5. With variegated leaves. *Tournef. inſt.* 460. *Zan. t.* 17. *Haller* γ.

Other varieties may be referred more properly to n. 41.

36. This is an elegant and moſt fragrant plant, with an annual root, and an upright herbaceous ſtem, about eight inches high. It is eaſily known by its ſimply pinnate leaves; the pinnas ſetaceous, parallel, pectinated, ſometimes but ſeldom with a forked pinna; the flowers ſolitary from the axils along the ſtem. Found by Pallas, in the dry lands of Dauria[n].]

37. This riſes with ſingle ſtalks about two feet high, with plain, narrow leaves, cut into acute ſegments on their edges, ſomewhat like thoſe of Buck's-horn Plantain; flowers axillary, in ſmall, looſe ſpikes, and near the top they are often ſingle; they are larger than thoſe of the common ſort, and are of a pale yellow colour.

[It has abſolutely the air of Mugwort, but the leaves are lanceolate, rather rigid, ſmooth, hoary underneath, quite entire about the edge, or ſometimes with one or two erect teeth. Racemes axillary, ſhort, terminating, glomerate: flowers roundiſh. Native of Siberia[o].

38. This is an underſhrub, with an erect, angular, ſtreaked, wand-like, ſmooth ſtem, branching towards the top, two feet high and more. Branches alternate, filiform, divaricate-ſpreading, ſtreaked, ſmooth, ſix or ſeven inches long, bending at top; with alternate, capillary, bending twigs, very ſhort. Leaves on the ſtem alternate, ſeſſile, attenuated and entire towards the baſe, but towards the top cut, ſerrate, ſpreading; on the branches alternate, ſeſſile, attenuated both ways, acute, quite entire, from erect ſpreading; thoſe on the twigs the ſame, only ſcarcely a line in length. Flowers at the ends of the branches and twigs, pointing the ſame way and peduncled. Peduncles capillary, reflex, ſcarcely a line in length. Bracte very ſmall, at the baſe of the peduncle. It differs from the *cæruleſcens* in having ſmooth leaves. Native of Japan[p].

39. This has woody ſtems, eighteen inches and more in height, whitiſh and full of leaves, which are ſometimes entire, and as large as thoſe of the Olive, ſometimes cut into two, three, or four parts; they have the ſmell of Mugwort, and a taſte not unpleaſant[q]: they are villoſe on both ſides[r]. Racemes reflex, compound, ſmaller than thoſe of Wormwood[s]. Flowers cylindric, nodding[t]: calyxes ſeſſile, with oblong ſcales. Florets few[u]. Seed ſmall. It is very nearly allied to *A. maritima*, but the leaves are totally different. Native of the ſouthern parts of Europe, on the ſea coaſt[x]. It was found on the coaſt of Lincolnſhire, near Boſton, by Mr. Tofield[y]: and was cultivated by Mr. John Tradeſcant, Jun. in 1656. It flowers from auguſt to october[z].

40. Root perennial. Stem ſtiff, ſmooth, branching, from a foot to two feet in height. Leaves petioled, green on both ſides. Two or three peduncles from the axils, preſſed to the branch. Flowers in a kind of ſpike, all directed the ſame way. Calyxes roundiſh, with oblong, ſmooth, imbricate ſcales. Florets yellow, ſmall, hermaphrodites twelve; females ſix. Seeds reddiſh-brown, ſtreaked, naked. Receptacle flat, glutinous, honeycombed, naked[a]. Native of Siberia and Tartary. Cultivated in 1596, by Gerard. It flowers in auguſt[b].

Tarragon is frequently uſed in ſalads, eſpecially by the French, to correct the coldneſs of other herbs. The leaves make an excellent pickle; they have a fragrant ſmell, and aromatic taſte. The uſe of them in Perſia has ever been general, at their meals, to raiſe an appetite[c].

It is named in French *Eſtragon*, *Armoiſe âcre*, *herbe au Dragon*, in Italian *Dragoncello*, in Spaniſh *Eſtragon*, *dragoncillo*, *taragona*, in Portugueſe *Eſtragão*, in German and all the northern languages *Dragon*.

41. Stem herbaceous, ſimple, two feet and a half high, ſtraight, thick, white with abundance of cotton, branched. Lower leaves obtuſe, three-lobed; upper lanceolate-linear, quite entire, tomentoſe on both ſides, ſeſſile, crowded and ſcattered. Flower ſmall, pale, on terminating, upright racemes. The plant is inodorous and inſipid[d].

Native of China and Siberia.

This is the ſpecies from which the *Moxa* is prepared in China, from the leaves dried and beaten. In Cochinchina and Japan the common Mugwort is uſed for this purpoſe, and is more efficacious than the Chineſe ſort[e] *Moxa* is celebrated in the eaſt, for preventing and curing many diſorders, by being burnt on the ſkin: it produces a dark-coloured ſpot, the exulceration of which is promoted by applying a little garlic, and the ulcer is either healed up when the eſchar ſeparates, or kept running as circumſtances require. A fungous ſubſtance, found in the fiſſures of old birch trees is uſed by the Laplanders for the ſame purpoſe; and cotton impregnated with a ſolution of nitre, and then dried, will anſwer the end as well as the *Moxa*. All theſe applications are only means of producing an exulceration of the ſkin, and its conſequence a drain of humours[f].

The Chineſe call it the Phyſician's herb, and employ it in hæmorrhages, dyſenteries, pleuriſies, and diſorders of the ſtomach; girdles of the down are recommended in the ſciatica, and thoſe who are afflicted with the rheumatiſm in their legs quilt their ſtockings with it[g].

42. This is an annual plant of India, growing cloſe to the ground. Branches alternate, round, flexuoſe, ſtreaked, pubeſcent. Leaves ſoft, widening outwards. Peduncles one-flowered, naked, ſtreaked, villoſe. Flowers large, yellow, with a convex diſk: marginal florets female, trifid, with a bifid, ſlender ſtyle: in the diſk hermaphrodites, with a ſimple ſtyle[h]. Native of the Eaſt-Indies. Introduced in 1780, by Monſ. Thouin. It flowers in july and auguſt[i].

43. This is a very minute annual plant. Leaves ſmooth. Flowers very ſmall, axillary, ſolitary, with ſix or ſeven florets. It is diſtinct from *Æthulia divaricata*. Native of China, where it was found by Lagerſtrom[k]. Thunberg remarked it alſo in Japan. It was introduced here in 1788, by Monſ. Thouin; and flowers in july[l].

44. This reſembles the forty-ſecond ſort, but the whole is covered with a ſtrigoſe down or cotton, except the calyxes, which are rather large, ſcarioſe and naked. Leaves ſimple, ſpatulate, ſerrate-toothed. Flowers pedicelled, uſually oppoſite to the

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[m] See more, under ſpecies 41. [n] Linn. ſuppl. [o] Linn. ſpec. [p] Thunberg. [q] Ray. [r] Linn. [s] Ray. [t] Linn. [u] Scopoli.

[x] Linn. [y] Hudſ. angl. [z] Hort. kew. [a] Scop. Linn. Hall. [b] Hort. kew. [c] Bergius. [d] Loureiro. [e] Ibid. [f] Lewis. See Kæmpfer, Bergius, &c. [g] Groſier. [h] Linn. ſpec. [i] Hort. kew. [k] Linn. ſpec. [l] Hort. kew.

leaves, but alſo axillary and terminating; ſolitary, ſeldom in pairs. Gathered by Koenig, in the Eaſt-Indies, on the coaſt[n].

PROPAGATION AND CULTURE.

Moſt of the plants in this numerous genus are hardy perennials, and may be increaſed without great difficulty, by ſeeds, parting the roots, ſlips or cuttings. Many of them having no great beauty, are ſeldom ſeen in gardens.]

1. This, and a few others, that are rather tender, muſt be placed in the greenhouſe, with myrtles and other hardy exotics, which require a large ſhare of free air in mild weather, when they ſhould be frequently watered. They love a light freſh ſoil, and may be propagated either by cuttings or ſlips.

4. 7. Require to be ſheltered from froſt; they are eaſily propagated from cuttings, planted in a ſhady border, any time during ſummer, and duly watered. In autumn ſome of the young plants ſhould be potted, in order to be put into the frame in winter: the reſt may be planted in a warm border, where they will live through a favourable winter.

6. Common Southernwood is propagated by ſlips and cuttings, planted in a ſhady border, the beginning of april, obſerving to water them duly in dry weather: here they may remain till the autumn, when they ſhould be tranſplanted, either into pots or thoſe parts of the garden where they are to remain.

20. Wormſeed may be increaſed in the ſame manner, but ſhould be planted in a dry ſoil, and ſheltered ſituation, where it will endure the cold of our ordinary winters; but it will be proper to have a plant or two in pots, which may be ſheltered occaſionally under a common hotbed frame.

21. 25. Wild Southernwood is rarely kept in gardens; and Sea Wormwood, when tranſplanted into a garden, ſeldom thrives well.

26. May be propagated by planting the ſide ſhoots in a ſhady border during any of the ſummer months; if duly watered they will put out roots, and in autumn may be tranſplanted where they are to remain.

27. Is very hardy, and may eaſily be increaſed by cuttings.

30 Roman Wormwood may be readily propagated by its creeping roots, which may be parted in autumn, and planted two or three feet aſunder: the beſt time for this is the middle of october. It will grow in any ſoil which is not too wet.

32. 43. Are annual plants. They may be eaſily propagated by ſeeds, which ſhould be ſown in the autumn ſoon after they are ripe: or if they be permitted to ſcatter, the plants will come up without farther care.

33. May be propagated by parting the roots in the autumn.

34. Common Wormwood is eaſily propagated by parting the roots, by ſlips, or by ſeeds, ſown in the autumn ſoon after they are ripe; or if they be permitted to ſcatter, the plants will come up without farther care.

[35. Mugwort, being ſo common a plant wild, is rarely admitted into gardens, except the variegated ſort: this may be raiſed by ſlips, cuttings, or parting the roots.]

37. Is as hardy as the common, and multiplies as faſt.

40. Tarragon is a very hardy plant, which propagates greatly by its creeping roots, or may be multiplied faſt by planting the young ſhoots the beginning of may, in the ſame manner as is practiſed for Mint; and if they are duly ſupplied with water in dry weather, they will ſoon ſpread and meet.

Artichoke. See *Cynara.*

Artichoke of Jeruſalem. See *Helianthus.*

[**ARTOCARPUS.** (Αρτος & καρπος, *Bread-fruit.*)
Lin. gen. Schreb. n. 1393. *ſuppl.* 61. *Forſt. gen.* 51. *Juſſ.* 402.
Sitodium. *Soland. Gærtn. t.* 71, 72.
Radermachia. *Thunb. nov. gen.* 24.
Claſſ. 21. 1. Monoecia Monandria.
Nat. order of *Urticæ* Juſſ.

GENERIC CHARACTER.

* *Male flowers.*

Cal. none. *Ament* cylindrical, all covered with florets.

Cor. to each two *petals*, oblong, concave, blunt, villoſe.

Stam. *Filament* ſingle within each corolla, filiform, the length of the corolla. *Anther* oblong.

* *Female flowers,* on the ſame tree.

Cal. and Cor. none.

Pist. *Germs* very many, connected into a globe, hexangular. *Style* to each filiform. *Stigma* ſingle, or two, capillary, revolute.

Per. *Fruit* ovate-globular, compound, muricate.

Seeds for each germ ſolitary, oblong, covered with a pulpy *aril,* placed on an ovate receptacle.

ESSENTIAL CHARACTER.

Male. *Ament. Cal.* none. *Cor.* two-petalled.

Female. *Cal.* and *Cor.* none. *Style* one. *Berries* one-ſeeded, connected and forming a roundiſh muricated fruit.

SPECIES.

1. Artocarpus inciſa. *Bread-fruit tree.*
Lin. ſyſt. 838. *ſuppl.* 411. *Forſt. eſcul. auſtr.* 23.
Sitodium inciſum. *Thunb. philoſ. tranſ.* 1779. *vol.* 69. *p.* 465.
Radermachia inciſa. *Thunb. act. holm.* 1776. *vol.* 36. *p.* 250.
Soccus lanoſus-granoſus & ſylveſtris. *Rumph. amb.* 1. 110, 112, 114. *t.* 32, 33, 34.
Le Rima, ou Fruit à pain. *Sonnerat voy.* 99. *t.* 57–60.
Bread-fruit. *Dampier voy.* 1. *c.* 10. *Anſon voy.* 305, 310. *Hawkſw. voy. vol.* 2. *p.* 80. *fig. Cook's voy. vol.* 2. 197. & *laſt voy.* 2. 145. *King's narr.* 3. 105, 114, 116, 120. *Ellis monogr.* 11, &c. *fig.*
α. Fructu apyreno. *Fruit without ſeeds.*
Forſt. monogr. vom Brodbaum, 4to. 1784.
β. Fructu ſeminifero. *With ſeeds in the fruit.*
Sonnerat as above; *Rumphius,* &c.
Leaves gaſhed.

2. Artocarpus integrifolia. *Indian Jaca Tree.*
Lin. ſyſt. 838. *ſuppl.* 412.
Sitodium macrocarpon. *Thunb. philoſ. tranſ. vol.* 69. *p.* 467.
S. cauliflorum, *Gærtn. fruct.* 1. 345.
Radermachia integra. *Thunb. act. holm. vol.* 36. *p.* 254.
Soccus arboreus. Nanca. *Rumph. amb.* 1. 104. *t.* 30, 31.
Tsjacca-maram, ſ. Jacca. *Rheed. mal.* 3. 17. *t.* 26, 27, 28.
Jacca indica. *Bauh. hiſt.* 1. 115. *Zanon. hiſt.* 128. *t.* 91. *Park. theat.* 1639. *fig. Raii hiſt.* 1440. *Bauh. pin.* 511. 8. (Palma).
Leaves entire.

DESCRIPTIONS, *&c.*

Theſe are milky trees. Leaves alternate, ſtipuled; when young rolled up in the ſtipules, which preſently fall off leaving veſtiges of them as in the fig. Aments axillary or terminating. Fruits axillary on the ſtem and lower branches, in ſome varieties wholly deſtitute of ſeeds[a].

1. The ſubject of the Bread-fruit tree is ſo intereſting, and the tree itſelf is ſo little known at preſent in Europe, that I ſhall collect together here the ſubſtance of what moſt authors of credit have reported concerning it.

The younger Linneus has thus deſcribed this remarkable tree. It grows to the height of thirty or forty feet, with a trunk the thickneſs of the human body. Leaves alternate, petioled, oblong, deeply gaſhed, ſcabrous, two feet long. Stipules two, lanceolate, large, hirſute on the outſide, including the younger leaves, caducous. Aments on the outmoſt branches, violet-coloured, peduncled, male and female on the ſame twig. The whole tree, and the fruit, before it is ripe, abound in a very tenacious milky juice, that may be drawn out into threads[b].

[n] Retz.

[a] Juſſieu gen.

[b] Suppl.

Forſter's deſcription is more full in ſome particulars.—This tree is the thickneſs of a man, and forty feet high or more: the trunk is upright, the wood ſoft, ſmooth and yellowiſh, the inner bark white, compoſed of a net of ſtiffiſh fibres, the outer bark ſmooth, but full of chinks, pale aſh-colour with ſmall tubercles thinly ſcattered over it. Wherever the tree is wounded it pours out a glutinous milky liquor. The branches form an ample almoſt globular head; the lower ones, which are the longeſt, ſpring from the trunk ten or twelve feet above the ground, ſpreading out almoſt horizontally, ſcattered, and in a ſort of whorl: twigs aſcending, bearing flowers and fruits at their ends. Leaves alternate, petioled, ovate, deeply divided above the middle into ſeven or nine lanceolate acute lobes, with rounded ſinuſes; they are otherwiſe quite entire, ſmooth on both ſides, even, ſpreading, bright green, paler underneath, membranaceous, a foot and half in length, eleven inches wide, veined, having a thick nerve to each lobe diverging from the common rachis. The younger leaves, like all the more tender parts of the tree, are glutinous to the touch. Petioles roundiſh, even, aſcending, two inches in length. Stipules in pairs, involving the younger leaves, lanceolate, acuminate, concave, entire, ſmooth within, hairy on the outſide, deciduous, three inches long. Peduncles at the ends of the twigs, and in the axils of the upper leaves, ſolitary, round, upright, having a few hairs on them, and two inches in length. The male flowers are among the upper leaves; and the female flowers at the ends of the twigs. The male ament is club-ſhaped, fleſhy, upright, a ſpan long, covered with innumerable, ſmall, ſeſſile florets. The proper perianth is very ſmall, two-valved, the valves equal, oblong, blunt, concave, cloſely adhering, ſhut, yellowiſh-brown[c]. Theſe have no ſpathes. The female flowers have bivalve ſpathes, ovate-lanceolate, compreſſed, acuminate, upright, bent in at the tip, ſoft, a ſpan in length, at firſt cloſed, then deciduous, placed at the end of the peduncle. Spadix globular, covered with very many connate germs; theſe are obconical, immerſed in the receptacle, ſomewhat convex at the top. Styles ſcarcely any. Stigmas, projecting points, withering: in ſome varieties theſe are bifid, according to Thunberg. The fruit is a globular berry, ſmoothiſh, marked with hexagons on the ſurface, pale green, when largeſt a long ſpan or nine inches in length, filled with a white, farinaceous, ſomewhat fibrous pulp, which when the fruit is ripe becomes juicy and yellow: it is faſtened to a club-ſhaped, fleſhy receptacle, which is longitudinally fibrous; and a hand in length[d].

Thunberg deſcribes it thus[e]. It is an upright tree, with a trunk the thickneſs of a man's body, thirty feet high. Branches faſtigiate and oppoſite, ſomewhat verticillate by fours, ſpreading. Leaves alternate, petioled, oblong, deeply gaſhed beyond the middle, nine-lobed, quite entire, villoſe and rugged, ſpreading, green on the upper ſurface with pale nerves, pale underneath; two feet long, and a foot broad; when young plaited, and viſcid. Petiole thick, ſomewhat triangular, villoſe, an inch in length. Stipules wrapping up the younger leaves, two, ſeſſile, lanceolate, acuminate, concave, quite entire, ſmooth on the inſide, hirſute without, deciduous. Flowers at the ends of the twigs, male and female diſtinct on the ſame twig. Peduncle roundiſh, villoſe, upright, two inches long, the thickneſs of a finger. Spadix a ſpan in length, drooping, deciduous. Fruit the ſize of a child's head, ſometimes having abortive ſeeds, and ſometimes none. It flowers and produces ripe fruit twice in the year.

Dampier ſays, that the Bread-fruit grows on a large tree, as big and high as our largeſt apple trees. It hath a ſpreading head full of branches and dark leaves. The fruit grows on the boughs like apples: it is as big as a penny loaf, when wheat is at five ſhillings the buſhel. It is of a round ſhape, and hath a thick tough rind. When the fruit is ripe it is yellow and ſoft, and the taſte is ſweet and pleaſant. The natives of Guam uſe it for bread: they gather it when full grown, while it is green and hard; then they bake it in an oven, which ſcorches the rind and makes it black: but they ſcrape off the outſide black cruſt, and there remains a tender thin cruſt, and the inſide is ſoft, tender and white, like the crum of a penny loaf. There is neither ſeed nor ſtone in the inſide, but all is of a pure ſubſtance like bread. It muſt be eaten new, for if it is kept above twenty-four hours it becomes dry and choaky, but it is very pleaſant before it is too ſtale. This fruit laſts in ſeaſon eight months in the year; during which time the natives eat no other ſort of food of bread kind. I did never ſee of this fruit any where but here; but the natives told us, that there is plenty of this fruit growing on the reſt of the Ladrone iſlands.

According to the obſervation of Rumphius, this tree has a few ſpreading crooked branches, thinly covered with leaves, placed on thick ſhort footſtalks, ſix or ſeven only forming a tuft, ſurrounding the extremity of the branch in form of a roſe: they are large, ſtiff, and have underneath a thick prominent nerve; they are cut on each ſide into four or five deep ſegments reſembling the leaves of an oak, but each diviſion ends in a point: they are about two ſpans long, and little leſs in width: a glutinous milky juice flows from any part of the tree when wounded. The ament ſhoots up among the upper leaves: it is about the length of one's hand, and as thick as the thumb; pliant, ſoft and woolly; the fruit likewiſe grows up among the leaves: it is ſhaped like a heart, and increaſes to the ſize of a child's head: the rind is thick, green, and covered every where with warts of a quadragonal or hexagonal figure, like cut diamonds, but without points. The more flat and ſmooth theſe warts are, the fewer ſeeds are contained in the fruit, and the greater is the quantity of pith, and that of a more glutinous nature.

The internal part of the rind conſiſts of a fleſhy ſubſtance, full of twiſted fibres, which have the appearance of fine wool; theſe adhere to and in ſome meaſure form it. The fleſhy part becomes ſofter towards the middle, where there is a ſmall cavity formed without any nuts or ſeeds, except in one variety which has but a ſmall number; and this ſort is not good, unleſs it be baked, or prepared ſome other way; but if the outward rind be taken off, and the fibrous fleſh dried, and afterwards boiled with meat as we do cabbage, it has then the taſte of artichoke bottoms. The inhabitants of Amboina dreſs it in the liquor of coco-nuts; but they prefer it roaſted on coals, till the outward part or peel is burnt: they afterwards cut it into pieces, and eat it with the milk of the coco-nut. Some people make fritters of it, or fry it in oil: and others, as the Sumatrians, dry the internal ſoft part, and keep it to uſe inſtead of bread with other food.

It affords a great deal of nouriſhment, and is very ſatisfying: and being of a gently aſtringent quality, is good for perſons of a lax habit. It is more nouriſhing boiled with fat meat, than roaſted on coals.

The milky juice, which diſtils from the trunk, boiled with coco-nut oil, makes a very ſtrong birdlime.

In Captain Cook's voyage it is obſerved, that the Bread-fruit tree is about the ſize of a middling oak; its leaves are frequently a foot and half long, oblong, deeply ſinuated like thoſe of the fig-tree, which they reſemble in conſiſtence and colour, and in exuding a milky juice when broken. The fruit is the ſize and ſhape of a child's head, and the ſurface is reticulated not much unlike a truffle: it is covered with a thin ſkin, and has a core about as big as the handle of a ſmall knife; the eatable part lies between the ſkin and the core; it is as white as ſnow, and ſomewhat of the conſiſtence of new bread. It muſt be roaſted before it is eaten, being firſt divided into three or four parts: its taſte is inſipid, with a ſlight ſweetneſs ſomewhat reſembling that of the crum of wheaten bread mixed with Jeruſalem Artichoke. This fruit not being in ſeaſon at all times of the year, there is a method of ſupplying this defect, by reducing it to a ſour paſte, called *Mahie:* and beſides this Coco-nuts, Bananas, Plantains, and a great variety of other fruits come in aid to it.

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[c] This is called the corolla in the generic character.

[d] Plant. eſcul. inſul. oceani auſtralis.

[e] Philoſ. tranſ.

This tree is uſeful not only for food, but alſo for clothing; for the bark is ſtripped off the ſuckers, and formed into a kind of cloth.

To procure the fruit for food, coſts the inhabitants no trouble or labour but climbing a tree, which though it ſhould not indeed ſhoot up ſpontaneouſly; yet, as Captain Cook obſerves [f], if a man plants ten trees in his life-time, he will as completely fulfill his duty to his own and future generations as the native of our leſs temperate climate can do by ploughing in the cold winter, and reaping in the ſummer's heat, as often as theſe ſeaſons return; even if, after he has procured bread for his preſent houſehold, he ſhould convert a ſurplus into money, and lay it up for his children. But where the trees are once introduced in a favourable ſoil and climate, ſo far from being obliged to renew them by planting, it ſeems probable that the inhabitants will rather be under the neceſſity of preventing their progreſs; for young trees ſpring abundantly from the roots of the old ones, which run along near the ſurface. Accordingly they never plant the Bread-fruit tree at Otaheite [g].

The principal varieties of this tree are that in which the fruit is deſtitute of ſeeds, and that in which they are found. The latter may be conſidered as the tree in a wild ſtate; and the want of ſeeds is probably owing to cultivation; as in the Barberry, and the little Grape of Zant, which we commonly call Currants. The natives of Otaheite reckon at leaſt eight varieties of that without ſtones, differing in the form of the leaf and fruit. One of theſe they name *Uru* or *Eoroo*; this has a globular, ſmooth, even fruit, and is the moſt common. A ſecond named *Maira*, has an oval, ſmooth fruit, with the leaves more deeply cut. A third, called *Patea*, has the fruit oblong and rugged, as it were ſcaly. A fourth, *Tatarra*, has an oval fruit, with mammillary germs muricated by the permanent ſtyle [h]. Probably by extending the culture to diſtant countries we ſhall hereafter find the varieties much increaſed.

The parts of fructification in thoſe trees which bear fruit without ſtones are ſaid to be defective. The ament never expands; the ſtyles are likewiſe deficient [i].

β. In the other variety, the fruit contains a conſiderable quantity of ſeeds, almoſt as large as Cheſtnuts, oblong, ſomewhat angular, produced into a point at each end, ſeparated by ſeveral little membranes or coats, formed by the abortion of ſome of the germs: they are attached to a fleſhy and very conſiderable placenta, which occupies the centre. They are farinaceous, like the Cheſtnut, and are eaten in ſome places by the ſavage inhabitants, either boiled or roaſted in embers [k]. It will eaſily be ſuppoſed that this fruit, abounding leſs in pulp, and being both more fibrous and leſs juicy than that which has no ſeeds, muſt be much inferior, as an article of food: and accordingly before the diſcovery of the South Sea iſlands the Bread-fruit had not acquired that degree of reputation which it is now found to deſerve. It has been long known in many parts of the Eaſt-Indies; but not being wanted there for food, and conſequently not having received any degree of cultivation, it has continued nearly in its natural ſtate, without receiving that improvement from the care of men, which probably neceſſity at firſt urged them to exerciſe. Accordingly Captain Cook remarked the great inferiority of the *Soccum* which he found at Batavia to the *Eoroo* of the South Sea iſlands.

This moſt uſeful tree is diſtributed very extenſively over the Eaſt Indian continent and iſlands, as well as the innumerable iſlands of the South Seas. It was found by Dampier, as already mentioned, in the Ladrone iſlands; it is native of Amboina, Banda, and others of the Molucca iſlands: of Java and others of the Maldivy iſlands; of Timor, Balega, and Madura, of Prince's iſland, *&c.* Monſ. Sonnerat conveyed ſome of the trees from the iſland of Luçon to the iſle of France. Monſ. Poivre naturalized them both there and in the iſle of Bourbon. And they are cultivated both in Malabar and Coromandel.—In the South Seas both varieties are ſtill found in the Marian iſlands, in the New Hebrides and Friendly iſlands; but moſt abundantly in the Society, Marqueza, and Sandwich iſlands. In Otaheite however and ſome others, the evident ſuperiority of the ſeedleſs variety for food has cauſed the other to be neglected, and accordingly there it is almoſt or altogether worn out. Captain King informs us, that in the Sandwich iſlands theſe trees are planted, and flouriſh with great luxuriance on riſing grounds; that they are not indeed in ſuch abundance, but that they produce double the quantity of fruit which they do on the rich plains of Otaheite; that the trees are nearly of the ſame height, but that the branches begin to ſtrike out from the trunk much lower, and with greater luxuriance; and that the climate of theſe iſlands differs very little from that of the Weſt-Indian iſlands, which lie in the ſame latitude; or on the whole perhaps may be rather more temperate [l].

It was this reflection probably which firſt ſuggeſted the idea of conveying this moſt uſeful tree to our iſlands in the Weſt-Indies. However that may be, on the 23d of december 1787, his Majeſty's ſhip the Bounty ſailed for the South Seas, under the command of Lieutenant William Bligh for this purpoſe: the preparations for executing the object of the voyage being completed according to a plan given by Sir Joſeph Banks. The fatal mutiny which prevented the accompliſhment of this benevolent purpoſe, and ſubjected the commander and his friends to the moſt unheard of hardſhips is well known.

His Majeſty however, not diſcouraged by the unfortunate event of this voyage, and fully impreſſed with the importance of ſecuring ſo valuable an article of food as the Bread Fruit to our Weſt-Indian iſlands, determined in the year 1791 to employ another ſhip on this buſineſs; and in order to ſecure the ſucceſs of the voyage as much as poſſible, it was thought proper that two veſſels ſhould proceed together on this ſervice. Accordingly a ſhip of four hundred tons, named the Providence, was engaged for the purpoſe, manned with one hundred officers, ſeamen and marines, and the command of her given to Mr. Bligh, who on his return had been made a Poſt Captain; and a ſmall tender called the Aſſiſtant, commanded by Lieutenant Nath. Portlock, with twenty-ſeven officers, ſeamen and marines was engaged to accompany her: Sir Joſeph Banks, as in the former voyage, directed the equipment of the ſhip for this particular purpoſe; and Captain Bligh, piqued by his former ill ſucceſs, exerted all his ſkill and zeal in the ſervice. Two ſkilful gardeners were appointed to ſuperintend the trees and plants from their tranſplantation at Otaheite to their delivery at Jamaica, and Captain Bligh ſet ſail on the ſecond of auguſt 1791. He arrived at Teneriffe on the 28th, at St. Jago on the 13th of ſeptember, and at the Cape of Good Hope on the 6th of november. He ſailed from thence on the 19th of december; arrived at Adventure's bay, on the 9th of february 1792, and at Otaheite on the 8th or 9th of april.

The buſineſs of procuring and embarking the Bread-fruit trees, *&c.* took up three months and nine days; though the natives of Otaheite gave all poſſible aſſiſtance to Captain Bligh and the gardeners. They ſailed on the 18th or 19th of july; arrived at Coupang in Timor on the 2d of october; at St. Helena the 17th of december, and at St. Vincent's on the 22d of january 1793. Here they ſtaid ſeven days to leave a part of their cargo; according to the inſtructions; and on the 5th of february they arrived at Jamaica, and delivered the remainder.

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[f] Vol. 2. 197.

[g] Cook's laſt voyage, vol. 2. p. 145.

[h] Forſter eſcul. 26.

[i] Ellis.

[k] Forſter eſcul. 26.

[l] King's narrative 3. 105, 114, 116, 120.

The number of plants taken on board at Otaheite was 2634, in 1281 pots, tubs, and caſes; and of theſe 1151 were Bread-fruit trees. When they arrived at Coupang 200 plants were dead, but the reſt were in good order. Here they procured 92 pots of the fruits of that country. They arrived at St. Helena with 830 fine Bread-fruit trees, beſides other plants. Here they left ſome of them, with different fruits of Otaheite and Timor; beſides mountain Rice and other ſeeds; and from hence the Eaſt-Indies may be ſupplied with them.

On their arrival at St. Vincent's they had 551 caſes, containing 678 Bread-fruit trees, beſides a great number of other fruits and plants to the number of 1245. Near half this cargo was depoſited here, under the care of Mr. Alexander Anderſon, the ſuperintendant of his Majeſty's botanic garden, for the uſe of the Windward Iſlands; and the remainder, intended for the benefit of the Leeward Iſlands was conveyed to Jamaica, and diſtributed as the governor and council of Jamaica pleaſed to direct. The exact number of Bread-fruit trees brought in health to Jamaica was 352, out of which five only were reſerved for his Majeſty's botanic garden at Kew.

Though the principal object of this voyage was to procure the Bread-fruit tree, yet it was not confined to this only; for the deſign was to furniſh the Weſt-Indian iſles with the moſt valuable productions of the South Seas and the Eaſt-Indies.

Accordingly the gardeners were inſtructed to procure plants of the Sweet Plantain called *Meia,* the Otaheitean Apple or *Avee,* the root called *Peah* of which the iſlanders make a kind of pudding, and the very large *Yam,* which is of a better ſort than any in the Weſt-Indies. They were alſo to obtain at Timor or other places in the Eaſt-Indies ſuch plants and fruits as are uſed for food or otherwiſe by the natives, ſuch as the *Lanſa, Mangoſtan, Durion, Jamboo, Nanca, Tchampadha, Blimbing, Jambolan, Boäbidarra, Salac, Bleck, Long Pepper,* &c. together with ſome buſhels of dry or mountain Rice, which is cultivated without being overflowed with water; and they were to make themſelves acquainted with the mode of managing it, in order to communicate the ſame to the inhabitants of the Weſt-Indies.

They were alſo, as a ſecondary object, and as they had opportunity, to take on board, at the ſeveral places where they touched, curious plants for his Majeſty's botanic garden at Kew, provided they did not diminiſh the ſtock of Bread-fruit trees, and that they were planted only in ſuch pots or caſes, in which theſe or other uſeful plants had died. And the object of their voyage being completed, they were directed to take in, both at St. Vincent's and Jamaica, ſuch plants as had been prepared for the royal botanic garden at Kew.

Captain Bligh had the ſatisfaction, before he quitted Jamaica, of ſeeing the trees which he had brought with ſo much ſucceſs, in a moſt flouriſhing ſtate; inſomuch that no doubt remained of their growing well, and ſpeedily producing fruit.

It is difficult perhaps to point out a more benevolent undertaking than this of tranſporting uſeful and ſalutary vegetables from one part of the earth to another where they do not exiſt. And every good man will certainly rejoice, that a humane and well-concerted plan has thus at length happily ſucceeded; and that the Bread-fruit tree, with many other uſeful fruits and plants, has been eſtabliſhed in the Weſt-Indies, by the kind attention of the Britiſh government; the exemplary and diſintereſted exertions of Sir Joſeph Banks; and the zealous care of Captain Bligh.

The Bread Fruit, when perfectly ripe, is pulpy, ſweetiſh, putreſcent, and in this ſtate is ſuppoſed to be too laxative; but when green it is farinaceous, and eſteemed a very wholeſome food, either baked under the coals, or roaſted over them; the taſte is not very unlike that of wheaten bread, but with ſome reſemblance to Jeruſalem Artichokes or Potatoes. It was mentioned before that a ſort of cloth is made of the inner bark. But beſides this, the wood of the tree is of uſe in building boats and houſes; the male catkins ſerve for tinder; the leaves for wrapping their food in and for wiping their hands inſtead of towels; and the juice for making bird-lime, and a cement for filling up the cracks of their veſſels for holding water. Three trees are ſuppoſed to yield ſufficient nouriſhment for one perſon[m].

Thunberg ſent ſeeds of the Eaſt-Indian Bread fruit from Batavia, to the botanic garden at Amſterdam, in 1775. In 1777, he ſent ſome ſmall living plants. And the year following he brought with him to Europe a great number of plants both of this and the following ſpecies. But the true ſeedleſs ſort, from the South Seas, was firſt introduced into the iſlands of St. Vincent and Jamaica, and into the botanic garden at Kew, by Captain Bligh, in 1793.

The Bread Fruit is called in the Malay language *Soccun,* in Java *Souku,* in Amboina *Söun* or *Sune,* in Makaſſar *Bakar,* in Ternate *Gomo,* in Tinian *Rima.* The Dutch call it *Sockuſboom,* the Germans *Brodbaum,* the French *Rima* or *fruit à pain.*

2. The Eaſt-Indian Jacca or Jack Tree is about the ſame ſize with the foregoing, or larger. Branches alternate, ſpreading; the twigs hirſute with long ſtiff hairs. Leaves alternate, petioled, ovate-oblong, blunt with a blunt point, obſcurely ſerrate, undivided, nerved; bright green and very ſmooth on the upper ſurface, paler beneath and hirſute with ſtiff hairs, ſpreading, a ſpan in length: the younger leaves are evidently toothed, but the teeth diſappear afterwards: ſometimes a leaf or two may be gaſhed. The petiole is ſomewhat triangular, ſmooth, an inch in length. Stipules as in the foregoing. Flowers male and female diſtinct on the ſame ſtem or branch. Peduncle either ſimple or branched, pendulous, an inch thick, and a foot long. Pedicels three, five or more, the length and thickneſs of a finger. The fruit weighs thirty pounds and upwards; it has within it frequently from two to three hundred ſeeds, three or four times as big as almonds; they are ovate-oblong, blunt at one end, ſharp at the other, and a little flatted on the ſides[n].

Theſe two ſpecies of *Artocarpus* cannot be diſtinguiſhed with certainty, either by the form of the leaves or the ſituation of the fruit: for the leaves in this are ſometimes lobed, as in that; and the ſituation of the fruit varies with the age of the tree, being firſt borne on the branches, then on the trunk, and finally on the roots[o]. The Jacca tree is a native of Malabar and other parts of the Eaſt-Indies. The fruit is ripe in december, and is then eaten, but is eſteemed difficult of digeſtion; the unripe fruit is alſo uſed pickled, or cut in ſlices and boiled, or fried in Palm oil. The nuts are eaten roaſted; and the ſkin next them is uſed inſtead of the Areca nut in chewing Betel. The wood of the tree ſerves for building. No leſs than thirty varieties of the fruit are enumerated in Malabar[p]. It was introduced into the royal botanic garden at Kew in 1778, by Sir Edward Hughes, knight of the bath[q].

PROPAGATION AND CULTURE.

Thoſe varieties which bear ſeeds may be propagated by them, ſown in a pot of rich earth, and plunged in the bark-bed. Thoſe which have no ſeed in the fruit may be increaſed from ſuckers, in which they abound very much, or by layers. In hot climates they ſucceed beſt in a rich ſoil; for though they will grow in an indifferent one, yet they by no means arrive at that magnitude, nor is their fruit ſo well flavoured, as when they are planted in a good one.

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[m] Forſter eſcul. p. 27.
[n] Thunberg in philoſ. tranſ.
[o] Gærtner.
[p] Hort. Malab. & Raii hiſt.
[q] Hort. kew.

In the Eaſt-Indies, they thruſt a fruit of the Jacca tree into the ground whole, and when the numerous ſeeds germinate and grow up, they tie the ſtems all together with withes, and by degrees they form one ſtem, which will bear fruit in ſix or ſeven years, except it be in too watery a ſituation.

ARUM. (*From* 'Αρὰ, *noxa, injury.*)

Lin. gen. n. 1028. *Reich.* 1119. *Schreb.* 1387. *Tournef. t.* 69. *Juſſ.* 24. *Gærtn. t.* 84. Ariſarum. *Tournef. t.* 70. Colocaſia. *Boerh.* 2. 73. Dracunculus. *Tournef.*

Claſſ. 20. 9. Gynandria Polyandria.—21. 1. Monoecia Monandria. *Schreb.*

Nat. order of *Piperitæ. Aroideæ.* Juſſ.

GENERIC CHARACTER.

* *Male* flowers on the ſame ſpadix with the females, cloſely heaped between a double row of threads.

Cal. *Spathe* one-leafed, very large, oblong, convolute at the baſe, converging at the top; the belly compreſſed, coloured within.

Spadix club-ſhaped, quite ſimple, a little ſhorter than the ſpathe, coloured, fenced at bottom with germs, and ſhrivelling above them.

Perianth proper none.

Cor. none.

Nectaries? thick at the baſe, ending in threads or tendrils, in two rows, iſſuing from the middle of the ſpadix.

Stam. *Filament* none. Each *anther* ſeſſile, four-cornered.

* *Female* flowers on the lower part of the ſpadix, cloſe to each other.

Cal. *Spathe* and *ſpadix* common to them with the males.

Perianth proper none.

Cor. none.

Pist. *Germ* each obovate. *Style* none. *Stigma* bearded with villoſe hairs.

Per. *Berry* globular, one-celled.

Seeds ſeveral, roundiſh.

Obs. Arum Tournef. *was ſeparated from* Dracunculus *on account of its ſagittate entire leaves.*

Dracunculus T. *was diſtinguiſhed from* Arum *by its multifid leaves.*

Ariſarum T. *ſlightly recedes from* Arum *in having a ſpathe bent in at the tip, a ſpadix alſo bent in, and the anthers placed on filaments; yet it does not conſtitute a diſtinct genus.*

ESSENTIAL CHARACTER.

Spathe one-leafed, cowled. *Spadix* naked above, female below, ſtamineous in the middle.

SPECIES.

* *Without ſtems: leaves compound.*

[1. Arum crinitum. *Hairy-ſheathed Arum.*
Ait. hort. kew. 3. 314.
A. muſcivorum. *Lin. ſyſt.* 828. *ſuppl.* 410.
A. Dracunculus. *Buchoz.*
Leaves pedate, with the lateral ſegments involute; ſpathe hairy within: ſpadix ramentaceous above.]

2. Arum Dracunculus. *Long-ſheathed Arum,* or *Common Dragon.*
Lin. ſpec. 1367. *Reich.* 4. 68. *hort. cliff.* 344. *Gærtn. fruct.* 2. 19. *Scop. carn. n.* 1139. *Allion. pedem. n.* 2125. *Thunb. jap.* 233. *Sabb. hort.* 2. *t.* 76, 77.
A. paluſtre polyphyllum. *Rivin. mon. t.* 125.
Dracunculus polyphyllus. *Bauh. pin.* 195. *Mor. hiſt.* 3. 548. *ſ.* 13. *t.* 5. *f.* 46.—major vulgaris. *Park. theat.* 859. *f.* 2. *parad.* 531. *f.* 2.
Dracontium. *Dod. pempt.* 329. *Blackw. herb. t.* 269.——majus. *Beſl. eyſt. æſt.* 4. *t.* 1. *f.* 1. *Ger.* 682. 1. *emac.* 831. 1. *Raii hiſt.* 1211.
Leaves pedate, leaflets lanceolate quite entire; lamina ovate longer than the ſpadix.

3. Arum Dracontium. *Short-ſheathed Arum,* or *Green Dragon.*
Lin. ſpec. 1368. *Reich.* 4. 68. *Thunb. jap.* 233. *Lour. cochinch.* 533. *Herm. lugdb.* 60.
β. A virginianum, &c. *Pluk. phyt. t.* 271. *f.* 2.
Leaves pedate, leaflets lanceolate, quite entire, longer than the ſpathe which is ſhorter than the ſpadix.

[4. Arum venoſum. *Purple-flowered Arum.*
Ait. hort. kew. 3. 315.
Leaves pedate, leaflets ſuboval quite entire, lamina lanceolate longer than the ſpadix.

5. Arum pentaphyllum. *Five-leaved Arum.*
Lin. ſpec. 1368. *Reich.* 4. 69. *Mor. hiſt. f.* 27. (bad) *Lour. cochinch.* 533.
Rhomphal. *Zanon. hiſt.* 205. (bad)
Leaves quinate.]

6. Arum triphyllum. *Three-leaved green-ſtalked Arum.*
Lin. ſpec. 1368. *Reich.* 4. 69. *Thunb. jap.* 233. *Gron. virg.* 142.
Dracunculus ſ. Serpentaria triphylla braſiliana. *Bauh. pin.* 195. *prodr.* 101. *Dodart mem.* 81. *f.* 273. *Raii hiſt.* 1212.
β. A minus triphyllum, &c. *Mor. hiſt.* 547. *t.* 43.
Leaves ternate, lamina lanceolate acuminate the length of the ſpadix.

[7. Arum atrorubens. *Three-leaved purple-ſtalked Arum.*
Ait. hort. kew. 3. 315. *Pluk. alm. t.* 77. *f.* 5.
A triphyllum γ. *Lin. ſpec.* 1368.
Leaves ternate, lamina ovate ſhorter by half than the ſpadix.

8. Arum ternatum.
Lin. ſyſt. 827. *Thunb. jap.* 233. *Lour. cochinch.* 533. 2. *Pluk. amalth. t.* 376. *f.* 3.
Leaves ternate, receptacle longer than the ſpathe.]

** *Without ſtems: leaves ſimple.*

9. Arum Colocaſia. *Egyptian Arum.*
Lin. ſpec. 1368. *Reich.* 4. 69. *hort. cliff.* 434. 4. *upſ.* 280. *Haſſelqu. itin.* 485. *Cateſb. car.* 2. *t.* 45. *Lour. cochinch.* 534.
A. maximum ægyptiacum, quod vulgo Colocaſia. *Bauh. pin.* 195. *Raii hiſt.* 1209.
A. ægypticum. *Col. ecphr.* 2. *t.* 1. *Rumph. amb.* 5. *t.* 109.
Colocaſia. *Cluſ. hiſt.* 2. 75.
Leaves peltate ovate repand, ſemibifid at the baſe.

[10. Arum bicolorum. *Two-coloured Arum.*
Ait. hort. kew. 3. 316.
Leaves peltate ſagittate coloured on the diſk, ſpathe contracted in the middle, ſubglobular at the baſe; lamina roundiſh acuminate upright ſomewhat convolute.]

11. Arum eſculentum. *Eſculent Arum,* or *Indian Kale.*
Lin. ſpec. 1369. *Reich.* 4. 69. *hort. cliff.* 435. *upſ.* 280. *Forſt. eſcul.* 26. *Thunb. jap.* 234. *Lour. cochinch.* 535. *Sloan. jam.* 1. 167. *t.* 106. *f.* 1. *Raii hiſt.* 3. 577. *n.* 25.
Caladium aquatile. *Rumph. amb.* 5. *t.* 110. *f.* 1.
Leaves peltate ovate quite entire, emarginate (or *ſemibifid*) *at the baſe.*

[12. Arum macrorhizon. *Long-rooted Arum.*
Lin. ſpec. 1369. *Reich.* 4. 70. *fl. zeyl. n.* 327. *Forſt. eſcul.* 27. *fl. auſtr. n.* 329. *Lour. cochinch.* 535. *Herm. par. t.* 73. *Raii hiſt.* 3. 574. *Burm. zeyl.* 34.
A. ſativum. *Rumph. amb.* 5. *t.* 106. *Forſter, v. n.* 30.
Leaves peltate cordate repand, two-parted at the baſe.]

13. Arum peregrinum.
Lin. ſpec. 1369. *Reich.* 4. 70. *hort. cliff.* 435.
Leaves cordate obtuſe mucronate, angles rounded.

14. Arum divaricatum.
Lin. ſpec. 1369. *ſyſt.* 828. *Reich.* 4. 70. *fl. zeyl. n.* 325. *Rheed mal.* 11. 39. *t.* 20.
Leaves cordate-haſtate divaricate.

15. Arum trilobatum. *Three-lobed Arum.*
Lin. ſpec. 1369. *Reich.* 4. 70. *fl. zeyl. n.* 326. *Thunb. jap.* 234. *Lour. cochinch.* 534. *Herm. par. t.* 78. *Raii hiſt.* 3. 575. *n.* 17. *Comm. hort.* 1. 97. *t.* 51. *Mill. fig. t.* 52. *f.* 2.
Ariſarum amboinicum. *Rumph. amb.* 5. *t.* 110. *f.* 2.
Leaves ſagittate-trilobate, flower ſeſſile.

16. Arum ſagittæfolium. *Arrow-leaved Arum.*
Lin. ſpec. 1369. *Reich.* 4. 70. *hort. cliff.* 345. 3. *Jacqu. hort.* 2. *t.* 157. *Brown. jam.* 332. *n.* 8.

Sloan. jam. 1. 167. *t.* 106. *f.* 2. *Lour. cochinch.* 534. *Plum. ſpec.* 4. *ic.* 35. *Pluk. phyt. t.* 149. *f.* 2.

Leaves ſagittate triangular, the angles divaricate acute.

17. Arum maculatum. *Common Arum.*

Lin. ſpec. 1370. *Reich.* 4. 71. *mat. med.* 198. *Woodv. med. bot.* 74. *t.* 25. *Hudſ. angl.* 395. *Wither. arr.* 1012. *Lightf. ſcot.* 528. *Curtis lond.* 2. 63. (ſpotted.) *Hall. helv. n.* 1302. *Scop. carn. n.* 1138. *Pollich pal. n.* 864. *Allion. pedem. n.* 2126. *D'Aſſo aragon. n.* 904. *Fl. dan. t.* 505. *Mill. fig. t.* 52. 1. (unſpotted.) *Mill. illuſtr. Blackw. t.* 228. *Sabb. hort.* 2. *t.* 74, 75. *Rivin. mon. t.* 124. *f.* 1. *Bauh. hiſt.* 2. 784. *Raii hiſt.* 1208. *Fuchſ. hiſt.* 69. *Dod. pempt.* 329. 2. *Lob. obſ.* 325. 2. *ic.* 1. 597. 2. *Lonic.* 1. 200. 1. *Trag.* 774. *Matth.* 596. *Ger.* 682. 685. 1, 2. *emac.* 834. 1. *Park. theat.* 373. 1, 2. *Mor. hiſt. ſ.* 13. *t.* 5. *f.* 1.

α. A. vulgare non maculatum. *Common Arum without ſpots.*

Bauh. pin. 195.

β. A. maculatum, maculis candidis, vel nigris. *Common ſpotted Arum.*

Bauh. pin. 195.

γ. A. italicum. *Italian Arum.*

Mill. dict. n. 2.

Leaves haſtate quite entire, ſpadix club-ſhaped.

18. Arum virginicum. *Virginian Arum.*

Lin. ſpec. 1370. *Reich.* 4. 71. *hort. cliff.* 434. *Gron. virg.* 142. *Kalm. itin.* 2. 253. & 1. 125. *engl. edit.*

Leaves haſtate-cordate acute, angles obtuſe.

19. Arum proboſcideum. *Apennine Arum.*

Lin. ſpec. 1370. *Reich.* 4. 71. *Sabb. hort.* 2. *t.* 78.

Ariſarum. *Tournef. inſt.* 161. *n.* 3. *Bocc. muſ.* 2. 61. *t.* 50. *Barrel. ic. t.* 1150.

β. Ariſarum rotundifolium, &c. *Bocc. ſic. Mor. hiſt. t.* 6. *f.* 19.

Leaves haſtate, ſpathe declinate filiform-ſubulate.

20. Arum Ariſarum. *Broad-leaved hooded Arum* or *Friar's-cowl.*

Lin. ſpec. 1370. *ſyſt.* 828. *Reich.* 4. 72. *hort. cliff.* 435. *Lour. cochinch.* 535. *Sabb. hort.* 2. *t.* 79.

Ariſarum latifolium. *Cluſ. hiſt.* 2. 73. *Lob. ic.* 598. *Ger.* 686. 1. *emac.* 835. 1. *Park. theat.* 374. 5. *Raii hiſt.* 1211. *Barrel. ic. t.* 573.——majus & alterum. *Bauh. pin.* 196. 1, 2.

Leaves cordate-oblong, aperture of the ſpathe ovate.

[21. Arum pictum. *Painted Arum.*

Lin. ſyſt. 828. *ſuppl.* 410.

Leaves cordate painted with coloured veins.

22. Arum ovatum.

Lin. ſpec. 1371. *Reich.* 4. 72. *Rheed. mal.* 11. 45. *t.* 23. *Rumph. amb.* 5. 312. *t.* 108.

Leaves ovate-oblong, ſpathe ſcabrous.]

23. Arum tenuifolium. *Graſs-leaved Arum,* or *narrow-leaved Friar's-cowl.*

Lin. ſpec. 1370. *Reich.* 4. 72. *hort. cliff.* 345. *Sauv. monſp.* 16. *Gron. orient.* 286.

Ariſarum anguſtifolium. *Bauh. pin.* 196. *Cluſ. hiſt.* 2. 74. *Ger.* 686. *emac.* 835. 2. *Raii hiſt.* 1211. *Mor. hiſt.* 545. *t.* 6. *f.* 21.—longifolium. *Park. theat.* 374. 6.

Leaves lanceolate, ſpadix briſtle-ſhaped declinate.

[24. Arum cannæfolium.

Lin. ſyſt. 828. *ſuppl.* 410.

Leaves lanceolate veinleſs.]

*** *Cauleſcent.*

25. Arum arboreſcens. *Tree Arum.*

Lin. ſpec. 1371. *Reich.* 4. 72. *Plum. amer.* 44. *t.* 51. *g.* and 60.

Straight; leaves ſagittate.

26. Arum ſeguinum. *Dumb Cane Arum.*

Lin. ſpec. 1371. *Reich.* 4. 73. *Jacqu. amer.* 239. *t.* 151. *pict.* 117. *t.* 229. *Mill. fig.* 197. *t.* 295. *Plum. amer.* 44. *t.* 60, 51. *b. fil.* 195. *b. Brown. jam.* 331. *n.* 1. *Sloan. jam.* 1. 168.

Nearly upright, leaves lanceolate ovate.

[27. Arum hederaceum. *Ivy-leaved Arum.*

Lin. ſpec. 1371. *Reich.* 4. 73. *Jacq. amer.* 240. *t.* 152. *pict.* 117. *t.* 230. *Plum. amer.* 39. *t.* 55. *fil. t.* 195.

Radicant; leaves cordate oblong acuminate, petioles round.

28. Arum lingulatum. *Tongue-leaved Arum.*

Lin. ſpec. 1371. *Reich.* 4. 73. *Brown. jam.* 333. *n.* 12. *Sloan. jam.* 1. 75. *t.* 27. *f.* 2, 3. *Plum. ſpec.* 4. *ic.* 37.

Creeping; leaves cordate-lanceolate, petioles edged with membranes.]

29. Arum auritum. *Ear-leaved Arum.*

Lin. ſpec. 1371. *Reich.* 4. 73. *Brown. jam.* 331. *n.* 2. *Sloan. jam.* 1. 169. *Plum. amer.* 41. *t.* 58, 51.

Radicant; leaves ternate, thoſe on the ſide, one-lobed.

[30. Arum indicum. *Indian Arum.*

Loureiro cochinch. 536. *Rumph. amb.* 5. *t.* 106.

Nearly upright; leaves ovate, bifid at the baſe, rounded, ſpadixes axillary.

31. Arum cucullatum. *Cowled Arum.*

Lour. cochinch. 536.

Upright; leaves peltate, cordate, with the ears cowled.

32. Arum ſpirale. *Spiral Arum.*

Retz. obſ. 1. 30. *n.* 104.

Stemleſs; leaves lanceolate, ſpathe ſpiral ſeſſile.

It was obſerved by the elder Linneus, that the ſtructure of the flower, in this genus is ſtrange, and without a parallel; on this account it has been a diſpute among the moſt eminent botaniſts, in what claſs it ought to be placed. The great author of the ſexual ſyſtem left it in the claſs *Gynandria,* becauſe, although the ſtamens are not placed on the ſtyle, yet the receptacle is produced or elongated into the form of a ſtyle, and bears both piſtil and ſtamens. He obſerves at the ſame time, that this genus, together with ſome others nearly allied to it, might have been placed in other claſſes; but that he thought it better to inſert them in the claſs *Gynandria,* on account of the extreme difficulty, if not impoſſibility, of aſſigning a certain number of ſtamens to each piſtil[a]. With reſpect to *Calla* Linneus remarks, that as in each berry there are ſeveral ſeeds, it follows that each piſtil belongs to as many diſtinct florets, and that they are not all merely parts of one flower. This holds equally good with reſpect to *Arum,* which has frequently more than one ſeed in a berry. The younger Linneus remarks farther, that not only every floret in the compound flowers is a ſeparate flower, but that every floret in the catkins of *Saururus, Piper* and *Pothos,* and every anther in the ſcales of the catkins of *Zamia* is a diſtinct floret; and that when he attends to theſe facts, to the nature of female catkins, and to the ſingular fructification of *Pandanus,* he underſtands the ſtructure of *Arum:* in which every piſtil and every anther is to be conſidered as a diſtinct floret, and conſequently that it ought to be removed to the order *Monandria* of the claſs *Monœcia*[b]. This idea is adopted by Schreber and in Dr. Withering's arrangement. Thunberg and Swartz place this genus in the laſt order of the claſs *Polyandria.*

The Arums are readily diſtinguiſhed at firſt view, by the large wide ſpathe, and the long club-ſhaped ſpadix within it. This is the receptacle lengthened out. At the baſe are the germs ſurrounding it in a ring; the ſtamens are fixed to the receptacle more within than the germs, and conſequently, according to Linneus, ſtand leſs in need of filaments to elevate them. Hence, he ſays, it may be looked upon as an inverted flower[c]. The filiform tendrils, as Linneus calls them, having the appearance of filaments, are commonly looked upon as appendages to the nectaries. In *Ariſarum* the ſpathe is ſmall and converging. The Arums are all perennial, herbaceous plants, moſtly natives of hot climates. The roots are fleſhy, hot, and acrid, but in many ſpecies eatable. They have no proper ſtem, except a few in the laſt diviſion. The leaves, in the *Arums* properly ſo called, are entire and ſagittate, or ſhaped like the head of an arrow; but in the *Dracunculi* or Dragons *multifid* or cloven into ſeveral parts.

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[a] Linn. gen. edit. 6. [b] Stokes in Withering. [c] Linn. gen. ed. 6.

1. The root-leaves of this are cloven into ſeven parts, which are lanceolate and nerved, the middle one largeſt, the others gradually leſs. The firſt leaves are ſagittate or five-cleft, various. Petioles round, ſheathing at bottom. Scape very ſhort, round. Spathe as in common Arum, nearly the length of the leaves, dark-green ſpotted, convolute at the baſe, the upper part bending outwards almoſt horizontally, pale within, red towards the baſe, with red reverſed hairs, more crowded towards the baſe, cloſing up the throat. Spadix ſubcylindrical, a little ſhorter than the ſpathe. Germs ſeſſile round the baſe, pale. Stigma very blunt, retuſe, gray. Threads above the germs awl-ſhaped, eight, in a whorl, the length of the ring of anthers, aſcending, violet-coloured. Threads below of the ſame ſhape, colour, length and ſtructure, only five in number. Club many times longer than the other parts, having remote, violet-coloured briſtles ſcattered over it. The flower ſmells ſtrong of carrion, by which flies are enticed to enter, but when they would retreat, the reverſed hairs prevent them, and they are ſtarved there to death[d].

It is a native of Minorca; was introduced in 1777, by Mr. William Malcolm, and flowers here in march[e].]

2. *Common Dragon* has a large, tuberous, fleſhy root, which in the ſpring puts up a ſtraight ſtalk about three feet high, ſpotted like the belly of a ſnake; at the top it ſpreads out into leaves, which are cut into ſeveral narrow ſegments almoſt to the bottom; at the top of the ſtalk the flower is produced, which is in ſhape like the common *Arum*, having a very long ſpathe of a dark purple colour, ſtanding erect, with a large ſpadix of the ſame colour, ſo that when it is in flower, it makes no unpleaſing appearance; but the flower has ſo ſtrong a ſcent of carrion, that few perſons can endure it; for which reaſon it has been baniſhed moſt gardens; but were it not for this, a few of the plants might merit a place for the oddneſs of the flower.

[Stem ſmooth and compreſſed. The middle lobe of the pedate leaf ovate-lanceolate, ſide lobes five or ſeven, variegated with oblong, white ſpots. Spathe cowled, ovate, and convolute at the baſe, ear-ſhaped above, green on the outſide, dark purple within. Spadix long and ſharp, the club of a very dark red colour[f]. Berry obovate, ſomewhat angular from the preſſure of the adjoining ones, divided at top into four or five ſwellings, very ſmooth, ſhining, ſcarlet, fleſhy; receptacle filiform-compreſſed, parietal or preſſed to the upper ſide of the cell and glued to it, accompanied with about four umbilical chords. Seeds two (the reſt being abortive), horizontal, ovate-globoſe, ſomewhat angular by their mutual contact, produced both ways to a point, ſomewhat fleſhy, whitiſh or rufous, a little wrinkled: outer coat ſpongy, fleſhy, very thick near the navel; inner membranaceous, very thin, faſtened to the albumen; which is obovate, with a funnel-ſhaped pit near the navel, ſo that a longitudinal ſection is heart-ſhaped, it is farinaceous, friable, and very white: embryo one-lobed, roundiſh or ſomewhat club-ſhaped, ſtraight, yellowiſh, placed oppoſite to the navel of the albumen; radicle rather thicker than the reſt, placed againſt the top of the ſeed and the the ſide oppoſite to the receptacle of the berry[g].]

It grows naturally in moſt of the ſouthern parts of Europe, and is preſerved in gardens to ſupply the markets. [Gerard cultivated it in 1596. It flowers in june and july[h].

It appears to be ſimilar in medicinal virtues, as in botanical characters, to common Arum; it might be uſed therefore in the ſame caſes, but general practice employs only the latter. So far as can be judged between ſubſtances of ſuch vehement pungency, this is rather the ſtrongeſt[i].

Common Dragon is named in French *le Gouet Serpentaire, la grande Serpentaire*; in Italian *Dracunculo, Serpentaria*; in Spaniſh, *Dragoncillo, Serpentina*; in German, *Drachenwurz*.

3. *Green Dragon* grows about eight or nine inches high. Root roundiſh, ſolid, white within and without, ſmooth. Leaves petioled, upright, ſmaller than thoſe of the foregoing: leaflets broad-lanceolate, commonly in threes. Spadix awl-ſhaped, ſlender, longer than both ſpathe and leaves[k].] It flowers with us in june; and grows in moiſt places in Virginia and New England: [alſo in Japan, flowering in april[l]; in China and Cochinchina[m].

The root of this, as well as the former, is acrimonious and purgative; it is preſcribed as a very ſtrong emmenagogue[n]. It was cultivated in 1759, by Mr. Miller[o].

4. The native country of this ſpecies is not known. It flowers in march; and was introduced in 1774, by Mr. William Malcolm[p].

5. *Five-leaved Arum* grows to the height of one foot, is ſubcauleſcent and upright. Root round, flatted and white. Leaflets lanceolate, entire, ſmooth. Native of the Eaſt-Indies, and China. The root is accounted warm, attenuant, and deobſtruent; and is given in the epilepſy, convulſions, obſtructions of the uterus, bites of venomous animals, *&c.* in the eaſt[q].

6. This is ſubcauleſcent, with the ſcape ariſing from the petiole. Some ſcapes are male, others female from the ſame root: the male ſpathe is erect, the female has the lip inflected.—The Braſilian plant has the ſide leaflets lobed outwards. The Virginian plant has them only gibbous; but the ſtructure of the flower is the ſame in both[r].

Loureiro ſays, that the plant of China and Cochinchina grows ten inches high. The root is round and white. The leaflets lanceolate. Spike ſingle, with the lower florets female, and the upper male. It differs from the foregoing in having the leaflets diſtinct, not pedate; the bulb of the root ſmaller and more globular; and the medicinal qualities ſtronger. It was cultivated here in 1664, as appears by Mr. Evelyn's kalendar[s].

7. Native of Virginia, and cultivated here by Mr. Miller in 1758. It flowers in june and july[t].

8. Found in Japan, by Thunberg, flowering in may and june. Loureiro's plant, deſcribed above, under n. 6. is probably the ſame with this.

9. *Egyptian Arum* or *Colocaſia* has a tuberous, thick, large, oblong root, rounded at the baſe. Leaves thick, ſmooth, aſh-coloured, in form and ſize reſembling thoſe of the Water-Lily, having thick ribs running obliquely to the edge. Petioles thick, upright, roundiſh, whitiſh, ſpreading out at bottom. Scape ſhort, with a ſubulate, reflex, flat ſpathe. Spadix ſubulate, ſhorter than the ſpathe[u].

Native of the Levant, Egypt, Sicily, Italy near Salerno, *&c.*

It is eſteemed a wholeſome food, and is frequently eaten in the eaſt, though not very delicate. The roots and petioles are boiled, and the leaves, when young, are ſometimes eaten raw[x].

It was cultivated in 1690, in the royal garden at Hampton-court[y].

10. This is cultivated in Madeira; and was introduced in 1773, by Meſſrs. Kennedy and Lee. It flowers in june and july[z].

11. *Eſculent Arum* has a large, tuberous, ſubovate, brown root, with ſmaller tubers growing by the ſide of it. Sir Hans Sloane ſays that it is ſmall, only bigger than a walnut. Plant three feet in height. Leaves ſmooth, bright green, ſemibifid at the baſe, and roundiſh: petioles round, dilated at the baſe, embracing the inner ones. Spathe ſpreading, ſtraight, not cowled. Spadix ſhorter[a]. The Jamaica plant ſeems to be ſmaller than that of the eaſt; for Sloane ſays, that it only riſes a foot from

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[d] Linn. ſuppl.
[e] Hort. kew.
[f] Scopoli.
[g] Gærtner.
[h] Hort. kew.
[i] Lewis, art. Dracontium.

[k] Loureiro.
[l] Thunberg.
[m] Loureiro.
[n] Thunberg.
[o] Hort. kew.
[p] Ibid.
[q] Loureiro.
[r] Linn.
[s] Hort. kew.
[t] Ibid.
[u] Loureiro.
[x] Ibid.
[y] Hort. kew.
[z] Ibid.
[a] Loureiro.

the ground. He compares the leaves to thoſe of *Colocaſia*, only they are ſmaller, being of a yellowiſh green colour, and very like in figure, colour, ribs, *&c.* to the leaves of the white water Lily. He adds that they are planted there very carefully in moſt plantations; that the roots are eaten, but that their chief uſe is for the leaves, which are boiled and eaten as Coleworts, being extremely pleaſing to the taſte.

Unleſs different ſpecies are confounded under the ſame name, this muſt be very extenſive, being found both in the Eaſt and Weſt Indies, on the continents, and in the iſlands. It is very frequent in China and Cochinchina, by the ſides of rivers and marſhes, where the water is not very deep; in both thoſe kingdoms it is a very common food; the root and tender petioles being eaten boiled. The bruiſed leaves are applied to tumours, and are ſuppoſed to be of ſervice againſt poiſonous bites[b]. It is a native alſo of Japan, is frequently cultivated there, and both roots and ſtalks are ſliced and put into their ſoups and broths[c]. It is found in all the iſlands of the ſouthern ocean, except thoſe which are drowned or deſert; and is cultivated every where within the tropics, and even in the northern extremity of New Zealand. The natives of the South Sea Iſlands beſtow great pains on the culture of this root: for in the firſt months of its growth it ſucceeds beſt when the ground is inundated; but afterwards it ſhould be laid dry, which they do by means of ditches dug round the fields. The root, which is the common food in many of the iſlands, is extremely acrid, and when eaten raw, will excoriate the mouth; but baked in hot aſhes, loſes its acrimonious quality, and becomes mild and well taſted; it is however heavy on a weak ſtomach, and is apt to occaſion coſtiveneſs. The leaves, which are very ſoft, glaucous, and covered with a very fine ſilky nap, are uſed by the inhabitants inſtead of plates and diſhes[d].

Forſter is of opinion that the *Caladium ſativum* of Rumphius, *t.* 109. belongs rather to this ſpecies than the ninth.

It was cultivated in 1739, by Mr. Miller[e].

In German this Arum is named *Eſsbare Arum, Indianiſche Kohl*, and *Waſſerbrodwurzel*; in Dutch, *Eetbaar Kalfsvoet, Karaibiſche Kool*, and *Water-Kelady*; in French, *Choux du Breſil, Choux Caraibes*, and *Chou poivré*; in Japan, *Imo*, or *Satorino*; in China, *Hai Yu*; in Cochinchina, *Cay Mon.*—It is obſervable that the Java name *Tallas* varies little from thoſe of Otaheite and New Zealand, *Tallo* and *Tarro.*

12. This has a very large root, or rather ſubterraneous trunk, the thickneſs and length of the human arm. The leaves are very large and wide, ſhining on both ſides, ſmooth, and of a pleaſant fine green[f]; they have very ſtrong prominent nerves, and come out many together: their very long hollowed petioles form at bottom, where they embrace each other very cloſely, a ſtem three feet long, and as thick as one's arm. The flower is white, and very ſweet[g]. This recedes in ſome meaſure from the generic character in the fructification, all the florets being hermaphrodite: there are ſix ſeſſile twin anthers, ſurrounding each of the ſtyles; the germ is roundiſh, ſtyle ſolitary, ſhort, thickiſh, flatted at the tip, ſtigma an orbiculate ſpot at the end of the ſtyle[h]. The ſpathe is cowled and ſhort; the berries roundiſh and red[i].

This ſpecies is diſtinguiſhed by its great ſize. It is a native of China and Cochinchina, the Eaſt-Indies, Ceylon, and the iſlands of the ſouthern ocean; and is eaten by the natives as well as the foregoing, when the roots are deprived of their acrimony by dreſſing. In Ceylon this is called *Habara*; in Chineſe *Dea veu*; in Cochinchina *Ray tlang*; in Otaheite *Apè*; in the Friendly and Sandwich iſlands *Kappe.*

13. This is a native of America.] Mr. Miller ſays, that he has received three ſorts of *Arum* from the Weſt-Indies, by the title of *Edder*; but he ſuppoſes this to be moſt commonly cultivated there for its roots.

14. [Spathe revolute. Spadix ſubulate, longer than the ſpathe. Native of Malabar and Ceylon[k].

15. Root roundiſh, compreſſed, ſmooth, half an inch in diameter. Plant a foot high, upright. Leaves cordate at the baſe, three-lobed, large, few; lobes ovate, ſharpiſh: petioles long, angular, ſtriated, widening at the baſe, concave. Scape ſhorter than the leaves. Spathe very wide, flat, acuminate, duſky red. Spadix ſubſeſſile, ſubulate, ſhorter than the ſpathe; with male flowers at the tip, female at the baſe, and very many long flexuoſe red hairs in the middle[l].

Mr. Miller thus deſcribes it. Root tuberous. Leaves remaining moſt part of the year. Spathe ſix inches long, inclining toward the ground, the long point being always twiſted like a ſcrew; the inſide deep purple, the outſide green. Spadix long, ſlender, fine purple, ſtanding out of the ſpathe, turning upwards. The flower is very fetid, like carrion, or common Dragon. This ſort was brought from Ceylon in 1752, and flowered in the Chelſea garden. Commelin's plant has the leaves not ſo much pointed, on much longer petioles, and growing more erect: the ſpathe is alſo erect, and not pointed and ſpread open, as this is: the colour of the ſpadix in his plant is ſcarlet, in this deep purple[m].

According to Linneus, this is ſo nearly allied to the foregoing, that it may be doubted whether it is a diſtinct ſpecies.

Native of Ceylon, Amboina, Japan and Cochinchina. It flowers here in may and june. The qualities of this are reputed to be the ſame with thoſe of the fifth.

16. This grows four feet high, and is upright. Leaves large, duſky green, bifid at the baſe, divaricate, all the angles acute: petioles round, ſpotted with red and black. Spathe long, cowled. Spadix club-ſhaped, ſhorter. Scapes long, but ſhorter than the petioles[n].

Native of the Spaniſh Weſt-Indies, China and Cochinchina. It was cultivated here in 1731, by Mr. Miller[o]. In Jamaica it is called *Smaller Indian Kale*, and is cultivated there by many perſons for the ſame purpoſes with the eleventh ſort[p].]

This, and ſeveral of the foregoing ſorts, ſays Mr. Miller, are eaten by the inhabitants of the hot countries, where they grow naturally, and ſome of them are cultivated in the ſugar colonies, as eſculent plants; their roots being conſtantly eaten, as alſo the leaves of ſome, particularly the eleventh. It is eſteemed a wholeſome green when boiled, and where the common European vegetables are with difficulty procured, this proves a good ſuccedaneum. The ſixteenth ſort has not been many years introduced into the ſugar iſlands; for it came originally from the Spaniſh Weſt-Indies, where it grows in great plenty. Both this and the fourteenth have larger roots than the eleventh, for which reaſon they are preferred to it.

Theſe ſorts are preſerved by perſons curious in exotic plants, for the variety of their leaves; their flowers having very little beauty, nor do they often appear in this country.

17. [*Common Arum* has a tuberous whitiſh root, about the ſize of a large nutmeg, growing tranſverſely, ſending forth on every ſide a great number of ſingle fibres, propagating itſelf by lateral tubercles. The leaves are radical, from two to four in number, petioled, ſhining, veiny, the veins not reaching the edge; they are frequently marked with dark purple or black ſpots, and ſometimes are ſtreaked with white. Petioles ſheathing, three-cornered, outwardly convex, inwardly channelled. The leaves vary much in their ſhape. Spathe uſu-

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[b] Loureiro. [c] Thunberg. [d] Forſter eſcul. [e] Hort. kew. [f] Forſter eſcul. [g] Ray. [h] Forſter. [i] Loureiro.

[k] Linn. ſpec. & zeyl. [l] Loureiro. [m] Miller's figures, p. 85. [n] Loureiro. [o] Hort. kew. [p] Browne.

ally pale green, but varying in colour, and ſometimes ſpotted like the leaves. The ſpadix alſo varies from yellowiſh green to a fine purple. Berries ſcarlet[q], in a naked cluſter, the ſpathe having withered away. Each contains one or two ſeeds, which are round and hard with a reticulate ſurface[r].

Native of moſt parts of Europe, except the moſt northern ones; in ſhady places, and on the banks of ditches: flowering in may. The berries ripen at the cloſe of ſummer.

The root and leaves of Arum when recent are extremely acrid; on firſt taſting them they ſeem to be merely mucilaginous and inſipid, but they ſoon affect the tongue with a pungency as if it were pricked with needles. This uneaſy ſenſation may be alleviated by milk, butter, or oil. They loſe this acrimony in drying, and the roots become farinaceous and inſipid. In this ſtate they might be uſed for food in caſe of neceſſity; and by boiling or baking would probably afford a mild and wholeſome nouriſhment[s], as well as thoſe ſorts which are natives of hot climates. Wedelius is of opinion, that the *Chara* which Cæſar's ſoldiers found abundantly about Dyrrachium, was this plant; being reduced to great ſtraits for want of proviſions, they mixed the roots with milk, and made them into a ſort of bread. Probably this may be the third variety, which is larger than ours, and is made a diſtinct ſpecies by Mr. Miller, under the name of *Arum italicum*. The berries are devoured by birds; and Mr. Curtis thinks that even the roots are eaten by them, particularly by pheaſants.

The root dried and powdered is uſed by the French as a waſh for the ſkin, and is ſold at a high price under the name of Cypreſs powder. It is a good and innocent coſmetic. Starch alſo may be made from the roots[t]; but Parkinſon obſerves, that the hands are apt to be bliſtered in uſing it. Occaſionally they have been ſubſtituted for ſoap, and Mr. Ray mentions their being uſed about Maidſtone for that purpoſe.

The root newly dried and powdered has been given as a ſtimulant, in doſes of a ſcruple and upwards; but in being reduced to powder it loſes much of its acrimony; and there is reaſon to ſuppoſe that the compound powder which takes its name from this plant, owes its virtues chiefly to the other ingredients[u]. The *Pulvis Ari compoſitus* is therefore diſcarded from the London Diſpenſatory, and inſtead of it a Conſerve is inſerted, made by beating half a pound of the freſh root, with a pound and half of fine ſugar. In the medicine recommended by Sydenham againſt rheumatiſms the acrid antiſcorbutic herbs are largely joined with it. Dr. Lewis orders the freſh root to be beaten with a little teſtaceous powder, and mixed with an equal quantity of gum arabic, and three or four times as much conſerve, and thus to be made up into an electary; or elſe to be rubbed with a thick mucilage of gum arabic and ſpermaceti, adding any watery liquor and a little ſyrup, to form an emulſion; two parts of the root, two of gum, and one of ſpermaceti. In theſe forms he has given the freſh root, from ten grains to upwards of a ſcruple, three or four times a day: it generally occaſioned a ſenſation of ſlight warmth, firſt about the ſtomach, and afterwards in the remoter parts; manifeſtly promoted perſpiration, and frequently produced a plentiful ſweat. Several obſtinate rheumatic pains were removed by this medicine, which he therefore recommends to farther trial.

The roots ſhould be taken up for uſe in autumn, and may be preſerved tolerably freſh in ſand for ſeveral months.] Mr. Miller ſays, they are generally gathered in the ſpring, when they ſhrink, and ſoon loſe their pungent quality; but that thoſe which are taken up in auguſt, when the leaves decay, will continue good a whole year; and that the not obſerving this rule, has brought them into diſrepute.

[This ſingular plant, having attracted much notice from the vulgar, has a variety of Engliſh names. Gerard gives us *Wake-robin*, *Cuckoo-pint* or *pintle*, *Prieſt's-pintle*, *Aron*, *Calf's-foot*, *Rampe*, and *Starchwort*. *Lords and Ladies* is alſo a common appellation; and in Worceſterſhire it is called *Bloody men's fingers*[x]. It has the firſt of theſe names from its acrimony; the ſecond and third from the form of the ſpadix; *Aron* is from the German; *Calf's-foot* from the Dutch *Kalfsvoet*; the meaning of the others is evident, except *Rampe*, which I do not underſtand. The French have more names than we have, as *Gouet commun*, *Pied-de-veau*, &c. &c.]

γ. *Italian Arum* grows naturally not only in Italy, but in Spain and Portugal, from all which countries Mr. Miller ſays that he received the ſeeds. The leaves riſe a foot and half high, are very large, running out to a point, are of a fine ſhining green, beautifully veined with white, interſperſed with black ſpots. The flowers grow near a foot high, and have very long upright ſpathes, of a pale green, appearing at the end of april or the beginning of may, and ripening the ſeeds in auguſt.

18. [This grows wild in wet places in Virginia, Carolina, Penſylvania, *&c.* The ſavages boil the ſpadix with the berries, and devour it as a great dainty. The berries, when raw, have a harſh pungent taſte, which they loſe, in great meaſure, by boiling[y].

19. Native of the Apennines.] This and the following ſort have the ſpathe ſhaped like a monk's cowl. The leaves are on very ſhort petioles.

20. [*Ariſarum* has the ſpathe entire above, and bent in a little; below alſo it is entire, and not convolute[z]. The root is oblong and thick; the height about a foot and half; leaves ſharpiſh; ſpathe ſhorter than the leaves; ſpadix curved; berries red, with one ſeed in each[a].

Native of the ſouth of France, Italy, Spain, Portugal, Barbary, and Cochinchina; in woods. Ray obſerved it between Maſſa and Lucca, flowering the beginning of april; alſo near Toulon. It was cultivated in 1596, by Gerard[b].

21. Root-leaves three or four, petioled, painted on their upper ſurface with white veins. Spathe ſeſſile, radical, inflated at the baſe, green except at the top, where it is purpliſh. Spadix with an ovate-oblong, dark-purple club. Germs at the baſe many, ſubgloboſe, green. Anthers immediately above them. The upper filaments remote[c].

22. Native of the Eaſt Indies.

23. Leaves five or ſix, ſhining, reſembling thoſe of narrow-leaved Plantain. Spathe long and pointed, turning back, white. Spadix ſeven inches long, purple or greeniſh, pointed at the end[d]. It was cultivated, as we learn from Lobel, in 1570[e]; and flowered in Mr. Ray's garden at Cambridge. It grows naturally about Rome, alſo about Montpelier, in Dalmatia, and the Levant.

24. Root-leaves few, petioled, two feet long, reſembling very much thoſe of Canna. Scape very ſhort. Spathe rather obtuſe, red without, white within, with the edge alſo white. In the ſpadix there is no ſpace between the ſtamens and piſtils[f].

Native of Surinam, on trees, paraſitical.

25. Native of South America[g].

26. The leaves of this ſpecies are ſometimes punched with holes, as in *Dracontium pertuſum*[h].] It riſes to the height of ſix or ſeven feet with a green jointed ſtalk as large as a walking cane: the leaves are placed irregularly at the top of the ſtalks, growing in a cluſter; they are oblong, and of a light green colour: from between the leaves the flowers come out on the ſide of the ſtalk, having a long ſpathe of a pale green colour, marked with white ſpots, ſitting cloſe to the ſtem of the plant; at the firſt appearance it ſtands erect, ſoon after it becomes horizontal, and in a little time declines downward; the lower part is ſwelling ſo far as the flowers are

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[q] Curtis from Ray, corrected and enlarged.
[r] Haller.
[s] Withering.
[t] Ibid.
[u] Ibid.

[x] Stokes in With.
[y] Kalm.
[z] Linn.
[a] Loureiro.
[b] Hort. kew.
[c] Linn. ſuppl.
[d] Cluſius.
[e] Adv. 261. Hort. kew.
[f] Linn. ſuppl.
[g] Linn. ſpec.
[h] Ibid.

ranged on the ſpadix, above which it is greatly contracted, and toward the top enlarges again, where it is a little open, ſo as to ſhow the naked part of the ſpadix, but is twiſted again at the top: all the lower part folds cloſely over the ſpadix, ſo that it is ſcarcely diſcernible, unleſs the ſpathe be opened, which can only be done on one ſide, the other adhering cloſely to the ſpadix, ſo far upward as the flowers extend the naked part of the ſpadix only being ſeparated from the ſpathe; ſo that the female flowers and ſtamens are ranged only on one ſide of the ſpadix; in which it differs from all the other ſpecies which I have ſeen.

It grows naturally in the ſugar iſlands, and other warm parts of America, chiefly in the low grounds; the whole plants abound in an acrid juice, ſo that if a leaf or a part of the ſtalk be broken, and applied to the tip of the tongue, it cauſes a very painful ſenſation, and ſuch an irritation on the ſalivary ducts, that they preſently ſwell, ſo that the perſon cannot ſpeak: from this quality, and its being jointed, they call it *Dumb-cane* in Jamaica, where it is ſaid they ſometimes rub the mouths of their negroes with it, by way of puniſhment. [The ſtalk is uſed for a better purpoſe, to bring ſugar to a good grain, when the juice is too viſcid, and cannot be brought to granulate rightly with lime alone. A decoction of the plant is recommended by way of fomentation in dropſies; it certainly muſt be a ſtrong reſolutive, which cannot fail to ſtrengthen and ſtimulate the relaxed fibres, in ſuch caſes[i].

Cultivated in 1759, by Mr. Miller[k]: who has it under the name of *A. arboreſcens* in the laſt folio edition of the dictionary. Whether the *A. arboreſcens* of Linneus be different from this, I am not able to ſay.

27. Native of the Weſt-Indies.

28. This climbs trees with great eaſe, and grows more ſucculent and luxuriant towards the top[l]. Native of the Weſt-Indies.]

29. This is alſo a climbing plant, ſending out roots from the ſtem and branches. The leaves are large, heart-ſhaped, having three lobes or ears. The flowers are incloſed in a large ſpathe, but theſe are not fruitful in England.

[It is a native of the Weſt-Indies; is pretty frequent in all the hills of Jamaica, and generally found climbing among the trees. It is the only ſpecies that is obſerved to be furniſhed with compound leaves in that iſland[m]. It was cultivated in 1748, by Mr. Miller[n].

30. Stem five feet high, as thick as the human arm, uſually upright. Leaves very large, ſlightly acuminate, with many tranſverſe, parallel ribs; on long, awl-ſhaped, erect, ſtem-claſping petioles. Spathes axillary, ſmall, acute, ſtraight, convolute. Spadix awl-ſhaped, erect; with the female florets inſerted at the baſe. Berries roundiſh, pale, ſmall. Native of the Eaſt-Indies. Cultivated in Cochinchina, where the ſtalk is boiled and eaten[o].

31. Root fleſhy, large, round, quite ſimple. Stem upright, two feet high. Leaves acuminate, on long, round petioles. Spadix ſhort, almoſt wholly covered with florets, the females at the baſe. The berries have four ſeeds in them. Native of the ſuburbs of Canton[p].

32. Root jointed, creeping. Leaves acute, naked, with the petioles dilated at the baſe, membranaceous, veined. Spathe abiding. Spadix ſhort. Native of Tranquebar in the Eaſt-Indies; where it was found by Koenig[q].

This ſpecies belongs to the ſecond diviſion.]

PROPAGATION AND CULTURE.

2. *Common Dragon* is very hardy, and will grow in any ſoil or ſituation. It propagates very faſt by offsets from the root. The time to tranſplant it is in autumn, when the leaves decay.

3. Is very difficult to preſerve in gardens. I received ſome roots of this from New England a few years ago, which continued two years; but the ſoil being dry, they decayed in ſummer: theſe ſhould have a moiſt ſhady ſituation, otherwiſe they will not thrive.

6, 7, 8. I have received their roots from Virginia and Carolina. The flowers appear in may, but having little beauty, the plants are kept only in Botanic Gardens. They will live in the open air, if they are planted in a ſheltered ſituation, or if the ſurface of the ground be covered with tan, to keep out the froſt in winter; and they will thrive better in the full ground than in pots. They are propagated by offsets.

9—14, 16. Are alſo propagated eaſily by offsets from their roots, which they put out plentifully: theſe muſt be planted in pots filled with light earth, and plunged into a hot-bed, to promote their taking root, and if they be afterward continued in the bark ſtove, they will make great progreſs, and their leaves will be larger. They may be kept in a dry ſtove upon ſhelves, after they are well eſtabliſhed in the pots, but they will not be ſo ſtrong as the others.

15. Is very impatient of cold, and muſt be placed in the tan-bed of the bark ſtove. It is propagated by offsets, which come out in plenty, when the plants are in health.

17. Our common Arum growing naturally in woods *&c.* is ſeldom admitted into gardens. The large Italian ſort propagates very faſt, as well as this, by offsets from the root, and will thrive in any ſoil or ſituation. The beſt time to tranſplant theſe is ſoon after the ſeeds are ripe, for by the end of october they will be putting out new fibres.

19, 20, 21. The *Ariſarums* flower in april, but ſeldom produce ſeeds in England; they multiply however faſt by offsets, and ſhould have a ſhady ſituation. They have little beauty to recommend them.

25—29. Are propagated by cutting off the ſtalks into lengths of three or four joints, which muſt be laid to dry ſix weeks or two months; for if the wounded part be not perfectly healed over before the cuttings are planted, they will rot and decay: they ſhould be put in ſmall pots filled with light ſandy earth, and plunged into a moderate hot-bed of tan, being careful that they have little wet, till they have made good roots; when they are well eſtabliſhed at bottom, ſome of them may be placed in a dry ſtove, and others plunged into the tan-bed in the bark-ſtove, where they will make the greateſt progreſs, and produce more flowers than the others. Theſe are tender plants, muſt be kept therefore conſtantly in the ſtove, and ſhould have very little wet in winter.

ARUM ÆTHIOPICUM. See *Calla.*

ARUM SCANDENS, *&c.* See *Dracontium.*

ARUNCUS. See *Spiræa.*

ARUNDO. (*The grammarians derive it from* Areo, *becauſe it ſoon becomes dry: in Greek* Καλαμος.)

Eng. *Reed.* Fr. *Roſeau.*

Lin. gen. n. 93. *Reich.* 99. *Schreb.* 124. *Juſſ.* 32. *Scheuch. t.* 3. *f.* 14.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina, Gramineæ* or *Graſſes.*

GENERIC CHARACTER.

CAL. *Glume* one or many-flowered, two-valved, erect: *valves* oblong, acuminate, awnleſs; one ſhorter.

COR. two-valved: valves the length of the calyx, oblong, acuminate; from their baſe ariſes a *lanugo* almoſt the length of the flower.

Nectary two-leaved, very ſmall.

STAM. *Filaments* three, capillary. *Anthers* forked at both ends.

PIST. *Germ* oblong. *Styles* two, capillary, reflex, villoſe. *Stigmas* ſimple.

PER. none. *Corolla* adheres to the ſeed without gaping.

SEED ſingle, oblong, acuminate at both ends, furniſhed with a long down (pappus) at the baſe.

ESSENTIAL CHARACTER.

Cal. two-valved. *Florets* heaped, ſurrounded with wool.

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[i] Browne. [k] Hort. kew. [l] Browne. [m] Ibid. [n] Hort. kew. [o] Loureiro. [p] Ibid. [q] Retz.

SPECIES.

1. Arundo Bambos. *Bambu* or *Bamboo-Cane.*
Lin. ſpec. 120. *Reich.* 1. 227. *hort. cliff.* 25. *fl. zeyl. n.* 47. *Thunb. jap.* 54.
A. Bambu. *Lour. cochinch.* 56.
A. arbor. *Bauh. pin.* 18.——vaſaria, Bulu Java. *Rumph. amb. l.* 6. *c.* 4.
A. indica arborea maxima, cortice ſpinoſo, Tabaxir fundens. *Burm. zeyl.* 35.
A. Mambu. *Piſ. mant. arom. c.* 10. *p.* 186. *Raii hiſt.* 1315.
A. tabaxifera. *Dale pharm. ſuppl.* 251.
Bambos arundinacea. *Retz. obſ.* 5. 24. *n.* 58.
Canna ingens Mambu vel Bambu. *Park. theat.* 1630.
Ily. *Rheed. mal.* 1. 25. *t.* 16.
Tabaxir ſ. Mambu arbor. *Bauh. hiſt.* 1. 222.
β. A. arborea. *Mill. dict. n.* 5.
γ. A. orientalis. *Mill. dict. n.* 6. *Tournef. cor.* 39.
Calyxes many-flowered (*one-flowered.* L.), *ſpikes in threes* (*unequal in number.* R.) *ſeſſile.*

2. Arundo Donax. *Cultivated Reed.*
Lin. ſpec. 120. *ſyſt.* 123. *Reich.* 1. 227. *vir. cliff.* 7. *hort. cliff.* 26. *Hall. helv. n.* 1516. *Scop. carn. n.* 127. *Allion. pedem. n.* 2262. *Lour. cochinch.* 55. *Park. theat.* 1209. *f.* 3.
A. ſativa. *Bauh. pin.* 17. *theatr.* 27. *Scheuch. agr.* 159. *Monti* 31. *tab. ic.* A. *Raii hiſt.* 1275. *Mor. hiſt. ſ.* 8. *t.* 8. *f.* 5.
A. maxima & hortenſis. *Bauh. hiſt.* 2. 486.
A. cypria. *Ger.* 32. *f.* 2. *emac.* 36. *f.* 2.
β. A. verſicolor. *Striped Reed-graſs.*
Mill. dict. n. 3.
A. indica laconica verſicolor. *Lin. hort. cliff.* 26. *Park. theat.* 1209. *n.* 4. *Mor. hiſt. f.* 9. *Cornut. canad.* 55.
Calyxes five-flowered, panicle diffuſed, culm ſhrubby.

3. Arundo phragmites. *Common Reed.*
Lin. ſpec. 120. *Reich.* 1. 227. *ſuec. n.* 105. *Hudſ. angl.* 53. *Wither. arr.* 116. *Relh. cantab. n.* 98. *Hall. helv. n.* 1515. *Scop. carn. n.* 128. *Pollich pal. n.* 127. *Neck. gallob.* 69. *Leers herborn. n.* 94. *t.* 7. *f.* 1. *Krock. ſileſ. n.* 185. *Villars dauph.* 2. 152. *Gron. virg.* 137. *Gmel. ſib.* 1. 125.
A. vulgaris. *Bauh. pin.* 17. *theat.* 269. *Scheuch. agr.* 161. *t.* 3. *f.* 14. D. *Monti* 32. *tab. ic.* B. *Dod. pempt.* 602. *Lob. obſ.* 28. 1. *Camer. epit.* 73.—paluſtris. *Bauh. hiſt.* 2. 485. 1. *Mor. t.* 8. *f.* 1.—ſ. vallatoria. *Park. theat.* 1209. *f.* 1.
A. vallatoria. *Ger.* 32. 1. *emac.* 36. *f.* 1. *Raii hiſt.* 1275. *ſyn.* 401.
Calyxes five-flowered, panicle looſe.

[4. Arundo epigejos. *Small Reed-graſs.*
Lin. ſpec. 120. *Reich.* 1. 228. *ſuec. n.* 106. *Hudſ. angl.* 54. *Wither. arr.* 117. *Relh. cantab. n.* 99. *Hall. helv. n.* 1520. *Scop. carn. n.* 125. *Krock. ſileſ. n.* 186. *Villars dauph.* 2. 152. 4. *Willd. berol. n.* 184. *Fl. dan. t.* 280. *Scheuch. agr.* 124. *n.* 3.
Calamagroſtis minor glumis ruffis & viridibus. *Petiv. conc. gr. n.* 69. *Raii ſyn.* 401.
Calyxes one-flowered, panicle erect, leaves ſmooth underneath.

5. Arundo Calamagroſtis. *Wood Reed-graſs.*
Lin. ſpec. 121. *Reich.* 1. 228. *fl. lapp. n.* 42. *ſuec. n.* 107. *Hudſ. angl.* 54. *Wither. arr.* 117. *Relh. cantab. n.* 100. *Hall. helv. n.* 1519. *Pollich pal. n.* 128. *Krock. ſileſ. n.* 187. *Villars dauph.* 2. 152. 3. *Willd. berol. n.* 185. *Mor. t.* 8. *f.* 2.
Gramen arundinaceum, panicula molli ſpadicea, majus. *Bauh. pin.* 7. *Scheuch. agr. prodr.* 21. *t.* 5. *Raii ſyn.* 401. *Reliqu. rudb.* 3. *f.* 3.
Gr. plumoſum Lobelii, ſpica candida & ſerici modo lucens. *Bauh. hiſt.* 2. 476. 1.
Gr. tomentoſum arundinaceum. *Ger. emac.* 9. *f.* 1.
Calamagroſtis, ſ. Gr. tomentoſum. *Park. theat.* 1182. 4.
Calyxes one-flowered, ſmooth, corollas woolly, culm branched.

6. Arundo arenaria. *Sea Reed-graſs.*
Lin. ſpec. 121. *Reich.* 1. 228. *fl. lapp n.* 43. *ſuec. n.* 108. *Hudſ. angl.* 54. *Wither. arr.* 118. *Fl. ruſt. t.* 32. *Krock. ſileſ. n.* 188. *Villars dauph.* 2. 152. 5.
Gramen ſparteum ſpicatum, fol. mucronatis longioribus. *Bauh. pin.* 5. *theat.* 67. *Raii hiſt.* 1259. 3. *ſyn.* 393.—juncifolium non ariſtatum, ſpica ſecalina. *Mor. hiſt. t.* 4. *f.* 16. *row.* 3.
Spartum ſpicatum pungens oceanicum. *Bauh. hiſt.* 2. 512. 1.—anglicanum. *Ger.* 38. *f.* 3. *emac.* 42. 3. —marinum. *Park. theat.* 1198. 3.
Gr. ſpic. ſecalinum maritimum maximum, ſpica longiore. *Scheuch. agr. t.* 3. *f.* 8. A, B, C.
Calyxes one-flowered, leaves rolled inwards dagger-pointed and pungent.

* *New Species.*

7. Arundo conſpicua.
Forſt. fl. auſtral. n. 48.
Calyxes one-flowered, panicle looſe from erect ſpreading, awn of the outer petal reflex and very long.

8. Arundo agreſtis.
Lour. cochinch. 57.
Arundarbor ſpinoſa. *Rumph. amb. l.* 6. *c.* 6. *t.* 3.
Flowers ſix-ſtamened; panicle ſpiked, ſpikelets heaped; lower branches of the culm very ſpiny, calyxes one-flowered.

9. Arundo mitis.
Lour. cochinch. 57.
Arundarbor fera, Bulu ſwangi. *Rumph. amb. l.* 6. *c.* 7. *t.* 4.
Flowers ſix-ſtamened; panicle erect contracted, ſpikes long imbricate; culm very even unarmed; calyxes one-flowered.

10. Arundo multiplex.
Lour. cochinch. 58.
Arundarbor tenuis, Leleba dicta. *Rumph. amb. l.* 6. *c.* 1. *t.* 1.
Flowers ſix-ſtamened; ſpikes interrupted, ſpikelets in whorls; culm divided; calyxes one-flowered.

11. Arundo bengalenſis.
Retz. obſ. 5. 20. *n.* 45.
Calyxes two-flowered; panicle erect with three-flowered pedicels.

12. Arundo piſcatoria.
Lour. cochinch. 55.
Calyxes one-flowered, ſpike terminating, culm branched, leaves minute.

13. Arundo dioica.
Lour. cochinch. 55.
Calyxes one-flowered; ſpikes in bundles, compound, ſpikelets linear.

14. Arundo colorata. *Reed Canary-graſs.*
Ait. hort. kew. 1. 116.]
Phalaris arundinacea. *Lin. ſpec.* 80. [*Reich.* 1. 150. *fl. ſuec. n.* 53. *Hudſ. angl.* 23. *Wither. arr.* 67. *Relh. cantab. n.* 41. *Hall. helv. n.* 1524. (Arundo) *Pollich pal. n.* 55. *Leers herborn. n.* 49. *t.* 7. *f.* 3. *Neck. gallob.* 30. *Krock. ſileſ. n.* 86. *Villars dauph.* 2. 59. *Fl. dan. t.* 259.
Gramen aquaticum paniculatum latifolium. *Bauh. pin.* 3.——phalaridis ſemine. *Scheuch. agr.* 126. *t.* 3. *f.* 4. A, B, C.
Gr. arundinaceum aceroſa gluma. *Park. theat.* 1273. *f.* 2. *Mor. hiſt.* 203. *t.* 6. *f.* 41. *Raii hiſt.* 1280. *ſyn.* 400.——& Jerſeianum, *Raii ſyn.* 400.
β. Arundo picta. *Painted* or *ſtriped Reed-graſs.*
Gr. panic. fol. variegato. *Bauh. pin.* 3. *theat.* 37. *Bauh. hiſt.* 2. 476. 2.
Gr. ſtriatum. *Ger.* 24. *f.* 2. *emac.* 26. *f.* 2. *Mor. f.* 43.
Calyxes one-flowered keeled, corollas ſmooth with two lanuginoſe pencils at the baſe, leaves flat.

DESCRIPTIONS, *&c.*

1. The *Bamboo* has a woody, hollow, round, ſtraight culm, forty feet high and upwards, ſimple and ſhining; the internodes a foot in length and circumference: ſheaths thick, hairy, rough, convolute, deciduous: branches alternate, ſlender, ſolid, ſpiny, reclining, ſpringing out from the baſe to the very top; the lower ones being uſually cut off.

Rumphius was deceived in aſſerting that it branches only towards the top. Leaves ſmall, quite entire, lanceolate, roundiſh at the baſe, ſtriated, rough, on alternate round petioles. The hollow internodes of the culm are frequently found filled with a limpid liquor, which in India beyond the Ganges is not condenſed into the ſubſtance called *Tabaxir* or *Tabaſheer*, as it is, though rarely, in Malabar. Panicle of flowers diffuſed, in ſpikes; ſpikelets oblong, imbricate. Calyx two-valved, one-flowered; valves acute, convolute. Corolla two-valved, membranaceous, very ſmall, ſurrounded with hairs. Stamens ſix, filaments very ſhort, anthers oblong. Stigmas three, ſubſeſſile, long, villoſe. Seed one, oblong[a]. Although the Bamboo be very common in Japan, Thunberg never ſaw it in flower; and there being no accurate deſcription in any author, it is obſerved by Loureiro that Linneus's ſpecific character is very erroneous. He therefore, having had the opportunity of ſeeing living plants flowering in their native ſoil, has ſubſtituted the following:—*Flowers ſix-ſtamened; panicle diffuſed, with imbricate ſpikelets; branches of the culm ſpiny; calyxes one-flowered.*

Retzius, ſeeing that the Bamboo has nothing in common with the Reeds, would make a diſtinct genus of it. He thus deſcribes the character of the fructification, from a ſpecimen which was ſent to him by Koenig.

Infloreſcence in a diſtich many-flowered ſpike.

Calyx ſeveral ſhort unequal concave ſcales.

Flowers uſually by fours, but from three to eight in a ſpike.

Corolla, outer valve oblong, mucronate, convex, the edges at the baſe a little bent in, nerveleſs: inner flattiſh, lanceolate, edges bent in at an acute angle; theſe angles are hairy.

Stamina ſix, with very ſhort filaments, and linear anthers. It frequently happens that one filament bears a ſingle anther; another two, and a third three anthers.

Piſtil. Germ very ſmall. Styles two, ſhort; ſometimes only one. Stigmas long, longitudinally plumoſe.

His character of the ſpecies is this——*Panicle branched, divaricate, hard; ſpikes heaped alternately, unequal in number, ſeſſile.*

The Bamboo-Cane grows naturally almoſt every where within the tropical regions. Over a great part of Aſia it is very common. In China, Cochinchina, Tunquin, Cambodia, Japan, Ceylon, the peninſula of India, and the iſlands.

This uſeful plant has been long ſince introduced into the Weſt-Indies; and is ſaid to flouriſh likewiſe in South Carolina. Mr. Miller cultivated it in 1730[b].] He ſays we have plants more than twenty feet high; and if our ſtoves were high enough, they would propably riſe to twice that height. A ſtrong ſhoot from the root will grow twenty feet in five or ſix weeks. Some of the ſtems are as large as a man's wriſt, but in general they are as big as common walking-ſticks, and when dried are as fit for that purpoſe as thoſe which are imported.

[There is perhaps ſcarcely any plant that ſerves for ſuch a variety of domeſtic purpoſes as the Bamboo. In the Eaſt-Indies great uſe is made of it in building, and the houſes of the meaner people are almoſt entirely compoſed of it. Dr. Patrick Browne mentions, that it was yet ſtrong and perfect in ſome of the houſes which had been built by the Spaniards in Jamaica, above a hundred years before[c]. Bridges alſo are made of it, maſts for their boats, boxes, cups, baſkets, mats, and a great variety of other utenſils and furniture, both domeſtic and rural. Paper alſo is made from it, by bruiſing, and ſteeping it in water, and thus forming it into a paſte. It is the common fence for gardens and fields; and is frequently uſed as pipes for conveying water.] The leaves are generally put round the cheſts of tea which are ſent to Europe from China, as package, faſtened together ſo as to form a kind of mat. [The tops of the tender ſhoots are frequently pickled in the Weſt-Indies.

In the cavities, or tubular parts of the Bamboo is found at certain ſeaſons a concrete white ſubſtance called Tabaſheer or Tabachir, an article which the Arabian phyſicians hold in high eſtimation. It is commonly found in what are called the female or large Bamboos. The Bamboos which contain this concrete are found on ſhaking to contain a fluid, which, after ſome time gradually leſſens, and then they are opened in order to extract the Tabaſheer. The nature of this ſubſtance is very different from what might have been expected in the product of a vegetable. Its indeſtructibility by fire, its total reſiſtance to acids; its uniting by fuſion with alkalies in certain proportions into a white opake maſs, into a tranſparent permanent glaſs; and its being again ſeparable from theſe compounds entirely unchanged by acids &c. ſeem to afford the ſtrongeſt reaſons for conſidering it as very nearly identical with common ſiliceous earth. As to its medical virtues, though the drug be, as before obſerved, in much eſteem with the orientaliſts, yet they are not ſuch as to cauſe it to have any regard paid it in the modern practice of phyſic in Europe.

Yet the virtues of the ſeveral parts of the Bamboo are very conſiderable according to Loureiro, who in his Flora Cochinchinenſis tells us that the leaves, bark, buds, and root are uſed. The leaves, he ſays, are cooling, emollient, and reſolvent: their decoction is good in fevers, cough, pains of the throat &c. the thin bark is cooling and agglutinant and a gentle aſtringent: it is good in feveriſh heats, hæmorrhages, nauſeas, and vomitings: the roots and buds are attenuating, and promote urine, and purify the blood; are good in difficulties of urine, wandering pains, obſtructions, and in venereal caſes: from the freſh roots mixed with tobacco-leaves and betel in equal portion, and infuſed and macerated for ſome days in oil, is prepared an ointment of great efficacy in diſcuſſing hard and ſchirrous ſwellings.

β. The leaves of this variety are much narrower, particularly at their baſe. It is more rare in Europe, though the moſt common on the coaſt of Malabar.

γ. The Turks make their writing pens with this variety. It was obſerved by Tournefort in a valley near mount Athos, and on the banks of the river Jordan.

I notice theſe, becauſe Mr. Miller makes them diſtinct ſpecies. There are doubtleſs many varieties of the Bamboo in the Eaſt-Indies; and ſome, which we look upon as ſuch, may poſſibly prove, on more accurate examination, to be really diſtinct. Loureiro, beſides three ſpecies, mentions three principal varieties which he had obſerved.

1. Arundo maxima. *Tle lang nga.* Arundarbor maxima. *Rumph. amb. l. 6. p. 12.* The higheſt and thickeſt of all the Bamboos, covered very thick with ſpines.

2. Arundo Fax. *Tle nua.* Arundarbor cratium. *Rumph. amb. l. 6. c. 2.* The culm about eighteen feet high, and an inch and half in thickneſs, very ſtraight, the moſt hollow of any of the Bamboos, and the internodes remarkably long. They fill them with oil and tow, and thus uſe them as torches in travelling.

3. Arundo tabacaria. *Oung thaong.* Arundarbor ſpiculorum. *Rumph. amb. l. 6. c. 3.* Culm ſlender, very ſtraight and regular, ſomewhat ſolid, rough, branched; the internodes very long, hard, tough and ſcabrous. Theſe are poliſhed, and much uſed for tobacco-pipes by the natives[d].

Many other varieties may be ſeen in Rumphius. Sloane and Browne deſcribe the Bamboo of Jamaica to be only from twelve to fifteen feet in height, and about an inch and half in diameter at the bottom.

2. The *Donax* or *cultivated Reed*, or *Evergreen Reed*, as the gardeners ſometimes call it, the *great*

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[a] Loureiro.

[b] Hort. kew.

[c] Jamaica. 138.

[d] Loureiro, 58.

Spaniſh or *Cyprus Reed* or *Cane*, as it is named by Ray, the *Spaniſh Reed* of Parkinſon, and the *Cypreſs Cane* or *Pole Reed* of Gerard has the culm ſix feet high or more, (to ten, fifteen, and according to ſome authors twenty or thirty feet) hard, almoſt woody, with knots or joints and diaphragms. Above each joint a leaf, embracing the culm with a yellow, hollow ſheath, two feet long, and three inches broad. The top of the culm ends in a point, the leaves rolling up in form of a cone. The panicle is a foot and half long, erect, and many-flowered. There are two flowers, and ſometimes three in one calyx, but two only ripen[e]. Moſt authors ſet down the calyxes as three-flowered, but in the late editions of the *ſyſtema vegetabilium* they are given as five-flowered, on the authority of Turra.

It is a Native of the ſouth of Europe, Siberia, Egypt, Cochinchina, *&c.* It flowers with us in july and auguſt; and was cultivated in the Oxford Botanic garden in 1648[f].

The canes are brought to us from Spain and Portugal, for the uſe of our weavers, for fiſhing rods, *&c.* In Italy they are frequently uſed for the ſupport of their vines. They are called there *Canna de giardini*; in Spain *Cana lenoſa*, or ſimply *Cana*; in Portugal *Caneira*, or *Cana ordinaria*; in France *Roſeau cultivé, canne des jardins*, or ſimply *Canne*; in Germany *Zahme Rohr, Gartenrohr, Spaniſche Rohr*, &c.; in Holland *Hengelriet, Zaay-Riet, Tam-Riet, Cyperſch Riet, Spaanſch Riet*; in Sweden *Tragardſror*, or *Spanſkror*; in Denmark *Dyrkede Ror, Haugernes Ror*, or *Spanſkror*.]

β. The variety with variegated leaves, called *ſtriped* or *party-coloured Reed*, never grows to a third part of the height of the other, and the leaves are narrower and much ſhorter.

3. *Common Reed* has the root perennial, creeping. Culms erect, round, hollow, jointed, quite ſimple, ſmooth, finely ſtriated, four or five lines in diameter at bottom, commonly the height of a man, but varying from three to twelve feet, and having frequently twenty, twenty-five or twenty-ſix joints. Leaves lanceolate, flat, mucronate, from five or ſix inches to a foot or a foot and half in length, and an inch, or from ten to fifteen lines in breadth, glaucous green, ſmooth, ſerrulate, with a whitiſh nerve at the back: ſheaths ſmooth, ſtriated, crowned with a denſe, ſhort, hairy ligule. Panicle very cloſe, above a foot long, at firſt erect and contracted, but afterwards ſpreading, and when old nodding. Pedicels from the internodes nine or ten coming out together, bearded with white hairs, very much branched, nodding forwards. Spikelets lanceolate, pointed, five to ſeven lines long, narrow, dark purple, three, four or five-flowered[g], ſmooth but ſurrounded at the baſe with down about the length of the florets, and which riſes from the ſpike-ſtalk, and not from the florets themſelves[h]. Larger glume of the calyx lanceolate, painted, three lines long; the other leſs by one half. The outer valve of the corolla five lines long, the inner only one third of that length[i]. The ſeeds are incloſed by the corolla, as Linneus ſays, and are not ſurrounded by long hairs, as Leers has repreſented them[k]. The calyx ſometimes contains only one floret, and ſometimes it has ſix; the number of florets indeed ſeems too inconſtant in this genus to form a ſpecific character. Scopoli affirms that one valve of the corolla is ſometimes awned.

The Reed flowers from july to ſeptember, and ripens its ſeeds in october and november.] It is very common by the ſides of rivers, in ditches and large ſtanding waters, [throughout Europe, in Siberia, North America, *&c.* Thunberg obſerved it in Japan, with a wider panicle than ours, looſe but not diffuſed, and an herbaceous culm.] In autumn, when the leaves begin to fall, and the ſtems are changed brown, it is cut for making ſcreens in kitchen gardens, and for many other uſes: [as thatching, for which it is much more durable than ſtraw, for cielings, and to lay acroſs the frame of wood-work as the foundation for plaiſter floors[l]. The panicles are uſed by the country people in Sweden, to dye wool green[m]. The root has been recommended as a ſubſtitute for *Radix Chinæ*, and as anſwering the ſame purpoſes with Dog's-graſs, *Triticum caninum*.

Common Reed is called in German *Gemeine Rohr, Rohrſchilf, Buſchelrohr, Pfeifenrohr, Deckrohr, Teichrohr, Waſſerrohr, Weiherrohr, Zaunrieth*, and *Waſſerſedergras*; in Dutch *Gemeene Riet, Waterriet*, and *Dekriet*; in Daniſh *Gemeen Ror*; in Swediſh *Strandror, Takvaſs, Takror*; in French *Roſeau de marais, Roſeau commun*, and *Roſeau de balai*; in Italian *Canna paluſtre*; in Spaniſh *Cana paluſtre, Cana de cercas*; in Portugueſe *Carrico baſtardo*; in Ruſſian *Kamyſch*.

4. Root perennial, creeping far and wide. Culms two feet high or more, thicker than thoſe of wheat. Leaves a ſpan long, and two or three lines broad, ſmooth underneath, beſet above with very ſhort ſcattered hairs. Sheaths ſtriated, ſmooth, ending in a blunt ligule. Panicle very cloſe and narrow, almoſt ſpiked, from two to four and ſix inches in length. Pedicels an inch or an inch and half in length, coming out ſingly and alternately at unequal intervals, loaded with many flowers. Spikelets one-flowered, very ſlender, from bay inclining to blueiſh. Flowers one and a half or nearly two lines long. Calyx flexible, nearly membranaceous, rough when viewed with a microſcope: valves awl-ſpear-ſhaped, nearly equal, or the outer a quarter of a line longer than the other, the points ſo ſharp as to be almoſt an awn. Corolla one line in length, membranaceous, tapering to a point which is cloven; there is an exceedingly minute awn riſing from the bottom of the cleft, often but juſt taller than the end of the valve. There is a down from the baſe of the corolla riſing nearly even with the calyx[n].

The leaves are much narrower than thoſe of *A. Calamagroſtis*[o]: there are fewer flowers in the panicle, and it is not alternately contracted as that is: the corolla is very little leſs than the calyx, whereas in that there is a great difference[p]. It differs from the Common Reed in its contracted panicle, equal on all ſides, not pointing one way: from *A. arenaria* in having the panicle ſomewhat branched, not ſpiked, longer than the leaves[q]. Native of many parts of Europe: flowering in july.

5. Root perennial, creeping. Culms from three to five feet high; ſometimes it is the height of a man, and what is very uncommon in a graſs, throws out undivided branches from the boſom of the leaves. Leaves without hairs, upper ſurface ſmooth, but the under, as alſo the edges and nerves, rough to the hand drawn downwards, inclined to a glaucous hue, ſtiff and arid; ſome flat, others with their edges rolled in, and ſharp-pointed. Sheaths long, clothing the culm, ending in a membranaceous, laciniate ligule, ſhorter and blunter on the lower leaves, much longer and more acuminate on the upper ones. Panicle denſe, long, contracted, before it comes into flower upright, afterwards ſomewhat nodding, the branches and their ſubdiviſions rather pointing one way, ſometimes partly cheſnut and partly green, on the opening of the flowers a mixture of green, cheſnut, and ſilky white, and when out of flower of a yellowiſh brown. Calyx ſtiff, green, with a rough keel, ſlightly curved ſideways; valves narrowing to a point, almoſt equal, about two lines long. Corolla one line in length, awned, tapering to a point, which is cloven; it is membranaceous, gloſſy, white, giving the whole panicle a ſilky ſhine: awn hair-like, ſtraightiſh, inſerted above the middle of the back, extending half a line beyond the end of the valve: there is a woollineſs at the baſe about the length of the calyx. In external appearance this graſs very much reſembles *Dactylis glomerata*[r]. It differs from the foregoing

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[e] Haller. [f] Hort. kew. [g] Pollich and Krocker.
[h] Scheuch. and Stokes in With. [i] Pollich. [k] Stokes in With.

[l] Withering. [m] Lin ſuec. [n] Krocker, Haller, Stokes in With.
[o] Woodw. [p] Haller. [q] Willdenow.
[r] Stokes in With. Linn. Relh. Krock.

ſpecies in having a more ſlender panicle, and the calyxes ſtraw-coloured, not drawn out into a very long point, nor blue at the edge[s]. Scopoli removes this ſpecies to the genus *Avena,* in which he is ſingular.

Native of moſt parts of Europe, in moiſt woods and hedges; flowering in june and july.

6. *Sea Reed-graſs* has a ſtrong, creeping perennial root, with many tubers at the joints the ſize of a pea. Culms a foot and half high or more, hollow, hard and ſhining, with two, three or four joints. Leaves at the baſe of the culm crowded, on the culm one at each joint, glaucous, equalling or exceeding the culm in length, two lines in breadth, at firſt flat, but afterwards by their own dryneſs, or that of the ſoil on which they grow, contracted on the ſides and rolled up, ſo as to appear like ruſh leaves; they are ſmooth and gloſſy without, and deeply ſcored within. Sheaths livid-brown, broad, ſix inches or a ſpan long, ending in an almoſt tranſparent ligule, acuminate and bifid or trifid at the end. Panicle in form of a roundiſh ſpike, narrow, cloſe, from four to ſix inches long, as thick as the little finger in the middle, but narrowing to each end, rough and villoſe: pedicels ſhort, branched, ſtiffiſh: ſpicules ſlender, five or ſix lines long, ſharp, valves of the calyx nearly equal, lanceolate, compreſſed, keeled; the outer broadeſt, marked with one rib, the inner with three: corolla compreſſed, roughiſh, dull, of the ſame texture as the calyx; outer valve marked with five ribs, the middlemoſt ending in a ſhort dagger-point, the baſe fringed all round with white, ſtraight, ſtiff hairs, only one fourth of the length of the corolla. Scale at the baſe of the inner valve, awl-ſhaped, fringed with the ſame hairs, analagous to the outer corolla of the *Phalaris,* or poſſibly the rudiment of a ſecond peduncle. Seed not larger than Canary ſeed, but round, and rather ſharp at the upper end.

Linneus thinks it probable that this graſs might originate from *Arundo epigeios* impregnated by the pollen of *Elymus arenarius.* Dr. Stokes is of opinion that it has a much nearer affinity in habit, as well as ſtructure to *Phalaris* than to *Arundo.*

Native of ſandy coaſts in Europe and America; flowering in june and july. By means of its creeping roots it helps very much to conſolidate driving ſands, which gather about it in hills or banks, and are thus prevented from diſperſing over and impoveriſhing the adjoining fields. The Dutch have profited by their knowledge of this fact; and Mr. Woodward informs us, that it is planted about Wells in Norfolk, to aid in repelling the ſea. The country people know it by the names of *Sea Matweed, Marram* and *Helme.* They cut and bleach it for making mats; and where it is plentiful, houſes are thatched with it[t].

7. Native of New Zealand.

8. Culms woody, very hard, roundiſh, twiſted, thirty feet high, as thick as the human arm, with prominent knots and ſhort internodes; they have very little void ſpace within, and are often quite ſolid: branches alternate, many, the lower ones denſer, bowed, ſubdivided, interwoven, with many thick ſcattered crooked ſpines. Leaves linear-lanceolate, ſmall, ſmooth, ſtriated, ſcattered, on longiſh ſlender petioles. Flowers in an erect terminating panicle, which ends in heaped ſhort ſpikelets. Corolla very ſmall woolly. Anthers ſix, very long, ſubſeſſile. Stigmas two on a ſingle ſtyle. Seed oblong. This ſpecies being very hard, is extremely durable. On account of this quality, and the cloſeneſs of its ſpines, it is peculiarly proper to be employed in the circumvallation of fortified places. Native of Cochinchina, in mountains, and dry deſert places[u].

9. Culm woody, round, very regular, about forty feet in height, the thickneſs of the human leg, ſimple, hollow; the knots more diſtant and ſcarcely prominent; branches unarmed. Leaves largiſh, lanceolate, ſtriated, ſtem-claſping. Panicle contracted, erect, ſimple; with long imbricate ſpikelets. Corolla very ſhort, woolly. Stamens ſix. Style one, with three long villoſe ſtigmas.

This is cultivated in Cochinchina, in the fields and hedges, and being divided into long thin pieces is uſed for weaving into hats, coffers, baſkets and a variety of utenſils, which are very elegant[x].

10. Culm perennial, twelve feet high, an inch thick, round, divided, unarmed, hollow, with very long internodes. Leaves linear-lanceolate, ſix inches long, flat, ſmooth, ſtem-claſping, of a browniſh green colour. Spikes of flowers terminating, few, pedicelled, erect, long, interrupted, compound; ſpikelets ſubulate, ſeſſile, imbricate, in whorls about a common pedicel. Filaments ſix, capillary, long; with oblong anthers. Stigmas three, ſeſſile, long, plumoſe, reflex. Seed oblong. In the northern provinces of Cochinchina, in cultivated places; where it is uſed as hedges for the ſeparation of gardens[y].

11. Culms lofty, hollow, thick, leafy. Leaves ſmooth, two feet and upwards in length, and two inches wide at the baſe. Panicle two feet long, very much branched, upright. Peduncles in half whorls, unequal; branched. Flowers on the lower part of the panicle in threes, one ſeſſile and two pedicelled; next in pairs, one ſeſſile; the upper ones ſolitary. Calyx ſubulate, naked, two-flowered, one valve a little longer than the other. Corollas two, ſurrounded with wool the length of the calyx, one pedicelled a little longer than the calyx, the petals narrow, linear, three-nerved, hyaline. Native of Bengal; found there by Koenig[z].

12. Culm perennial, eight feet high, unarmed, branched, ſubulate, almoſt ſolid, the knots approximating. Leaves lanceolate-linear, duſky green, ſmooth, petioled, ſmaller than in any other of the Indian Reeds, alternate. Flowers in ſpikes, terminating. Native of Cochinchina.

Being tough, and tapering towards the end, this cane is very fit for fiſhing-rods[a].

13. Culm perennial, eight feet high, unarmed, ſimple; the knots diſtant. Leaves lanceolate-linear. Spikes terminating; ſpikelets linear, long. Flowers dioecous; the females with two ſtamens. Native of Cochinchina, in woods[b].

14. Root perennial, long, thick, jointed, creeping, covered with whitiſh or browniſh ſcales. Culms from two or three to five or ſix feet in height, upright, ſtrong, round, ſmooth, with ſix or ſeven purpliſh or browniſh knots; at each of which is a leaf from a hand to a ſpan and a foot in length, and from five to eight lines in breadth, ſmooth except towards the end and on the ſides, where they are ſomewhat ſcabrous, bright green, white about the edge, and with a white nerve. Sheaths ſtriated, ſmooth, ending in a whitiſh, cloven ligule. Panicle from ſix inches to a foot in length, much contracted at firſt ſo as to reſemble a ſpike, but ſpreading out in flowering time, branched, the branches crowded, cloſely imbricate, and unequal; it varies in colour, being commonly purpliſh, but ſometimes whitiſh: peduncles in pairs or three together, the lower ones connected at the baſe, having a ſharp little ſcale for a bracte: florets imbricate, pointing one way, when flowering diverging on very ſhort pedicels. Valves of the calyx with two ribs on each ſide, not much longer than the corolla, the outer valve a little leſs than the other. Valves of the corolla hairy at the edges, and furniſhed with a ſmall, ſlender, hairy appendage on each ſide, the outer valve not rolled in. Nectaries two, lanceolate-acuminate, with one tooth on the outer edge[c]. Seed oval, flatted, brown and ſhining[d].

Haller placed this ſpecies among the reeds, but Pollich and others refuſe to admit it into that genus, becauſe the true down or wool is wanting at the baſe of the florets, and there is only a ſhort hairineſs at the baſe of the calyx not appearing above the ſpikelet: analogy however ſeems ſufficiently to juſtify the ſituation in which we find it in Haller and the catalogue of the royal garden at Kew.

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[s] Willdenow.

[t] Linn. lapp. Krock. Ray, Withering.

[u] Loureiro.

[x] Loureiro.

[y] Ibid.

[z] Retz.

[a] Loureiro.

[b] Ibid.

[c] Leers, Pollich, Krock. Haller, With.

[d] Villars.

It is a native of Europe, on the banks of rivers and ditches; flowering in july and auguſt.

It is uſed to thatch ricks and cottages, for which purpoſe it is more durable than ſtraw. In the province of Scania they mow it twice a year, and their cattle eat it[e]. The texture is ſo hard, that it ought to be cut very young, if we expect cattle to touch it.

β. There is a cultivated variety of this graſs in our gardens with beautifully ſtriped leaves. The ſtripes are generally green and white; but ſometimes they have a purpliſh caſt[f]. This is called *Ladies laces*, *Painted Graſs*, or *Ribband Graſs*.

Willdenow has followed Haller in placing *Agroſtis arundinacea* and *Calamagroſtis* in this genus.]

PROPAGATION AND CULTURE.

1. The Bamboo muſt be preſerved in a warm ſtove, and as the roots ſpread very wide, it ſhould be planted in a large tub, filled with rich earth: this muſt be plunged into the hot-bed in the bark-ſtove, and muſt have plenty of water. When the tub decays, if the plant be permitted to root in the tan, it will grow to a larger ſize; but then care muſt be taken, when the bed is refreſhed with new tan, to leave a ſufficient quantity of the old tan about the roots. It may be propagated by ſlips from the roots, which ſhould be taken off in the ſpring, that they may be well eſtabliſhed before winter.

2. The cultivated Reed, although native of warm countries, yet will bear the cold of our winters in the open ground, provided it be planted in a ſoil not too wet; and, if the winter ſhould prove very ſevere, a little mulch be laid over the roots. It dies to the ſurface in autumn, and riſes again the ſucceeding ſpring: if it be kept ſupplied with water in dry weather, it will grow ten or twelve feet high the ſame ſummer. It is very proper to intermix with trees and ſhrubs, or with tall plants and flowers, where it will have a good effect, in adding to the variety. This is propagated by parting the roots early in the ſpring, before they begin to ſhoot, and will, in a year or two, if the ground be good, make very large ſtools, from each of which eight or ten canes are produced. It never flowers in England.

The ſort with variegated leaves is much more tender than the other, and muſt be ſheltered from froſt, in order to be preſerved through the winter in England.

[Arundo. See *Agroſtis*, *Andropogon*, *Cenchrus*, *Melica*, *Spinifex* & *Zizania*.

Arundo florida & indica. See *Canna*.

——— Rotang. See *Calamus*.]

——— Saccharifera. See *Saccharum*.

[Asarabacca. See *Aſarum*.

Asarina. See *Antirrhinum* & *Chelone*.]

ASĂRUM. (Ασαρον, *Dioſc. From* α and σαιρω, *orno: becauſe it is unfit for ornament, or was not uſed for crowns, according to Pliny.* From α *and* σειρον, *vinctum, Linneus.*)

Eng. *Aſarabacca.* Fr. *Aſaret, Cabaret, Oreille d'homme.*

Lin. gen. n. 589. *Reich.* 642. *Schreb.* 801. *Tournef.* 286. *Juſſ.* 73. *Gærtn. t.* 14.

Claſſ. 11. 1. Dodecandria Monogynia.

Nat. order of *Sarmentaceæ*. *Ariſtolochiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, three or four-cleft, coriaceous, coloured, permanent: *clefts* erect, bent in at the top.

Cor. none.

Stam. *Filaments* twelve, ſubulate, half the length of the calyx. *Anthers* oblong, faſtened to the middle partition of the filaments.

Pist. *Germ* inferior or concealed within the ſubſtance of the calyx. *Style* cylindric, the length of the ſtamens. *Stigma* ſtellate, ſix-parted; *parts* reflex.

Per. *Capſule* coriaceous, within the ſubſtance of the calyx, moſtly ſix-celled.

Seeds ſeveral, ovate.

ESSENTIAL CHARACTER.

Cal. three or four-cleft, placed on the germ. *Cor.* none, *Capſ.* coriaceous, crowned.

SPECIES.

1. Aſarum europæum. *Common Aſarabacca.*
Lin. ſpec. 633. *Reich.* 2. 411. *hort. cliff.* 178. *fl. ſuec. n.* 421. *mat. med.* 119. *Woodv. med. bot.* 237. *t.* 86. *Gærtn. fruct.* 1. 48. *Hudſ. angl.* 205. *Wither. arr.* 488. *Hall. helv. n.* 1547. *Scop. carn. n.* 563. *Pollich pal. n.* 448. *Allion. pedem. n.* 2069. *Krock. ſileſ. n.* 712. *Villars dauph.* 3. 817. *Fl. dan. t.* 633. *Mill. fig. t.* 53. *f.* 1. a. *Plenck. ic. t.* 358. *Blackw. t.* 383. *Mor. hiſt. ſ.* 13. *t.* 7. *f.* 1. *Ger. herb.* 688. *f.* 1. *emac.* 836. 1. *Park. theat.* 266. 1. *Trag.* 64. *Dod. pempt.* 358. *Lob. obſ.* 328. 2. *Matth.* 36. *Fuchſ. hiſt.* 10. *Bauh. hiſt.* 3. 548. *Camer. epit.* 19. (good.) *Beſl. eyſt. vern.* 6. *t.* 9. *f.* 2. *Bauh. pin.* 197. 1. *Raii hiſt.* 207. *ſyn.* 158.
Leaves kidney-ſhaped, blunt, in pairs.

2. Aſarum canadenſe. *Canadian Aſarabacca.*
Lin. ſpec. 633. *Reich.* 2. 411. *Gron. virg.* 52. *Mill. fig.* 53. 1. b. *Jo. Mill. illuſtr. Corn. canad. t.* 25. *Raii hiſt.* 208. 2.
Leaves kidney-ſhaped, mucronate.

3. Aſarum virginicum. *Sweet-ſcented Aſarabacca.*
Lin. ſpec. 633. *Reich.* 2. 411. *Gron. virg.* 162. *Lour. cochinch.* 292. *Pluk. alm. t.* 78. *f.* 2. *Mor. t.* 7. *f.* 3. *Raii hiſt.* 1857. & 3. 129.
Leaves heart-ſhaped, blunt, ſmooth, petioled.

DESCRIPTIONS, &c.

1. Roots perennial, thick, fleſhy, jointed, ſending out fibres from every part. The leaves grow ſingly on ſhort petioles, ariſing immediately from the root: they are kidney-ſhaped, eared at the petiole, and rounded at the top, where they are indented; they are ſmooth, and of a ſhining green colour. The flowers growing upon very ſhort peduncles cloſe to the ground, are hid under the leaves; they are of an herbaceous colour on the outſide, and duſky purple within. [A radical ſtem ſupports two petioles, between which is a one-flowered ſcape; the former about three inches, the latter only half an inch in length. The filaments are produced beyond the anthers into a hook or little horn. The anthers are twin, or elſe ſingle and two-lobed. Capſule ovate-globoſe, crowned with the permanent calyx, hirſute, very obſcurely hexagonal, not opening by valves; partitions faſtened to the angles of the capſule, but looſe and ſeparate next the axis, which is ſingular; receptacle none, except the central margin of the partitions, to which the ſeeds are faſtened. Seeds few, about four in each cell, ovate, narrowing downwards, convex on one ſide and ſmooth, concave on the other, with a glandular epiphyſis, a little longer than the ſeed, and thicker at top, yellowiſh, and at length drying away into a ſpongy ridge; brown on the back, paler on the belly[a].

Authors aſſign a ſingle ſtyle to the flower, with a ſtigma of ſix rays; Scopoli however inſiſts that the flower has ſix ſtyles, for though the ſtyles are connate at firſt, yet they are then free and ſeparate at top, and when the capſule becomes divided into its ſix cells, the ſtyles ſeparate, and each terminates its reſpective cell, to the baſe of which four wedge-ſhaped ſeeds are fixed: each cell is divided into two by a longitudinal partition, two ſeeds adhering to it on each ſide. The number of ſegments in the calyx is one-fourth of the number of ſtamens, and one-half the number of the cells.

Aſarabacca is a native of many parts of Europe, in woods and ſhady places; flowering in april and may. With us it has been obſerved only in Lancaſhire.

The root powdered, and taken to the amount of thirty or forty grains, excites vomiting: if it be coarſely powdered, it generally purges. The powder of the leaves is the baſis of moſt cephalic ſnuffs, which occaſion a conſiderable diſcharge of mucus from the noſtrils without much ſneezing. An infuſion of one or two drams of the leaves in wine vomits[b]. Allioni gives a particular account of the qualities of Aſarabacca, and ſeems to have a high opinion of it, eſpecially in obſtinate intermittents, and above all in the quartan ague. Others reject it entirely, holding it to be too acrid when freſh, and totally inſipid when dry. The *pulvis Aſari compoſitus* of the London Diſpenſatory has equal quantities of the dried leaves of Aſarum, Marjoram and Marum, and of the dried flowers of Lavendar.]

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[e] Linn. [f] With.

[a] Gærtner.

2. The leaves of this are much larger than thoſe of the firſt ſort, and ſtand on longer footſtalks; they are pointed and hairy. The flowers are like thoſe of the other ſort, growing cloſe to the root, but are more inclining to green on the outſide.

[Linneus doubts whether it may not be a mere variety of the firſt, on account of the leaves growing in pairs, though other circumſtances indicate the contrary.

Native of Canada. Cultivated in 1731, by Mr. Miller. It flowers from april to july[c].]

3. The leaves of this are veined and ſpotted on their upper ſurface, like thoſe of the autumnal Cyclamen. The flowers are ſhaped like the others, but ſtand on longer peduncles, and are of a darker purple colour. They come out in april and may, and their ſeeds ripen in july and auguſt.

[Native of Virginia and Carolina; alſo of ſeveral provinces in China. Both this and the ſecond ſort were found by Thunberg in Japan. Cultivated in 1759, by Mr. Miller.]

PROPAGATION AND CULTURE.

Theſe plants delight in a moiſt ſhady ſituation, and may be increaſed by parting the roots in autumn. Too much wet will rot the Canadian ſort in the winter. If the third ſpecies be too much expoſed to the ſun in ſummer, it ſeldom thrives well; it ſhould therefore be planted in a border where it may have only the morning ſun.

[Asarum Hypociſtis. See *Cytinus*.

ASCARĪNA. (*From* ασκαρις, *a little worm; the anther having that ſhape.)*

Lin. gen. Schreb. n. 1487. *Forſt. gen.* 59. *Juſſ.* 442.

Claſſ. 22. 1. Dioecia Monandria.

GENERIC CHARACTER.

* *Male flowers.*

Cal. *Ament* filiform. *Floſcules* ſcattered, ſeſſile. *Perianth* a very ſhort ſcale.

Cor. none.

Stam. *Filaments* ſingle, very ſhort. *Anther* oblong, from ſpreading recurve, four-furrowed, large.

* *Female flowers* in a different plant.

Cal. as in the male.

Cor. none.

Pist. *Germ* globoſe. *Style* none. *Stigma* flat, three-lobed, growing to the germ.

Per. *Drupe?*

Seed ſingle.

ESSENTIAL CHARACTER.

Cal. Ament filiform. *Cor.* none.

Male. Anther worm-ſhaped.

Fem. *Style* none. *Stigma* three-lobed. *Drupe?*

SPECIES.

1. Aſcarina polyſtachya.

Forſt. fl. auſtral. n. 364.

Native of the Society Iſles, in the South Seas.

ASCĬUM.

Lin. gen. Schreb. n. 903. *Norantea Aubl.* 220. *Juſſ.* 245.

Claſſ. 13. 1. Polyandria Monogynia.

Nat. order of *Putamineæ? Capparides* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* roundiſh, concave, coriaceous, coloured on the margin.

Cor. *Petals* five, ovate, acute, larger than the calyx, inſerted into the receptacle.

Stam. *Filaments* very many, (forty to fifty) ſhort, three-ſided, inſerted into the receptacle. *Anthers* oblong.

Pist. *Germ* ovate. *Style* very ſhort. *Stigma* headed.

Per. *Berry?* one-celled.

Seeds very many.

ESSENTIAL CHARACTER.

Cal. five-leaved, coriaceous. *Cor.* five-petalled. *Berry?* one-celled, with very many ſeeds.

SPECIES.

1. Aſcium Norantea.

Aublet. guian. t. 220.

DESCRIPTION, *&c.*

This is a tree, with alternate, entire, thick leaves. The flowers grow in looſe ſpikes from the ends of the branches; they are alternate, ſubſeſſile, and have to each a long bracte, with a claw to it, reſembling the cowled bag of *Marcgravia*; to which genus this ſeems nearly allied. It is a native of Guiana.]

ASCLEPĪAS. (*From* Æſculapius, *the god of Medicine.)*

Lin. gen. n. 306. *Reich.* 333. *Schreb.* 429. *Tournef.* 22. *Juſſ.* 147. *Gærtn. t.* 117.

Apocynum. *Tournef.* 21.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Contortæ. Apocineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-cleft, ſharp, very ſmall, permanent.

Cor. monopetalous, flat or reflex, five-parted: *diviſions* ovate-acuminate, ſlightly bending with the ſun. *Nectaries* five, growing to the tube of the filaments below the anthers, fleſhy, or cowled; protruding from the bottom a ſharp horn, bending inwards.

Stam. *Filaments* five, collected into a tube, ſwelling at the baſe: *anthers* oblong, upright, two-celled, terminated by an inflex membrane lying on the ſtigma, having a reverſed wing on each ſide, growing broader downwards with its edge contiguous to the next. The *pollen* is collected into ten corpuſcles, inverſely lanceolate, flat, hanging down into the cells of the anther by ſhort threads, frequently flexuoſe; which are annexed by pairs to five, cartilaginous, twin tubercles, each placed on the tip of the wings of the anthers, adhering to the angles of the ſtigma, between the anthers.

Pist. *Germs* two, oblong, acuminate; *ſtyles* two, ſubulate: *ſtigma* common to both, large, thick, five-cornered, covered at top by the apexes of the anthers, umbilicate in the middle.

Per. *Follicles* two, large, oblong, acuminate, ſwelling, one-celled, one-valved.

Seeds numerous, imbricate, crowned with down. *Receptacle* membranaceous, free.

Obs. Aſclepias. *Tournef. has ſolid nectaries, without horns.*—Apocynum. *Tournef. has cowled nectaries, with horns.*

ESSENTIAL CHARACTER.

Contorted: *Nectaries* five, ovate, concave, putting out a little horn.

SPECIES.

* *Leaves oppoſite, flat. Swallow-wort.*

[1. Aſclepias undulata. *Waved-leaved Swallow-wort.*
Lin. ſpec. 312. *Reich.* 608.
Apocynum africanum, lapathi folio. *Comm. rar. t.* 16.
Leaves ſeſſile, oblong, lanceolate, waved, ſmooth; petals ciliate.

2. Aſclepias criſpa. *Curled-leaved Swallow-wort.*
Lin. ſyſt. 258. *edit.* 13. 213. *Reich.* 608. *mant.* 215. *ſuppl.* 170. *Berg. cap.* 75.
Apoc. erectum afric. &c. *Herm. par.* 25. *Comm. rar. t.* 17.
Leaves cordate-lanceolate, waved, ſcabrous, oppoſite; umbel terminal.

3. Aſclepias pubeſcens. *Pubeſcent Swallow-wort.*
Lin. ſyſt. 258. *Reich.* 608. *mant.* 215.

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[b] Withering.

[c] Hort. kew.

Apoc. afr. tuberoſum, &c: *Mor. hiſt.* 3. 610. *ſ.* 15. *t.* 3. *f.* 35. *Pluk. phyt.* 139. *f.* 1.
Leaves ovate, veined; naked; ſtem ſhrubby, peduncles villoſe.

4. Aſclepias volubilis. *Twining Swallow-wort.*
Lin. ſyſt. 259. *ſuppl.* 170. *Forſt. florul. n.* 128? *Rheed. mal.* 9. 21. *t.* 13? *Rumph. amb.* 5. *t.* 175. *f.* 1?
Leaves ovate, quitc entire, acuminate; ſtem arboreous, twining, umbels erect.

5. Aſclepias aſthmatica. *Aſthmatic Swallow-wort.*
Lin. ſyſt. 259. *ſuppl.* 171.
Lcaves petiolate, cordate-ovate, above ſmooth, quite entire, ſtem ſhrubby, twining, hirſute; umbels few-flowered.]

6. Aſclepias gigantea. *Curled-flowered gigantic Swallow-wort.*
Lin. ſpec. 312. *ſyſt.* 259. *Reich.* 608. *fl. zeyl.* 112. *Brown. jam.* 182. 1.
Ericu. *Rhced. mal.* 2. 53. *t.* 31. *Seb. theſ.* 1. 41. *t.* 26. *f.* 1.
Leaves obovate-oblong, petioles very ſhort; ſegments of the corolla reflex, involute.

7. Aſclepias ſyriaca. *Syrian Swallow-wort.*
Lin. ſpec. 313. *Reich.* 609. *vir. cliff.* 20. *hort. cliff.* 78. *upſ.* 53. *Gron. virg.* 27. *Plenck. ic. t.* 155. *Blackw. t.* 521. *Park. par.* 444. *t.* 443. *f.* 2. (Periploca.)
Apocynum ſyriacum. *Corn. canad.* 90. *Cluſ. hiſt.* 2. 87.
Beidelſſar. *Veſl. ægypt.* 28.
β. A. exaltata.
Lin. ſpec. 313. *amæn. acad.* 3. 404. *Kalm. itin.* 3. 259.
Leaves oval tomentoſe underneath, ſtem quite ſimple, umbels nodding.

8. Aſclepias amoena. *Oval-leaved Swallow-wort.*
Lin. ſpec. 313. *Reich.* 609.
Apocynum. *Dill. elth.* 31. *t.* 27. *f.* 30.
Leaves ovate rather hairy underneath, ſtem ſimple, umbels and nectaries erect.

9. Aſclepias purpuraſcens. *Purple Virginian Swallow-wort.*
Lin. ſpec. 313. *Rcich.* 609. *Dill. elth.* 32. *t.* 28. *f.* 31.
Apoc. erectum noveboracenſe, &c. *Herm. par.* 33.
Leaves ovate villoſe underneath, ſtem ſimple, umbels erect, nectaries reſupinate.

10. Aſclepias variegata. *Variegated Swallow-wort* or *Wiſank.*
Lin. ſpec. 312. *Reich.* 610. *Bauh. pin.* 215.
Apoc. americanum, &c. *Dill. elth.* 32. *Pluk. alm.* 34. *t.* 77. *f.* 1.
Lcaves ovate wrinkled naked: ſtem ſimple; umbels ſubſeſſile; pedicels tomentoſe.

11. Aſclepias curaſſavica. *Curaſſoa Swallow-wort. Baſtard Ipecacuanha.*
Lin. ſpec. 314. *Reich.* 610. *hort. cliff.* 78. *Lour. cochinch.* 170. *Swartz. obſ.* 106. *Brown. jam.* 183. 2.
Apocynum. *Dill. elth.* 34. *t.* 30. *f.* 33. *Herm. par. t.* 36. *Sloan. jam.* 1. 206. *t.* 129. *f.* 4, 5.
Leaves lanceolate ſmooth ſhining; ſtem ſimple; umbels erect ſolitary lateral.

12. Aſclepias nivea. *White* or *Almond-leaved Swallow-wort.*
Lin. ſpec. 313. *ſyſt.* 259. *Reich.* 610. *Gron. virg.* 27.
Apocynum. *Dill. elth.* 33. *t.* 29. *f.* 32. *Plum. ſpec.* 2. *ic.* 30.
Leaves ovate-lanceolate ſmoothiſh; ſtem ſimple; umbels erect lateral ſolitary.

13. Aſclepias incarnata. *Fleſh-coloured Swallow-wort.*
Lin. ſpec. 314. *Reich.* 611. *vir. cliff.* 20. *hort. cliff.* 78. *Gron. virg.* 27. *Jacq. hort.* 2. *t.* 107.
Apocynum, &c. canadenſe. *Corn. canad.* 9. *t.* 93. *Barr. rar.* 8. *t.* 72. *Raii hiſt.* 1089.
Leaves lanceolate, ſtem divided at top, umbels erect twin.

14. Aſclepias decumbens. *Decumbent Swallow-wort.*
Lin. ſpec. 314. *Reich.* 611. *Gron. virg.* 27.
Apoc. carolinianum aurantiacum piloſum. *Pet. ſicc.* 90.
Leaves villoſe, ſtem decumbent.

[15. Aſclepias lactifera. *Milky Swallow-wort.*
Lin. ſpec. 314. *Reich.* 611. *fl. zeyl.* 111.
Leaves ovate, ſtem erect, umbels proliferous very ſhort.]

16. Aſclepias Vincetoxicum. *Officinal Swallow-wort,* or *Tame-poiſon.*
Lin. ſpec. 314. *Reich.* 611. *mat. med.* 72. *ſuec.* 212. *hort. cliff.* 78. *Allion. pedem. n.* 371. *Scop. carn. n.* 275. *Pollich pal. n.* 242. *Hall. helv. n.* 571. *Krock. ſileſ. n.* 366. *Villars dauph.* 487. *Dill. giſſ.* 65. *Plenck. ic. t.* 154. *Blackw. t.* 96. *Fl. dan.* 849.
α. A. albo flore. *Bauh. pin.* 303. *Ger.* 751. *f.* 1. *emac.* 898. 1. *Park. theat.* 388. *f.* 1. *Raii hiſt.* 1090.
A. alba. *Mill. dict. n.* 1. *fig. t.* 53. *f.* 2.
β. A. lutea. *Mill. dict. n.* 3.
Leaves ovate bearded at the baſe, ſtem erect, umbels proliferous.

17. Aſclepias nigra. *Black Swallow-wort.*
Lin. ſpec. 315. *Reich.* 612. *hort. upſ.* 53. *Villars dauph.* 487. *Sauv. monſp.* 133. *Gærtn. fruct.* 2. 170. *Camer. epit.* 560.
Leaves ovate bearded at the baſe, ſtem twining a little at top.

** *Leaves revolute at the ſides.*

[18. Aſclepias arboreſcens. *Arboreſcent Swallow-wort.*
Lin. ſyſt. 259. *Reich.* 612. *mant.* 216.
Apoc. fruteſcens, &c. *Burm. afr.* 31. *t.* 13.
Leaves ovate, ſtem ſhrubby, ſubvilloſe.]

19. Aſclepias fruticoſa. *Shrubby* or *Willow-leaved Swallow-wort.*
Lin. ſpec. 315. *ſyſt.* 260. *Reich.* 612. *hort. cliff.* 78. *upſ.* 54. *vir. cliff.* 20.
A. glabra. *Mill. dict. n.* 12.
Apoc. erectum africanum, &c. *Herm. par. t.* 24. *Mill fig. t.* 45. *Pluk. alm.* 36. *t.* 138. *f.* 2.
β. A. craſſifolia. *Lin. ſyſt. edit.* 13. *p.* 214.
Leaves linear-lanceolate, ſtem ſhrubby.

[20. Aſclepias repanda. *Repand Swallow-wort.*
Lin. ſyſt. Reich. 613.
A. undulata. *Lin. ſyſt.* 260. 20.
Apoc. erectum afric. ſubhirſutum, &c. *Herm. par.* 45. *Comm. rar. t.* 17.
Leaves revolute-repand hairy.

21. Aſclepias ſibirica. *Siberian Swallow-wort.*
Lin. ſpec. 315. *Reich.* 613. *Murr. comm. gott.* 1779. *p.* 23. *t.* 7. *Gmel. ſib.* 4. 77. *n.* 21. *Amm. ruth.* 10.
Leaves linear-lanceolate oppoſite or in threes, ſtem decumbent.]

22. Aſclepias verticillata. *Verticillate Swallow-wort.*
Lin. ſpec. 315. *Reich.* 613. *Gron. virg.* 26.
Apoc. marianum, &c. *Pluk. mant.* 17. *t.* 336. *f.* 4. *Pet. muſ.* 609.
Leaves linear verticillate, ſtem erect,

*** *Leaves alternate.*

[23. Aſclepias rubra. *Red Swallow-wort.*
Lin. ſpec. 316. *Reich.* 613.
Apocynum. *Gron. virg.* 27.
Leaves ovate, umbels many from the ſame common peduncle.]

24. Aſclepias tuberoſa. *Tuberous Swallow-wort.*
Lin. ſpec. 316. *Reich.* 613. *hort. cliff.* 78.
Apoc. novæ angliæ, &c. *Herm. lugdb. t.* 647. *Dill. elth.* 35. *t.* 50. *f.* 34.
Leaves lanceolate, ſtem divaricate hairy.

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[25. Aſclepias filiformis. *Narrow-leaved Swallow-wort.*
Lin. ſyſt. 260. *ſuppl.* 169.
Leaves filiform, ſtem erect, umbels lateral elongate-peduncled.

26. Aſclepias grandiflora. *Great-flowering Swallow-wort.*
Lin. ſyſt. 260. *ſuppl.* 170.
Leaves petiolate oblong hairy, ſtem ſimple hirt erect, flowers axillary peduncled.

27. Aſclepias carnoſa. *Fleſhy-leaved Swallow-wort.*
Lin. ſyſt. 260. *ſuppl.* 170.
Leaves ovate fleſhy very ſmooth.]

28. Aſclepias ſcandens. *Climbing Swallow-wort.*
Mill. dict. n. 19.
Leaves oblong-lanceolate ſubhirſute, ſtem ſhrubby climbing, umbels lateral compact.

[29. Aſclepias procera. *Bell-flowered gigantic Swallow-wort.*
Ait. hort. kew. 305.
A. gigantea. *Jacq. obſ.* 3. 17. *t.* 69. *Houtt. nat. hiſt.* 7. 749. *t.* 44.
Zja-raek. *Le Brun. it. perſ.* 315. *t.* 184.
Leaves obovate-oblong, petioles very ſhort, corollas ſubcampanulate.

30. Aſclepias parviflora. *Small-flowered Swallow-wort*
Ait. hort. kew. 1. 307.
Leaves lanceolate acuminate ſmooth oppoſite drawn to a point at the baſe, ſtem ſuffruticoſe upright, umbels lateral ſolitary.

31. Aſclepias Linaria. *Toadflax-leaved Swallow-wort.*
Cavan. hiſp. 42. *t.* 57.
Leaves ſcattered, ſubulate-channelled, umbels lateral many-flowered.

32. Aſclepias mexicana. *Mexican Swallow-wort.*
Cavan. hiſp. 42. *t.* 58.
Leaves ſix together in whorls, lanceolate, flowers umbelled.

33. Aſclepias ſuſca.
Lour. cochinch. 170.
Stem creeping, leaves cordate-lanceolate, umbels axillary in pairs.

34. Aſclepias viminalis.
Swartz. prodr. 53. *Brown. jam.* 183. 3. *Sloan. jam.* 1. 207. *t.* 131. (Apocynum.) *Plum. ic.* 27. *f.* 2? (Cynanchum.)
Stem ſuffruticoſe twining filiform, leaves oppoſite lanceolate ſmooth, umbels lateral many-flowered.

DESCRIPTIONS, &c.

The Aſclepiades or Swallow-worts are either ſhrubs or tall upright perennial herbaceous plants, milky and poiſonous, or at leaſt acrid. Leaves in ſome ſpecies alternate, in others oppoſite, in ſome flat, in others revolute or rolled back before they unfold: hence Linneus has divided them into ſeparate phalanxes. The flowers are borne on ſolitary peduncles from the axils, many together in umbels, ſurrounded with a many-leaved involucre. They are very ſingular in their ſtructure, and have been variouſly deſcribed by different authors. Flies, in ſearching for the honey in the nectary, are frequently caught by the legs, and are not able to extricate themſelves. The anthers lie hid within ſcales under a cover, and are conſidered by ſome authors as double or twin, by others as ſeparate in pairs; the latter would refer them to the claſs *Decandria.*

1. Native of the Cape of Good Hope. Introduced in 1783, by Mr. John Græfer. It flowers here in july[a].

2. Stem pubeſcent, branching at bottom. Leaves ſubſeſſile, repand. One umbel of yellow flowers terminates the ſtem. Found at the Cape of Good Hope by Sparrman[b]. Introduced into the Kew garden in 1774, by Mr. Francis Maſſon[c].

3. Stem ſhrubby, ſimple or little branched, very ſhortly villoſe. Leaves on very ſhort petioles, villoſe, pointed, very much veined, rather crowded. Peduncles and umbels villoſe. Flowers purple. Native of the Cape of Good Hope[d].

4. Quite ſmooth with ſhining branches. Leaves petioled, ovate-ſubcordate, veined. Umbels quite ſimple, on peduncles the length of the petiole. Flowers greeniſh[e]. Native of Malabar, Ceylon, and perhaps of the iſle of Tanna in the South Seas.

5. The whole herb is villoſe, except the upper ſurface of the leaves; theſe are approximating, the ſize and ſhape of laurel leaves, heart-ſhaped at the baſe, ſharp at the end. Umbels ſhorter than the leaves, often proliferous. Flowers ſmall. Found in the woods of Ceylon by Koenig. The root is eſteemed in aſthmatic caſes[f].]

6. This riſes to ſix or ſeven feet in height. The leaves are thick. The flowers are white. The pods very large. [The baſe of the petiole is bearded above. The nectaries do not put forth awl-ſhaped horns, but ſolid converging plates. It is deſtructive to ſheep unaccuſtomed to it, as the *Anemone nemoroſa* is[g].]

Mr. Miller ſays, that he received the ſeeds from Hugh duke of Northumberland, who procured them from the Eaſt Indies. [It was cultivated however before in the royal garden at Hampton Court, in 1690. The flowering time is from july to ſeptember[h]. Dr. Patrick Browne ſays, that it is now common in all the Savannas about Kingſton and Old-harbour in Jamaica; and that it is known by the name of *Auricula* or *French Jaſmin.*]

7. This creeps greatly at the root, and ſends up ſtrong ſtems upwards of four feet high; towards the top of them the flowers come out on the ſide; theſe are of a worn-out purple colour, ſmelling ſweet; and ſometimes they are ſucceeded here by large oval pods. It flowers in july.

[Native of North America. Parkinſon who has deſcribed it very particularly, ſays that it came to him from Virginia, where it groweth abundantly, being raiſed up from the ſeed he received: he muſt have cultivated it therefore before 1629.

The French in Canada eat the tender ſhoots in ſpring, as we do Aſparagus. The flowers are ſo odoriferous as to make it very agreeable to travel in the woods, eſpecially in the evening. They make a ſugar of them in Canada, gathering them in the morning, when they are covered with dew. Poor people collect the cotton from the pods, and fill their beds with it; eſpecially for their Children[i].

On account of the ſilkyneſs of this cotton, Parkinſon calls the plant *Virginian ſilk.*

Kalm ſays that horſes never eat it. The ſtems dye a good olive colour.

8. Height from a foot and half to three feet and even more. Stems round, ſmooth, the ſize of a ſwan's quill. At each joint are two leaves, two or three inches wide, and three or four inches long, ending in a bluntiſh point, thickiſh and ſtiff, ſmooth and ſhining above, whitiſh beneath, with the midrib and ſome of the other nerves purple; the lower leaves are ſmaller and rounder. The umbels of flowers come out from the top of the ſtalks and ſome of the upper axils. They are without ſmell. The nectaries approximate more, are ſtraighter, longer, ſtiffer, more acute and leſs excavated than in the other ſpecies[k].] The flowers are of a bright purple colour, and make a pretty appearance in july, but are not ſucceeded by pods in England. Mr. Miller was favoured with this ſort by Mr. Peter Collinſon. [It was alſo cultivated in 1732, by James Sherard, M. D. at Eltham[l]. It is a native of North America.

9. Stems many, as thick as the little finger, at bottom quadrangular with blunted angles, and of a browniſh green colour; above round and green, a little hairy. Leaves on ſhort petioles, from four to ſix inches long, and two or three broad; the midrib purple. The flowers differ from thoſe of the foregoing ſort, in having the petals of a duſky herbaceous colour, the horns of the nectaries paler, more gaping, not erect but horizontal[m]. It is native of North America; was cultivated in 1732, by Dr. Sherard and flowers from july to ſeptember[n].

Linneus obſerves, that this ſpecies is very nearly related to *A. ſyriaca.*

10. This alſo, according to Linneus, is allied to *A. ſyriaca.* Dillenius ſays, that it approaches very near to the *amoena,* but that the ſtems are ſhorter and commonly variegated with duſky purple ſpots; the leaves broader and rounder, more excavated, leſs rigid, not ſhining, not hoary underneath, with the oblique veins deeper, ſo as to be even grooved; the flowers larger, pale, duſky fleſh-coloured, ſweet

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[a] Hort. kew.
[b] Linn. ſuppl.
[c] Hort. kew.
[d] Linn. mant.
[e] Linn. ſuppl.
[f] Ibid.

[g] Linn. from Rumph. amb. 7. p. 25.
[h] Hort. kew.
[i] Kalm's travels, 3. 28. engl. edit.
[k] Dillenius.
[l] Hort. kew.
[m] Dillenius.
[n] Hort. kew.

ſmelling, the horns of the nectaries ſtanding out and gaping more.]

According to Mr. Miller, this reſembles the foregoing ſort, but the leaves are rough, and the umbels of flowers more compact; they come out on the ſide of the ſtalk, are of an herbaceous colour, and are not ſucceeded by pods in this country.

[Native of North America. It appears from Plukenet to have been cultivated in 1696, and flowers in july [o].

11. *Stem* from a foot to two or three feet in height, upright, ſimple or generally ſo, round, pubeſcent, milky. Leaves oppoſite and decuſſated, petioled, acute, entire, ſmooth on both ſides. *Flowers* in umbels: umbellules terminating, or oppoſite to the terminating leaflet in pairs, peduncled. Involucre none, but only a few ſubulate leaflets. Peduncle the length of the leaves: pedicels ſhorter, one-flowered. Calyx of five, lanceolate, reflex leaflets, Corolla reflex. Nectaries five, round the middle corpuſcle, ovate, ear-cowled obliquely inwards, with a little horn from the nectareous baſe ſabre-ſhaped bent in towards the genitals. In the middle is a truncate corpuſcle, hollowed at the tip, bluntly five-cornered, covered with five ſcales at the ſides, and gaping with as many chinks. Scales hollowed within. Glands five, roundiſh, black, to which are fixed above, within the ſcales, pairs of glanduliferous pedicels, in place of anthers; theſe glands are oblong, pellucid, panduriform, and filled with prolific moiſture. Germs two, ovate, acuminate; ſtyles two, ſubulate, hid within the column; ſtigmas ſimple, obtuſe. Follicles oblong, acuminate, toothleſs, ventricoſe ſmooth [p]. Linneus ſays, that the follicles are finely toothed on the ſides: and Dillenius, that they are fuſiform, with here and there a prominent ſpiny tooth. Browne obſerves, that the flowers are of a fine ſaffron colour in the low lands, but that in the cooler inland paſtures they change to a white. It reſembles the *nivea* very much, and Swartz doubts whether this be really diſtinct from it. Dillenius remarks, that the leaves are paler underneath, ſhorter and blunter than in the *nivea*. The ſtems have a ſcarcely perceptible pile on them: and the root is compoſed of equal fibres, whitiſh, and hardly ſo big as oat ſtraws.]

Mr. Miller affirms, that theſe roots have been ſent to England for Ipecacuanha, from which however they may be eaſily diſtinguiſhed, the true Ipecacuanha having jointed, fleſhy roots, which run deep into the ground. [The juice of the plant, made into a ſyrup with ſugar, has been obſerved to kill and bring away worms wonderfully, even when moſt other vermifuges have failed; it is given to children in the weſt-Indies from a tea ſpoonful to a table ſpoonful. The juice, and pounded plant is applied to ſtop the blood in freſh wounds; and is ſaid to be a powerful aſtringent in ſuch caſes. The root dried and reduced to powder, is frequently uſed by the negroes as a vomit; and hence its name of *Wild* or *Baſtard Ipecacuanha* [q].

Native of South America, the Weſt-Indian iſlands, and China near Canton.

It was cultivated in 1692, in the royal garden at Hampton Court; and flowers from june to ſeptember [r].

12. Stems a foot and half or two feet high, ſtraight, round, the ſize of a ſwan's quill, dark green. Leaves like thoſe of common Perſicaria, deep green above, pale beneath, ſmooth, rather ſtiff. The flowers have no ſmell. It is ſo like the foregoing, that before they flower it is difficult to diſtinguiſh them; but their flowers are very different, and their follicles are not alike [s].

The corollas are green with white nectaries. It differs from the laſt in having leaves by no means ſhining, but a little rough, and more rounded at the baſe, not perfectly lanceolate. The follicles alſo are not toothed [t].

Native of North America. Mr. Miller ſays that the ſeeds were ſent him from La Vera Cruz: and Dillenius, that it is wild in the Weſt-Indian iſlands. Cultivated in 1732, by James Sherard, M. D. It flowers from july to ſeptember [u].]

13. This puts out ſeveral upright ſtalks about two feet high; at the top are produced cloſe umbels of purple flowers; theſe appear in auguſt, but are not ſucceeded by ſeeds here. It firſt came from Canada, but has ſince been found growing naturally in ſeveral other parts of America.

[It was cultivated by Mr. Miller, in 1731 [x].]

14. This has declining ſtalks, which are hairy, and eighteen inches in length. The leaves are narrow. The umbels grow at the extremity of the branches, are compact, and the flowers are of a bright orange colour. It is a native of North America.

[15. This is ſo like the *Vincetoxicum* or common Swallow-wort, as ſcarcely to be diſtinguiſhed from it; the leaves however are leſs cordate, the corymbs compound and ſcarcely longer than the petiole, whereas in that they are as long as the leaves. Native of Ceylon [y].

16. Root very large and much branched:] it is compoſed of many ſtrong fibres which are connected at the top, like thoſe of Aſparagus. From this ariſe many ſtems, in number proportioned to the ſize of the root, near two feet high, very ſlender at the top, [woody, round, hairy, not branched. Leaves cordate-ovate, acuminate, ſmooth, hardiſh, quite entire, glaucous-green, the midrib and ſometimes the edge of the leaves a little hairy: petioles ſhort. Peduncles axillary, many-flowered, reſembling proliferous umbels. Calyx ſmall, green, divided at the end into five briſtles. Corolla commonly white. Follicles ovate-acuminate. Seeds ſmall, brown, wrapped in white cotton [z]. It flowers in june, ſometimes in may, and continues flowering to auguſt. It is a native of moſt parts of the continent of Europe, and it is ſingular, according to the remark of Linneus, that it ſhould not be found wild in Great Britain.

It was formerly eſteemed to be an alexipharmic and hence its name of *Vincetoxicum* (Tame-poiſon), abſurdly compoſed of a latin and a greek word. It has been alſo recommended in dropſical caſes, and diſorders peculiar to women, but is diſuſed in the preſent practice. Certainly it is too ſuſpicious a plant to be taken internally without great caution. The external application for foul ulcers, abſceſſes of the breaſt, and ſcrophulous tumours, is more plauſible. No animal, except the goat, is ſaid to eat it. Linneus however affirms, that the horſe will crop it, after it is froſt-bitten. The down or cotton may be uſed for ſtuffing cuſhions, pillows, *&c.*

Our common Engliſh name *Swallow-wort*, is from the Dutch *Swaluw-wortel*; and that is a tranſlation of the old appellation *Hirundinaria*, under which it is found in Brunfelſius and ſome other ancient botaniſts, from a fancied reſemblance of the follicles or ſeeds to a ſwallow flying. Gerard ſays, it is called of our gentlewomen *Silken Ciſlie*. In German it is *Schwalbenkraut* or *Schwalbenwurz*, *Giftwende*, *Giftwurz*, *St. Lorenzkraut*. In Daniſh, *Svalerod*. In Swediſh, *Tulkört*, or *Rylört*. In French, *Dompte-venin* or *Herbe St. Laurent*. In Italian, *Vintoſſico*. In Spaniſh, *Vencetoſico*. In Portugueſe, *Vincetoxico*. In Ruſſian, *Tſchortowa boroda*. or *Liſtawitſchei koren*.

It was cultivated by Gerard in 1597.

β. Haller mentions, that this ſpecies varies with yellow flowers. This is the third ſort in Miller; and he ſays it differs from the other not only in the colour of the corolla, but in having narrower leaves, weaker ſtalks, and ſingle umbels. There is a variety of this with broader leaves.

Though the leaves commonly grow in pairs, yet Pontedera obſerves, that there are ſometimes three together.]

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[o] Hort. kew.

[p] Swartz.

[q] Browne.

[r] Hort. kew.

[s] Dillenius.

[t] Linneus.

[u] Hort. kew.

[x] Ibid.

[y] Linneus.

[z] Haller & Krocker.

17. *Black Swallow-wort* agrees with the common or officinal ſort in the ſhape of its roots, leaves, and flowers, but the ſtalks extend to a greater length, and toward their upper part twiſt round any ſticks, or other plants near them; and the flowers are black.

[Linneus obſerves, that the nectaries in this and the foregoing ſpecies are five truncated calluſes, without any horn or proceſs.

The two follicles are oblong, from a ſwelling baſe narrowing upwards, convex on one ſide, flattiſh on the other, ſomewhat compreſſed on the ſides. Receptacle linear-oblong, fungoſe, compreſſed, free. Seeds eight or ten, ovate, leafy-compreſſed, concavo-convex, rufous, cinnamon coloured, crowned with a bundle of long, ſimple, ſilky, white hairs: integument ſingle, membranaceous, ſlender: embryo inverted, yellow; ſeed-leaves ovate; radicle compreſſed, ſhort, ſuperior [a].

Monſ. Villars mentions his having obſerved a variety of the common Swallow-wort near the Grande Chartreuſe, with ſtems twiſting at top, and ſmaller flowers of a duſky green as well as the leaves. He conjectures that this may connect theſe two ſpecies, which to him never ſeemed to be really diſtinct.

This ſort is by no means ſo common as the foregoing, having been found only in the ſouth of France, the mountains about Nice, and in Spain. It flowers at the ſame time with the other: and was cultivated in 1596, by Gerard [b].

18. Stem ſhrubby, rough with hairs, upright, as thick as the finger. Leaves oppoſite, on very ſhort petioles, ending rather obtuſely but with a minute point, and ſmooth. Peduncles from the ſummit of the ſtem, umbelled, villoſe. Corollas white. This has the flower and fruit of the next ſpecies [c].

Native of the Cape of Good Hope. Cultivated in 1714, by the Dutcheſs of Beaufort. It flowers in december [d].

19. The nectaries are compreſſed without a claw, inſtead of which are two long, reflex ears. Follicles inflated, ſet with ſoft prickles [e].

This alſo is a native of the Cape, and was cultivated by the Dutcheſs of Beaufort, in 1714. It flowers from june to ſeptember [f].

β. Is a relation of the other, either the ſiſter or the danghter. It agrees with that in having a ſhrubby ſtem, revolute leaves, and toothed follicles; but differs in the breadth and hairineſs of the leaves: the ſtructure ſhows that it is derived from the other [g].

The thirteenth and fourteenth ſpecies of Miller are varieties of this.] They are all natives of the Cape of Good Hope, and riſe with upright ſhrubby ſtems to the height of ſeven or eight feet, dividing into many branches. The leaves are long, narrow and ſmooth, ending in a point; the flowers are white, and grow looſely in the umbel on long peduncles; they are frequently ſucceeded by ſhort, thick, ſwelling pods, ending in a point and thick ſet with hairs. They flower from june to october.

[20. The native country of this ſpecies is unknown. I have adopted the trivial name from Reichard; that of *undulata* having been before appropriated to the firſt ſpecies.

21. This varies with alternate leaves, and ſometimes there are three together [h]. It is a native of Siberia, was cultivated in 1775 by Mr. James Gordon, and flowers in july and auguſt [i].]

22. This riſes with ſlender upright ſtalks, at the top of which grow umbels of ſmall white flowers, appearing in july, but never ſucceeded by pods in England. [The leaves are frequently four together. The peduncles forming an umbel are oppoſite to the leaves [k]. It is a native of North America, and was cultivated in 1759, by Mr. Miller [l].

23. Stem upright, ſimple, annual. Leaves acuminate. Several umbels on a peduncle. Native of Virginia [m].

24. Stems a foot high, hairy, round, duſky red. Leaves alternate, except on the upper part of the ſtem. Below where it branches are generally two leaves, and at the place of branching four: on the branches themſelves the leaves are again alternate [n]. The flowers are bright orange colour. The tuberous roots are very large. It is a native of North America; and was cultivated in 1690, in the royal garden at Hampton Court. It flowers from the end of july to ſeptember [o], and ſometimes ripens ſeeds in England.

25. This ſpecies, *Apocynum filiforme*, and *Cynanchum filiforme*, are at firſt ſight extremely alike, and the herb is the ſame, at leaſt as to the form of the leaves, with different flowers. It was found at the Cape of Good Hope by Thunberg.

26. The flower of this is very large, coloured and teſſelated like the Fritillary. It was found alſo at the Cape by Thunberg.

27. Leaves ſcarcely four inches long, without veins. Petioles fleſhy, half the length of the leaves. Umbel ſimple, axillary, ſolitary. Calyx minute. Corolla little divided, ſcarcely half five-cleft, flat. This ſpecies is very different from the reſt. It is a native of China [p].]

28. Stems climbing, faſtening themſelves to the neighbouring plants, and riſing to the height of ten or twelve feet: the joints are diſtant; at each joint are two oppoſite leaves on ſhort footſtalks. The umbels are axillary, and the flowers are of a ſulphur colour. Theſe appear in auguſt, but have not been ſucceeded by ſeeds in England. It is a native of Carthagena in South America. [Cultivated by Mr. Miller, in 1759.

29. This is a native of Perſia, it was cultivated in 1714, by the Dutcheſs of Beaufort; and flowers from july to ſeptember [q].

It ſhould be placed immediately before *A. gigantea*, n. 6.

30. This is a native of Carolina and Eaſt Florida. It was introduced in 1774, by John Fothergill, M.D., and flowers from july to october [r].

31. Stems a foot high, round, ſomewhat rugged, little branched. Leaves very numerous, narrower at the baſe, ſeſſile at a tubercle. Involucre many-leaved, with ſharp leaflets. Pedicels or rays twenty to thirty, ſhort, one-flowered. Calyx ſmall, deeply five-parted, with ſharp ſegments. Corolla white, ſegments ovate-acute, reflex: horns white, upright, ſurrounding the genitals; an upright club-ſhaped corpuſcle occupies the centre of each. In the centre of theſe horns is lodged a caſe or ſheath, one-leafed at the baſe, but divided into ten ſegments, alternately longer and flat, and ſhorter with a little membrane on the outſide: at the ſummits of the ſhorter ſegments are five roots of anthers, brown, ovate, ſharp at the baſe, whence hang two bowed filaments, thickening into a club. Germs two, cloſe together at the bottom of the caſe, ending in ſubulate ſtyles: ſtigma ſimple, five-cornered, whitiſh, crowning the caſe in which the roots of the ſtamens are planted.

The native country is unknown. It has been cultivated in the royal garden at Madrid ſince 1788, and flowers there from auguſt to october, but has not perfected its fruit [s].

32. Stems upright, round, very ſmooth, a foot and a half high. Leaves quite entire, ending in a ſhort petiole. There are commonly three umbels in the upper whorls, alternate between each pair of leaves: the common peduncle is ſhorter than the leaf: involucre many-leaved; leaflets ſhort, lanceolate, curved back: rays or pedicels numerous, half an inch long. Calyx ſhort, half five-cleft, with ſharp ſegments. Corolla white, deeply five-parted; ſegments ovate-acuminate, reflex: in the centre of theſe is a very ſhort pedicel ſupporting the genitals,

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[a] Gærtner. [b] Hort. kew. [c] Linneus. [d] Hort. kew. [e] Linneus. [f] Hort. kew. [g] Linneus. [h] Gmelin. [i] Hort. kew. [k] Linneus. [l] Hort. kew.

[m] Gronovius. [n] Dillenius. [o] Hort. kew. [p] Linn. ſuppl. [q] Hort. kew. [r] Ibid. [s] Cavanilles.

which are ſurrounded firſt by five horns, from which proceed as many horn-ſhaped converging corpuſcles; ſecondly, by five priſmatic pellicles, the acute angles of which project, and with which are placed alternately five little bags, ſcaly at the tip, and two-celled at the baſe. Roots of the ſtamens five, ovate, fixed to the angles of the ſtigma, from the baſe of which proceed threads, at firſt bowed, but afterwards pendulous; theſe gradually grow into a club, and at length are concealed in the cells of the little bags. Germs two, obovate, ſurmounted by conical ſtyles, which end in a common, five-cornered, fungous ſtigma, at the ſides of which are the five ſcales before mentioned. Follicles oblong, acuminate, ventricoſe, ſtriated, two inches long; one of them uſually abortive. Seeds numerous, ovate-compreſſed, reddiſh, crowned with a white down an inch in length. Native of Mexico. Cultivated in the royal garden at Madrid. It flowers at the ſame time with the foregoing, and ripens its fruit at the end of december and in january.

It ſeems to be different from *A. verticillata*, the leaves being near three inches long, and three lines broad, ſix together in a whorl; whereas in that they are ſetaceous, and only four together[t].

33. Stem herbaceous, twining, ſlender, rooting at bottom, very much branched at top. Leaves bearded at the baſe, oppoſite, petioled, ſmall. Flowers duſky purple, very ſmall, with five, ear-ſhaped nectaries, without horns. Follicles ſmall, ſubulate, ſwelling on the outſide, and flat on the inſide. Seeds ovate, curved, downy.

Native of Cochinchina, in waſte places, and on old walls[u].

34. This plant riſes by very ſlender weakly ſtalks, and frequently ſpreads itſelf to the diſtance of ſome yards from the main root. It has very few leaves, but many flowers diſpoſed in large umbellate groups. The whole plant is of a dark green colour, is very full of milk, and common in the larger inland woods of Jamaica[x].

The proper place of this is between the fourth and fifth ſpecies.

PROPAGATION AND CULTURE.

In this numerous genus, only two ſpecies (16, 17.) are European; two or three are from South America; the reſt are natives of North America, the Eaſt and Weſt-Indies, or Africa. Such as are inhabitants of North America (7—10, 12, 13, 14, 22—24) are, as well as the Europeans, hardy enough to bear the open air; and therefore are proper for large borders in pleaſure grounds, and to mix with ſhrubs. The other ſpecies require the protection of the greenhouſe or ſtove: and all of them are tall perennials, flowering from june to auguſt or ſeptember, moſtly dying down to the root in autumn. They ſhould have little water, eſpecially in winter; for as they abound with a milky juice, much wet will rot them. They may be propagated by ſeeds, where theſe can be obtained; or by cuttings; the hardy ſorts may be increaſed by parting the roots.

1, 2, 3, 18—20, 25—27, 30, muſt have the ſhelter of a greenhouſe in winter.

4, 5, 6, 11, 15, 28, 29, 31—34, will not live but in a ſtove.]

Theſe muſt be raiſed from ſeeds ſown in the ſpring on a hotbed: and being tranſplanted into pots filled with rich earth, muſt be plunged into the tan-bed in the ſtove.

After the ſecond year, the plants of the eleventh ſort grow naked, and do not produce ſo many flowers as before; ſo that it is much better to raiſe young plants to ſucceed the old ones, eſpecially as they produce plenty of ſeeds in England.

All the Cape ſorts (n. 1, 2, 3, &c.) may be propagated by ſeeds, ſown in april, on a bed of light earth, in the open air; and when the plants are three or four inches high, they ſhould be each planted in a ſmall pot filled with light earth, and ſhaded until they have taken new root; then they may be placed with other exotic plants in a ſheltered ſituation until october, when they muſt be removed into the greenhouſe, or dry ſtove. The chief care theſe will require is to ſhift them into larger pots as they advance in their growth; but the pots ſhould not be too large, and in ſummer they may be placed abroad with other plants from the ſame country.

They may alſo be increaſed by cuttings, which, if planted in july or auguſt in a ſhady border, will ſoon take root, and may then be taken up and planted in pots, and managed as the ſeedling plants.

The European and North American ſpecies, are generally propagated by parting the roots in autumn, when their ſtalks begin to decay. The 7th, 9th, 10th, 13th, 16th, and 17th, are hardy plants, and will thrive in any ſituation; but they love a dry ſoil. They may be tranſplanted any time before the roots ſhoot in the ſpring.

The roots of the 8th and 22d ſhould be planted in a warm border, and in winter covered with old tan, to prevent the froſt from penetrating the ground. When they are to be increaſed, it is better to part the roots in ſpring.

The 14th and 24th ſorts are propagated by ſeeds. They ſhould be ſown in pots, and plunged into a moderate hot-bed to bring up the plants, which ſhould be inured to the open air ſo ſoon as the weather will permit; for if they are drawn up weak, they ſeldom recover it. When they are of a proper ſtrength to remove, they ſhould be ſhaken out of the pots, and planted in a warm border ſix inches aſunder, being careful to ſhade them from the ſun until they have taken freſh root. During the ſummer they muſt be kept clean from weeds, and when their ſtalks decay in autumn, ſome rotten tan ſhould be laid over the ground to keep out the froſt, but it ſhould be removed in the ſpring before the plants put out new ſhoots; the following ſummer they will require no other care than before, and alſo the next winter they muſt be covered as in the former. The ſecond ſpring the roots may be tranſplanted where they are to remain; the roots will then be ſtrong enough to flower in ſummer, and will laſt ſeveral years, eſpecially if they are covered with tan to keep out the froſt, but they ſhould not be afterward removed; for when the roots are large, they will not bear tranſplanting.

ASCȲRUM, (*α and* σκίρος *or* σκὺρος, *aſperatus, not rough, a ſoft plant.* Ἄσκυρον *Dioſc.*)

Lin. gen. n. 903. *Reich.* 982. *Schreb.* 1225. *Gærtn.* 62. *Juſſ.* 254.

Hypericoides. *Plum.* 7.

Claſſ. 18. 4. Polyadelphia Polyandria.

Nat. order of *Rotaceæ. Hyperica* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved: the outer leaflets oppoſite, very minute, linear: the inner heart-ſhaped, large, flat, erect: all permanent.

COR. *Petals* four ovate: the outer oppoſite, very large; the inner leſs.

STAM. *Filaments* numerous, briſtle-ſhaped, ſlightly united at the baſe in four parts. *Anthers* roundiſh.

PIST. *Germ* oblong. *Style* ſcarcely any. *Stigma* ſimple.

PER. *Capſule* oblong, acuminate, one-celled, two-valved, incloſed by the larger leaves of the calyx.

SEEDS numerous, ſmall, roundiſh, fixed to the edge of the valves.

OBS. *So many marks, differing from Hypericum, forbid their union, though their appearance be alike, and their affinity great.*

ESSENTIAL CHARACTER.

Cal. four-leaved. *Petals* four. *Filaments* many, in four diviſions.

SPECIES.

1. Aſcyrum Crux Andreæ. *Common Aſcyrum*, or *St. Andrew's Croſs.*

Lin. ſpec. 1107. *Reich.* 3. 601. *hort. cliff.* 494. *Gron. virg.* 113. *Gærtn. fruct.* 1. 298.

Hypericoides ex terra mariana, floribus exiguis luteis. *Pluk. mant.* 104. *Raii ſuppl.* 496.

Leaves ovate, ſtem round, panicle dichotomous.

---

[t] Cavanilles.

[u] Loureiro.

[x] Browne.

2. Aſcyrum Hypericoides.
Lin. ſpec. 1108. *Reich.* 3. 601. *Brown. jam.* 309. *Swartz. obſ.* 294.
Hypericoides fruteſcens erecta, flore luteo. *Plum. gen.* 51. *t.* 152. *f.* 1.
Hypericum pumilum ſempervirens, &c. *Pluk. mant.* 104. *Raii ſuppl.* 495.
Leaves oblong, branches ancipital.

3. Aſcyrum villoſum.
Lin. ſpec. 1108. *Reich.* 3. 601.
Hypericum virg. fruteſcens piloſiſſimum. *Pluk. alm.* 189. *t.* 245. *f.* 6.
Leaves hirſute, ſtem ſtiff and ſtraight.

DESCRIPTIONS, &c.

1. This is a low plant, the ſtalks ſeldom riſing more than ſix inches high; they are ſlender, and divide into two towards the top. From between the diviſions of the branches, looſe panicles of yellow flowers are produced; being very ſmall, they make little appearance. [The capſule is ſmall, pointed to both ends, compreſſed like a lens, obſcurely two-furrowed. Seeds about twenty, ovate-cylindric, marked with rows of hollow dots, blackiſh-brown [a].

It is a native of North America. Mr. Miller cultivated it in 1759, having received it from Hugh Duke of Northumberland, who procured it from America. It flowers in july and auguſt.

2. This is an elegant little ſhrub, ſeldom riſing above three feet in height. It is very full of leaves and branches [b]. The branches are dichotomous; the twigs compreſſed and ancipital. Leaves oppoſite, ſubſeſſile, lanceolate, obtuſe, entire, very finely perforated, ſmooth; at their baſe are very ſmall glands. Flowers terminating, peduncled, ſolitary, yellow. Two leaflets of the calyx are four times as big as the two others, and incloſe them; they are heart-ſhaped, blunt and ſmooth. Corolla cruciform; petals the ſize of the larger leaves of the calyx, ſpreading. Filaments diſtinct, upright, ſurrounding the germ, the length of the petals. Germ oblong, ſharp, compreſſed: ſtyles two, very ſhort: ſtigmas blunt. Capſule compreſſed, covered with the ſhrivelled calyx [c]. Browne alſo obſerves, that the filaments do not ſeem to be joined at the bottom.

It is a native of South Carolina, Virginia, Maryland, and the cooler mountains of Jamaica. Mr. Miller cultivated it in 1579, and received the ſeeds from Carolina.]

3. This grows about three feet high. The flowers are produced at the ends of the ſtalks, and are of the ſame ſhape and colour with common St. John's-wort. It grows naturally in Virginia; and was cultivated alſo by Mr. Miller in 1759.

PROPAGATION AND CULTURE.

Theſe are perennial plants; the ſtems decaying in the autumn. Having little beauty, they are ſeldom cultivated but in botanic gardens.

1. The firſt may be increaſed by laying down its branches; it loves a moiſt ſoil and ſhady ſituation.

2. The ſecond ſort rarely produces ſeeds in England, but it may be propagated by cuttings made of the young ſhoots in may, which, if planted in pots, and plunged into a very moderate hot-bed, will take root in five or ſix weeks, when they may be tranſplanted into a warm border, where they will endure the cold of our ordinary winters; but in ſevere froſts they are frequently deſtroyed, unleſs the roots are covered with tan to keep out the froſt.

3. The third may be increaſed by parting the roots in autumn, when the ſtalks decay; planting them in a loamy ſoil: in ſome years this will produce ſeeds in England.

ASCYRUM. See *Hypericum.*
ASH, Common, Flowering, and Manna. See *Fraxinus.*
[—— Mountain. See *Sorbus.*
—— Poiſon. See *Rhus.*
ASH-WEED. See *Ægopodium.*
ASIGRUM. See *Hypericum.*
ASP, or Aſpen-tree. See *Populus.*]

ASPALATHUS. [The name of a thorny ſhrub in Dioſcorides, from ἀ and σπαω, becauſe the thorns were not eaſily drawn out of the wounds they made. Plato (in rep.) feigns tyrants to be tormented with thorns of Aſpalathus in the infernal regions.]
Lin. gen. n. 860. *Reich.* 931. *Schreb.* 1168. *Gærtn. t.* 144. *Juſſ.* 353.
Achyronia. *Royen.*
Claſſ. 17. 4. Diadelphia Decandria.
Nat. order of *Papilionaceæ* or *Leguminoſæ.*

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-cleft: *diviſions* acuminate, equal, except that the upper is larger.
COR. papilionaceous: *banner* compreſſed, aſcending, obovate, generally hirſute on the outſide, obtuſe with a point: *wings* lunulate, obtuſe, ſpreading, ſhorter than the banner: *keel* bifid, conformable with the wings.
STAM. *Filaments* ten, united into a ſheath gaping longitudinally at top, aſcending. *Anthers* oblong.
PIST. *Germ* ovate. *Style* ſimple, aſcending. *Stigma* ſharp.
PER. *Legume* ovate, awnleſs.
SEEDS generally two, kidney-ſhaped.
OBS. *This genus is ſingular in having ſeveral leaves from the ſame bud, in a ſhrubby plant.*

ESSENTIAL CHARACTER.

Cal. five-cleft: the upper diviſion largeſt. *Legume* ovate, awnleſs, with about two ſeeds.

SPECIES.

[1. Aſpalathus ſpinoſa. *Thorny Aſpalathus.*
Lin. ſpec. 1000. *Reich.* 3. 409. *Gærtn. fruct.* 2. 304.
Geniſtella ſpinoſa africana, laricis folio. *Breyn. cent. t.* 26. *Pluk. phyt. t.* 297. *f.* 6.
Leaves faſcicled linear naked ſurrounding a gemmaceous ſpine.

2. Aſpalathus verrucoſa. *Warted Aſpalathus.*
Lin. ſpec. 1001. *ſyſt.* 646. *Reich.* 3. 409.
Leaves faſcicled filiform, buds warted tomentoſe naked.

3. Aſpalathus capitata. *Headed Aſpalathus.*
Lin. ſpec. 1000. *ſyſt.* 646. *Reich.* 3. 410. *amæn.* 6. *afr.* 30. *Berg. cap.* 202. *Pluk. phyt.* 307. *f.* 6. *Seba muſ.* 1. *t.* 23. *f.* 6.
Leaves faſcicled linear ſharp, flowers headed, bractes naked.

4. Aſpalathus glomerata. *Glomerate Aſpalathus.*
Lin. ſyſt. 646. *ſuppl.* 321.
Leaves faſcicled linear ſharp villoſe bent inward, flowers headed, diviſions of the calyx ovate, corollas ſmooth.

5. Aſpalathus aſtroites. *Starry Aſpalathus.*
Lin. ſpec. 1000. *Reich.* 3. 410.
Geniſta aſtroites, &c. *Pluk. mant.* 88. *t.* 413. *f.* 3. *Raii dendr.* 104. *Seba muſ.* 1. *t.* 24. *f.* 6.
Leaves faſcicled ſubulate mucronate ſmooth, ſtem villoſe, flowers ſcattered.]

6. Aſpalathus chenopoda.
Lin. ſpec. 1000. *ſyſt.* 646. *Reich.* 3. 410. *Berg. cap.* 200.
Geniſta africana lutea, &c. *Herm. afr.* 11.
Chamælarix. *Breyn. cent.* 23. *t.* 11. *Seba muſ.* 1. *t.* 23. *f.* 4.
Leaves faſcicled ſubulate mucronate rough with hairs, flowers headed very hirſute.

[7. Aſpalathus albens. *White Aſpalathus.*
Lin. ſyſt. 646. *Reich.* 410. *mant.* 261.
Leaves faſcicled ſubulate ſilky ſpreading at top, bunches of flowers ſcattered.

8. Aſpalathus thymifolia. *Thyme-leaved Aſpalathus.*
Lin. ſpec. 1000. *Reich.* 411.
Gen. minima æthiopica, &c. *Pluk. mant.* 88. *t.* 413. *f.* 1.
Leaves faſcicled ſubulate unarmed ſmooth very ſhort, flowers alternate.

9. Aſpalathus ericifolia. *Heath-leaved Aſpalathus.*
Lin. ſpec. 1000. *ſyſt.* 646. *Reich.* 411. *Berg. cap.* 205.
Gen. æth. non ſpinoſa, &c. *Pluk. mant.* 88. *t.* 413. *f.* 6.
Leaves faſcicled linear unarmed hirſute, flowers alternate, calyxes linear.

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[a] Gærtner. [b] Browne. [c] Swartz.

10. Aſpalathus nigra. *Black Aſpalathus.*

Lin. ſyſt. 646. *Reich.* 411. *mant.* 262.

Leaves faſcicled linear rather obtuſe, flowers headed-ſpiked pubeſcent.

11. Aſpalathus carnoſa. *Fleſhy Aſpalathus.*

Lin. ſyſt. 646. *Reich.* 411. *mant.* 261. *Berg. cap.* 206.

Leaves faſcicled almoſt columnar obtuſe, calyxes ſub-pubeſcent ſharp, corollas ſmooth.

12. Aſpalathus ciliaris. *Ciliate-leaved Aſpalathus.*

Lin. ſyſt. 647. *Reich.* 3. 412. *mant.* 262.

Leaves faſcicled filiform ſcabrous, flowers terminal ſeſſile, banners pubeſcent.

13. Aſpalathus geniſtoides. *Broom-like Aſpalathus.*

Lin. ſyſt. 647. *Reich.* 3. 412. *mant.* 261.

Leaves faſcicled filiform poliſhed, calyxes ſubracemed pendulous, they and the corollas ſmooth.

14. Aſpalathus Hyſtrix. *Porcupine Aſpalathus.*

Lin. ſyſt. 647. *ſuppl.* 322.

Leaves faſcicled filiform rigid ſpiny ſilky, flowers lateral ſeſſile ſolitary, corollas villoſe.

15. Aſpalathus galioides.

Lin. ſyſt. 647. *Reich.* 3. 412. *mant.* 260. *Berg. cap.* 210.

Leaves faſcicled linear poliſhed, peduncles two-flowered elongate leafy at the end.

16. Aſpalathus retroflexa.

Lin. ſpec. 1001. *Reich.* 3. 413.

Leaves faſcicled ſubulate ſmooth very ſmall, branches filiform very ſpreading, flowers ſolitary, terminal.

17. Aſpalathus uniflora. *One-flowered Aſpalathus.*

Lin. ſpec. 1001. *ſyſt.* 647. *Reich.* 413.

Gen. æthiop. glabra, &c. *Pluk. mant.* 88. *t.* 414. *f.* 7.

Leaves faſcicled linear unarmed ſmooth, ſtipules ſharp permanent, flowers ſolitary, diviſions of the calyxes boat-ſhaped.

18. Aſpalathus araneoſa.

Lin. ſpec. 1001. *ſyſt.* 647. *Reich.* 413. *Berg. cap.* 203.

Gen. æth. flore flavo, *&c.* *Pluk. mant.* 88. *t.* 414. *f.* 4. *Seba theſ.* 1. *p.* 38. *t.* 23. *f.* 6.

Leaves faſcicled briſtle-ſhaped unarmed hiſpid, flowers headed.

19. Aſpalathus aſparagoides.

Lin. ſyſt. 647. *ſuppl.* 321.

Leaves faſcicled ſetaceous rather hairy, calyxes leaf-ſhaped the length of the corolla ſolitary.

20. Aſpalathus ſericea. *Silky Aſpalathus.*

Lin. ſyſt. 647. *ſuppl.* 321.

Leaves faſcicled lanceolate ſilky, peduncles terminal two-flowered, banner almoſt naked.

21. Aſpalathus caneſcens. *Hoary Aſpalathus.*

Lin. ſyſt. 647. *Reich.* 414. *mant.* 262.

Leaves faſcicled ſubulate tomentoſe-ſilky, flowers lateral, banners pubeſcent.

22. Aſpalathus heterophylla. *Various-leaved Aſpalathus.*

Lin. ſyſt. 647. *ſuppl.* 321.

Leaves of the branches faſcicled, of the branchlets ternate linear rough with hairs; ſpikes terminal, calyx and corollas villoſe.

23. Aſpalathus indica. *Small-flowered Aſpalathus.*

Lin. ſpec. 1001. *Reich.* 414.

Geniſta. *Lin. fl. zeyl. n.* 271.

Lotus tenuifolius maderaſpatanus, &c. *Pluk. alm.* 225. *t.* 201. *f.* 2. *good.*

Dorycnium indicum, &c. *Raii ſuppl.* 471. 39.

Manelli. *Rheed mal.* 9. 69. *t.* 37.

Leaves quinate ſeſſile, peduncles one-flowered.

24. Aſpalathus cretica. *Evergreen Aſpalathus.*

Lin. ſpec. 1002. *Reich.* 415.

Gen. arborea cretica, fol. ſempervirentibus. *Zan. hiſt.* 99. *t.* 39. *Raii hiſt.* 1728.

Leaves trine wedge-ſhaped ſmooth, the lateral ones ſhorter, ſtipules obſolete, flowers headed.

25. Aſpalathus quinquefolia. *Five-leaved Aſpalathus.*

Lin. ſpec. 1002. *Reich.* 415. *amæn.* 6. *afr.* 31.

Cytiſus. *Pluk. alm.* 128. *t.* 273. *f.* 4.

Leaves in fives ſeſſile, peduncles ſpiked.

26. Aſpalathus tridentata. *Three-toothed Aſpalathus.*

Lin. ſpec. 1002. *Reich.* 3. 415.

Leaves trine lanceolate ſmooth, ſtipules three-toothed mucronate, flowers headed.

27. Aſpalathus piloſa. *Hairy Aſpalathus.*

Lin. ſyſt. 648. *Reich.* 3. 415. *mant.* 263.

Leaves tern linear villoſe, heads terminal very hairy, corollas pubeſcent.

28. Aſpalathus anthylloides.

Lin. ſpec. 1002. *Reich.* 3. 415. *Berg. cap.* 211.

Anthyllis aſphaltoides, &c. *Amæn.* 4. 326.

Leaves trine lanceolate equal ſubpubeſcent, ſtipules none, heads terminal.

29. Aſpalathus laxata. *Looſe-leaved Aſpalathus.*

Lin. ſyſt. 648. *Reich.* 3. 416. *mant.* 263.

Leaves tern linear villoſe, flowers in bunches of five, calyxes woolly, ſtems proſtrate round.

30. Aſpalathus argentea. *Silvery Aſpalathus.*

Lin. ſpec. 1002. *ſyſt.* 648. *Reich.* 3. 416.

A. ſericea. *Berg. cap.* 212.

Cytiſus afric. anguſtifolius, &c. *Pluk. mant.* 63.

Leaves trine linear ſilky, ſtipules ſimple mucronate, flowers ſcattered tomentoſe.

31. Aſpalathus calloſa. *Callous Aſpalathus.*

Lin. ſpec. 1002. *ſyſt.* 648. *Reich.* 3. 416. *Berg. cap.* 209.

Cytiſus trifoliatus, &c. *Pluk. mant.* 63. *t.* 345. *f.* 4.

Leaves trine ſubulate equal, ſtipules roundiſh callous, flowers ſpiked ſmooth.

32. Aſpalathus orientalis. *Levant Aſpalathus.*

Lin. ſyſt. 648. *Reich.* 3. 417. *mant.* 263.

Cyt. orient. fl. amplis glomeratis. *Tournef.*

Leaves ternate lanceolate pubeſcent, flowers in bunches of five, calyxes pubeſcent, ſtems erect angular.

33. Aſpalathus mucronata.

Lin. ſyſt. 648. *ſuppl.* 320.

Leaves tern poliſhed, branches acuminate, flowers in racemes.

34. Aſpalathus pinnata. *Pinnate-leaved Aſpalathus.*

Lin. ſpec. 1003. *Reich.* 3. 417. *amæn. acad.* 6. *afr.* 32.

Leaves pinnate-quinate obcordate, peduncles headed.

35. Aſpalathus pedunculata. *Small-leaved Aſpalathus.*

L'Herit. ſert. angl. t. 26. *Ait. hort. kew.* 3. 16.

Leaves faſcicled ſubulate ſmooth, peduncles filiform twice the length of the leaf.

36. Aſpalathus candicans. *Fair Aſpalathus.*

Ait. hort. kew. 3. 17.

Leaves trine and faſcicled filiform ſilky, flowers ſub-lateral, banners naked.

37. Aſpalathus arborea. *Tree Aſpalathus.*

Lour. cochinch. 431.

Leaves pinnate-quinate, racemes terminating.

DESCRIPTIONS, *&c.*

The plants of this genus, with very few exceptions, are natives of the Cape of Good Hope. They are ſhrubby, or at leaſt under-ſhrubs. The leaves are ſimple, faſcicled or in bundles, commonly linear. The flowers are moſtly yellow, ſeſſile, lateral, or terminating, in round heads, or ſpikes. *A. Ebenus* does not belong to this genus; and it may be doubted whether the ſpecies with ternate and quinate leaves ſhould be ranged under it [a].

1. Flowers lateral, ſcarcely longer than the leaves [b]. Legume ſmall, the baſe ovate, triangular upwards, drawn to a point, compreſſed like a lens; it contains one or two whitiſh ſeeds, one kidney-ſhaped, compreſſed a little, the other ſubglobular, flattiſh or angular on the ſide where they touch [c].

2. This is a woody ſhrub, two feet high, with large buds or warts. Leaves fleſhy, ſmooth, ſharpiſh, an inch long. Flowers lateral, ſhorter than the leaves, ſubſeſſile. Calyx pubeſcent. Banner villoſe [d].

3. Leaves pubeſcent. Flowers covered with a ferruginous down. The ſegments of the calyx awl-ſhaped [e]. It differs from the ſixth, in having the leaves more curved inwards, ſharp but not prickly; the heads naked, not hirſute; the keel of the flower arched and the length of the banner [f].

4. This differs from the laſt, which it reſembles very much, in having the leaves bent inwards, the calyxes ovate, the corollas ſmooth [g].

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[a] Juſſieu. [b] Plukenet. [c] Gærtner. [d] Linneus. [e] Ibid. [f] Linn. amæn. [g] Linneus.

5. This has the appearance of Juniper[h]. It branches very much; and the twigs are covered with a hoary down, and are loaded with ſuch an abundance of flowers, that the whole plant ſeems almoſt covered with them[i].]

6. This is a low ſhrub, growing about three feet high, with ſlender branches, at the ends of which the flowers come out; they are yellow, collected in woolly heads, and are rarely ſucceeded by pods in England. [The leaves are ſharp and prickly at the end, reſembling thoſe of Juniper[k]. Cultivated by Mr. Miller, in 1759.

7. Stem ſhrubby, upright, with a brown bark full of chinks; the extreme twigs ſomewhat tomentoſe. Leaves five together, ſharp and ſpreading a little at the tip, of a ſilky whiteneſs. Bunches of flowers terminating, ſilky-white, ſmall, ſeveral, glomerate, peduncled. Calyx pubeſcent. No bracte under the calyx, but one under the pedicel. Corolla tomentoſe, white[l]. Introduced in 1774, by Mr. Fr. Maſſon. It flowers here in july[m].

8. This is a very ſmall ſhrub. The leaves are crowded together and ſhining; they reſemble thoſe of thyme[n].

9. This is a ſmall ſhrub pubeſcent or extremely hirſute, very much branched. Leaves minute. Flowers lateral, ſcarcely longer than the leaves; banner villoſe[o].

10. This is a very branching little ſhrub, three feet high; the twigs are ſometimes pubeſcent; buds crowded, pubeſcent. Leaves minute, ſmooth or pubeſcent, becoming black in drying. Flowers terminating, at firſt in heads, then in ſpikes, ſeſſile. Calyx pubeſcent. Bractes in pairs, narrow. Corolla wholly pubeſcent, yellow[p].

11. Stem ſhrubby, very branching, three feet high, naked, the branches determinate. Leaves from four to ſeven together, ſubcylindric, fleſhy, bent in, ſmooth. Flowers terminating, umbelled, four or ſix: peduncles very ſhort, pubeſcent. Calyx bell-ſhaped, ſcarce apparently pubeſcent, acute. Bractes three ovate-lanceolate. Corolla yellow[q].

12. Stem ſhrubby, two feet high, branching determinately, with naked warts, the branches ſomewhat hairy. Leaves roundiſh, ſharpiſh, erect, above flat and ſmooth, beneath rough, when tender ciliate and having a few ſcattered hairs on the outſide. Flowers three or five. Calyx hairy, with awl-ſhaped, ſpiny teeth, nearly the length of the corolla, which is yellow with an aſh-coloured banner[r].

13. Stems ſhrubby, nine feet high, upright, ſimply branching, with a netted bark, and white-villoſe buds. Leaves roundiſh, half an inch long. Flowers terminating, three or four, pendulous. Calyx ſmooth, with ſhort teeth. Bractes two, minute. Corollas yellow. Style protruded[s].

14. This is a ſhrub very diſtinct from the others, by its leaves reſembling ſilky white ſpines[t].

15. Stem two feet high, decumbent, branching, ſmooth. Warts of the buds remote, ſmall, tomentoſe. Leaves reſembling thoſe of Aſparagus, acute. Peduncles much longer than the leaves, ſmooth, with a bunch of leaves at the top, among which are two ſeſſile flowers. Calyx one-leafed, ſmooth, with teeth the length of the corolla, which is ſmooth and yellow. Legume ovate-lanceolate, ſmoothiſh[u].

17. This is a ſhrub with alternate branches, crowded and tomentoſe. Flowers terminating, one or two, pubeſcent: diviſions of the calyx ovate, concave, the length of the calyx. Keel of the corolla tomentoſe[x].

18. The leaves, when the long reddiſh ſcattered hairs are taken off, are rough on all ſides with tubercles. Banner hairy on the outſide[y].

19. This is a very branching ſhrub, ſubpubeſcent, with ſmall pubeſcent warts from the falling of the leaves. Leaves ſharp but not ſtiff, having thinly ſcattered hairs on them. Flowers ſolitary, ſeſſile; teeth of the calyx almoſt the length of the corolla, and hairy as that is: banner ſcarcely pubeſcent[z].

20. This is very like the foregoing, but the leaves are flat, and none of them in heads. Flowers large, ſmooth; banner not villoſe except a little on the keel that runs along the back[a].

21. Stem ſhrubby, erect, ſtiff, a little hoary, with alternate branches. Leaves ſharpiſh. Flowers ſeſſile, from the ſides of the branches towards the end. Calyx bell-ſhaped, pubeſcent, with teeth awl-ſhaped, remote, ſhorter than the body of it. Bractes two, ſetaceous, ſhort. Corolla yellow, with a hoary, pubeſcent banner. This ſpecies is nearly allied to the eighteenth, in which the diviſions of the calyx are four times the length of the body[b].

22. This is ſingular in having the lower leaves in bunches, the upper ternate. Spikes very long; flowers yellow. The rudiments of the twigs make bunches of leaves on the branches themſelves[c].

This, and all the foregoing ſpecies, are natives of the Cape of Good Hope.

23. This is a ſhrub with ſlender hard round twigs; branches alternate ſhort. Leaves alternate, leaflets oblong obtuſe ſeſſile broader towards the end, bluntiſh ſmooth, the ſide ones a little ſhorter. Peduncles from each of the axils, longer than the leaf. Legumes half as long again as the peduncles[d].] It grows about five feet high. The flowers are of a pale red colour; they appear in auguſt, but are ſeldom ſucceeded by pods here. [It is a native of the Eaſt-Indies; and was cultivated by Mr. Miller, in 1759[e].

24. Height four feet and an half. Trunk three or four inches thick, branching from top to bottom: branches very flexible, divided and ſubdivided. Leaves very many, ſmall, narrow, oblong, thick, fleſhy, evergreen, they are reflex at the edge, and in a point which is hard but not prickly, and have ſometimes two ears at the baſe. Peduncles axillary on the uppermoſt twigs, with flowers in two rows, two, three, or four together, yellow, very ſmall, with a pleaſant ſmell. Legume very ſmall and ſhort, rufous yellow, ſharp at the end, containing a ſingle, round, flat, ſhining ſeed[f].

25. Leaflets lanceolate, petioled, a little hairy, mucronate, the ſide ones a little ſhorter. Peduncles many times longer than the leaves, raceme-ſpiked; the corollas tomentoſe above[g].

26. This, the two ſpecies immediately foregoing, and thoſe which follow, except the thirty-ſecond, are natives of the Cape of Good Hope.

27. Stems ſuffruticoſe, ſimple and a little hairy. Leaves ſeſſile acute ſpreading ſubpubeſcent. Head of flowers protected by bractes and calyxes with white hairs. Calyx five-parted, extremely hairy, with lanceolate-linear diviſions. Bractes three linear hairy ſharp. All the petals pubeſcent on the outſide[h].

28. It is a ſhrub with a hirſute ſtem. Leaves ſeſſile, rather fleſhy, the lower ones ſmooth, thoſe neareſt the flowers ſomewhat hairy. Heads ſolitary ſeſſile oblong. Three bractes under each calyx, linear, ſoft, hirſute. Calyxes hirſute. Legumes ſhort, hirſute. It has the appearance of a *Lotus*, but the ſtamens are united[i].

29. Stem ſubherbaceous decumbent round flexile pubeſcent: branches alternate. Leaves looſe, on very ſhort petioles. Flowers terminating, ſeſſile, five in a head. Calyx leſs by half than the corolla, with awl-ſhaped teeth. Corolla ſmooth, yellow. There is no proper bracte[k].]

30. This riſes about four feet high, with a ſhrubby ſtalk dividing into ſlender branches. The flowers are purple, downy, and grow thinly on the branches; they come out late in the ſummer.

[The leaves are in threes or in bunches, lanceolate, ſilky, as is the whole plant. Flowers in ſpikes, or elſe ſcattered, lateral, villoſe. It has the figure of

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[h] Linneus. [i] Ray. [k] Linn. [l] Linn. mant. [m] Hort. kew. [n] Plukenet. [o] Linn. [p] Linn. mant. [q] Ibid. [r] Ibid. [s] Ibid. [t] Linn. ſuppl. [u] Linn. mant. [x] Linn. ſpec. & ſyſt. [y] Linn. ſyſt.

[z] Linn. ſuppl. [a] Ibid. [b] Linn. mant. [c] Linn. ſuppl. [d] Lin. zeyl. [e] Hort. kew. [f] Zanoni. [g] Linn. amæn. [h] Linn. mant. [i] Linn. amæn. [k] Linn. mant.

Cytiſus[l]. Mr. Miller cultivated it in 1759. It flowers in july and auguſt[m].

31. This is an underſhrub, having the branches covered with round calluſes occaſioned by the falling of the leaves; which are ſeſſile with a callous baſe, like thoſe of Juniper, ſharp ſmooth flat, but convex beneath. Spikes looſe terminating. Bractes one-leafed, awl-ſhaped, the length of the calyx, one on each ſide the baſe of the calyx, which is ſmooth, with awl-ſhaped teeth. Corollas yellow, ſmooth[n].

32. Stem ſhrubby, erect; the ſmall branches angular, pubeſcent, a foot long. Leaves ſeſſile, reſembling thoſe of Flax, pointed, longer than the internodes. Flowers terminating, ſeſſile, erect. Calyx with awl-ſhaped teeth. Corolla yellow, blunt, the ſize of Laburnum. Stamens connate. Found by Tournefort in the Levant[o].

33. Stem ſmooth, with remote branches not warted: they draw gradually to a point, and are, as it were, ſpiny. Leaves lanceolate, nearly equal, on very ſhort petioles. Racemes terminating, erect, with very ſhort pedicels. Teeth of the calyx minute. Corollas ſmooth[p].

34. This is allied to *A. quinquefolia* (n. 25.) Petioles very ſhort; leaflets five, cloſe, a little hairy, tomentoſe underneath. Peduncle longer than the leaves. Corollas rather tomentoſe on the outſide[q].

35. This was found at the Cape by Maſſon, and was introduced into the royal garden at Kew in 1775. It flowers in auguſt[r].

26. This alſo was found at the Cape by Maſſon, was introduced in 1774, and flowers in june and july[s].

37. This is a middle-ſized tree, with a ſtraight trunk, but weak reclining branches Leaflets ovate, quite entire, ſmooth, ſeſſile, the lower ones ſmaller. Flower white, ſmall; calyx five-cleft, ſpreading, the upper ſegment largeſt: banner obcordate, broadiſh, aſcending; wings oblong, equal to the banner; ſtamens all connate, ſhorter than the corolla; ſtigma blunt, ſeſſile. Legume oblong-ovate, compreſſed, awnleſs, with one or two ſeeds. It differs from *A. indica*; for that has one-flowered axillary peduncles, and never riſes to a tree[t].

PROPAGATION AND CULTURE.

Few of theſe ſhrubs have hitherto been cultivated in Europe.] They are to be propagated by ſeeds, which muſt be obtained from the country where they grow naturally, and ſhould be ſown in pots filled with light earth as ſoon as they arrive: if this happens in the autumn, the pots ſhould be plunged into an old tan-bed whoſe heat is ſpent, where they may remain till ſpring, when they ſhould be removed into a moderate hot-bed, which will bring up the plants. But when the ſeeds arrive in the ſpring, the pots in which the ſeeds are ſown ſhould be then plunged into a moderate hot-bed; and in warm weather the glaſſes muſt be ſhaded in the middle of the day, and the pots frequently refreſhed with water. Thoſe ſeeds which are ſown in the ſpring, ſeldom grow the ſame year, therefore in the autumn the pots ſhould be put into an old tan-bed, as was directed for thoſe ſown in autumn, and afterward put in a hot-bed the following ſpring. When the plants come up, and are ſtrong enough to remove, they ſhould be each planted into a ſeparate ſmall pot filled with light earth, and plunged into a moderate hot-bed, to encourage their rooting again; and ſo ſoon as they are eſtabliſhed in the pots, they ſhould by degrees be inured to the open air, into which they ſhould be removed in ſummer, placing them in a ſheltered ſituation, where they may remain till autumn, when they muſt be carried into the green-houſe, and in winter ſhould have but little water.

ASPALATHUS. See *Robinia* and *Spartium*.

——— Ebenus. See *Amerimnum*.

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[l] Linn. ſyſt. [m] Hort. kew. [n] Linn. ſyſt. [o] Linn. mant. [p] Linn. ſuppl. [q] Linn. amæn. [r] Hort. kew. [s] Ibid. [t] Loureiro.

ASPĂRAGUS (*Ασπάραγος, a young ſhoot, before it unfolds into leaves.*)

Lin. gen. n. 424. *Reich.* 457. *Schreb.* 573. *Tournef.* 154. *Gærtn.* 16. *Juſſ.* 41.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Sarmentaceæ*. *Aſparagi* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. *Petals* ſix, cohering by the claws, oblong, erected into a tube; three alternately interior, reflex at the end, permanent.

STAM. *Filaments* ſix filiform, inſerted into the petals, erect, ſhorter than the corolla. *Anthers* roundiſh.

PIST. *Germ* turbinate, three-cornered. *Style* very ſhort. *Stigma* a prominent point.

PER. *Berry* globular, umbilicated with a point, three-celled.

SEEDS two, round, angular on the inſide, ſmooth.

OBS. *The flower may be called monopetalous. The corolla is in ſome ſpecies erect, in others flat, in others revolute. The flower hangs down though the piſtil be very ſhort.*

ESSENTIAL CHARACTER.

Cor. ſix-parted, erect; the three inner petals reflected at the end. *Berry* three-celled, two-ſeeded.

SPECIES.

1. Aſparagus officinalis. *Common Aſparagus* or *Sperage.*

Lin. ſpec. 448. *Reich.* 2. 68. *ſuec.* 291. *hort. cliff.* 121. *mat. med.* 94. *Gærtn. fruct.* 1. 58. *Hudſ. angl.* 145. *With.* 352. *Hall. helv. n.* 1239. *Scop. carn. n.* 416. *Pollich pal. n.* 336. *Leers herb. n.* 257. *Oeder dan. t.* 805. *Plenck, ic. t.* 272. *Krock. ſileſ. n.* 531. *Villars dauph.* 2. 273.

α. Aſp. maritimus, craſſiore folio. *Bauh. pin.* 490. *Gmel. ſib.* 1. 38. *Mill. dict. n.* 2.

β. A. ſylveſtris, tenuiſſimo folio. *Bauh. pin.* 490.

γ. A. altilis. *Lin. ſpec.*—ſativa. *Bauh. pin.* 489. *Mill. dict. n.* 1. *fig. t.* 55. *f.* 1. *Blackw. t.* 332. *Camer. epit.* 259. *Ger.* 953. 1. *emac.* 1110. 1. *Park. parad.* 501. 6. *theat.* 454. 2, 3. *Raii hiſt.* 683.

Stem herbaceous round erect, leaves ſetaceous, ſtipules alike.

[2. Aſparagus declinatus. *Long-leaved Aſparagus.*

Lin. ſpec. 449. *ſyſt.* 332. *Reich.* 2. 68.

Stem unarmed round, branches declined, leaves ſetaceous.

3. Aſparagus falcatus. *Sickle-leaved Aſparagus.*

Lin. ſpec. 449. *Reich.* 2. 69. *fl. zeyl.* 123. *Burm. zeyl.* 36. *t.* 13. *f.* 2. *Raii ſuppl.* 359. 6.

Prickles ſolitary reverſed, branches round, leaves enſiform falcated.]

4. Aſparagus retrofractus. *Larch-leaved Aſparagus.*

Lin. ſpec. 449. *ſyſt.* 332. *Reich.* 2. 69. *hort. cliff.* 121. *Pluk. amalth.* 40. *t.* 375. *f.* 3.

Prickles ſolitary, branches round reflected and retrofracted, leaves ſetaceous faſcicled.

[5. Aſparagus æthiopicus.

Lin. ſyſt. 332. *Reich.* 2. 69. *mant.* 63. *Raii ſuppl.* 359. *n.* 5 & 2.

Prickles ſolitary reverſed, branches angular, leaves lanceolate-linear.]

6. Aſparagus aſiaticus. *Slender-ſtalked Aſparagus.*

Lin. ſpec. 449. *Reich.* 2. 69. *hort. cliff.* 122. *Pluk. alm.* 54. *t.* 14. *f.* 4.

Prickles ſolitary, ſtem erect, branches filiform, leaves faſcicled ſetaceous.

7. Aſparagus albus. *White Aſparagus.*

Lin. ſpec. 449. *ſyſt.* 333. *Reich.* 2. 70. *Park. theat.* 455. *f.* 5. *Raii hiſt.* 684. 5. *Ger.* 954. 5. *emac.* 1111. 5.

Corduba 3. *Cluſ. hiſt.* 2. 178.

Prickles ſolitary, branches angular, flexuoſe, leaves faſcicled triquetrous awnleſs deciduous.

8. Aſparagus acutifolius. *Acute-leaved Aſparagus.*

Lin. ſpec. 449. *ſyſt.* 333. *Reich.* 2. 70.

A. Corruda. *Scop. carn. n.* 417. *Villars dauph.* 2. 273.

A. fol. acutis. *Bauh. pin.* 490.

A. ſylveſtris. *Camer. epit.* 260. *Matth.* 349.
A. petræus. *Ger.* 953. 3. *emac.* 1110. 2. *Raii hiſt.* 683.
Corruda 1. *Cluſ. hiſt.* 2. 177. *Bauh. hiſt.* 3. 726.
Stem unarmed angular ſhrubby, leaves needle-ſhaped rather rigid perennial mucronate equal.

[9. Aſparagus horridus. *Thorny Aſparagus.*
Lin. ſyſt. 333. *Reich.* 2. 70. *ſuppl.* 203.
A. hiſpanicus, &c. *Tourn. inſt.* 300.
Leaflets ſhrubby, five-cornered, prickles four-cornered compreſſed ſtriated.]

10. Aſparagus aphyllus. *Prickly Aſparagus.*
Lin. ſpec. 450. *Reich.* 2. 70. *hort. cliff.* 122. *Park. theat.* 454. *f.* 4. *Ger.* 953. 4. *emac.* 1111. 4. *Raii hiſt.* 684. 4.
Corruda 2. *Cluſ. hiſt.* 2. 178.
β. A. creticus fruticoſus, &c. *Tourn. itin.* 1. 273. *fig.*
Stem unarmed angular ſhrubby, leaves ſubulate ſtriated unequal diverging.

[11. Aſparagus capenſis. *Cape Aſparagus.*
Lin. ſpec. 450. *ſyſt.* 333. *Reich.* 2. 71. *hort. cliff.* 121. *Berg. cap.* 58. *Pluk. phyt. t.* 78. *f.* 3. *Raii ſuppl.* 359. *n.* 7.
Spines in fours, branches aggregate round, leaves ſetaceous.]

12. Aſparagus ſarmentoſus. *Linear-leaved Aſparagus.*
Lin. ſpec. 450. *Reich.* 2. 71. *fl. zeyl. n.* 124. *Herm. lugdb.* 62. *Raii hiſt.* 1877. *Rheed. mal.* 10. 19.
Leaves ſolitary linear-lanceolate, ſtem flexuoſe, prickles recurved.

[13. Aſparagus verticillaris. *Whorl-leaved Aſparagus.*
Lin. ſpec. 450. *n.* 11. *Reich.* 2. 71. *Tourn. cor.* 21. *Buxb. cent.* 5. *app.* 47. *t.* 37.
Leaves verticillate.

DESCRIPTIONS, *&c.*

The genus of *Aſparagus* is allied to *Convallaria*, as may eaſily be ſeen, if we have recourſe to thoſe ſpecies which have lanceolate leaves, for theſe approach very near to *Convallaria racemoſa.* It may however readily be diſtinguiſhed by the general appearance of the ſpecies[a]. The ſtem is commonly branched, in ſome herbaceous, in others ſhrubby. The leaves in general are linear or briſtle-ſhaped, and produced in bundles. The flowers uſually ſolitary and axillary. There is a two-valved ſpathe, and ſometimes a ſpine, under each twig and bundle of leaves[b]. The corolla is hexapetalous, but cloſed in form of a companulate flower, as if it were monopetalous. Some of the ſpecies are prickly, and others not[c]. Some alſo are dioecous, or have male and female flowers on diſtinct individuals.

1. Root perennial, large, compoſed of many ſucculent round bulbs forming a kind of tranſverſe tuber, whence ſpring numerous ſtems, which are round, ſmooth, green, ſtiff, branched, in the wild plant a foot and half high or more, but in the garden plant much higher; branches alternate, thinly ſubdivided into alternate twigs with a few leaves between them: at their baſe is a ſingle ſtipule, which is membranaceous, browniſh, triangular-ovate, tapering to a point, the baſe alſo running down into a pointed prominence: there is alſo a ſtipule at the baſe of each bundle of leaves, which is cordate-ovate, pointed, ragged at the edge, and often cracking at the ſides, its baſe incloſing the whole bundle. Linneus mentions two ſmaller ſtipules within this. Leaves, three, four, or five in a bundle, (ſometimes from ten to thirteen, according to ſome); of different ſizes, linear or briſtle-ſhaped, green with a white point, ſmooth, four or five lines in length. Peduncles axillary, pendulous, ſolitary or two together, one-flowered ſometimes two-flowered; they have a tubercle or joint above the middle, and are protected at the baſe by the ſtipule of the twigs. Corolla yellowiſh green. Berries red, with the remains of the corolla at the baſe[d].

Authors differ much reſpecting the ſex of the flowers in this ſpecies. Pollich affirms, that the flowers are always hermaphrodite, as far as he has obſerved; Leers on the contrary always remarked male and female flowers on ſeparate plants, both in the wild and garden ſort. Hudſon obſerved male, female, and hermaphrodite flowers. Gerard, in his *Flora Gallo-Provincialis* ſays that it is dioecous; and Gouan, that it is ſo at leaſt in the wild varieties. According to Linneus the garden Aſparagus is certainly not ſo. With us however there are barren and fertile plants. Dr. Stokes, who examined the fructification in cultivated plants, thus deſcribes it. Pollen and ſeed produced on different plants. Flowers of the plants producing pollen nearly as large again: ſtamens nearly as long as the petals; filaments adhering to the petals for half their length; anthers oblong, upright, orange; pollen orange; germ half as long as the filaments, and as large as the other at the ſame ſtage of growth; ſtyle none. Flowers of the plants producing ſeeds not ſo conſpicuous, of a greener and browner hue: ſtamens not half ſo long as the petals, with whitiſh, membranaceous, barren anthers; and no pollen. Seeds generally two, but ſometimes three; and, according to Mr. Hudſon, one, in each cell.]

α. The ſecond ſort of Miller is mentioned to grow naturally in Wales, and alſo near Briſtol: I have received ſeeds from the iſland of Portland, which have ſucceeded in the Chelſea garden, by which I am convinced it is a different ſpecies from the Garden Aſparagus; and alſo from the wild ſort which grows naturally at Gibraltar, and alſo near Montpellier, and is different from both; Mr. Magnol, of Montpellier, was alſo of opinion that it is a different ſpecies, for he ſays, the common wild Aſparagus and this grew near each other in the neighbourhood of Montpellier, and the young ſhoots of the former were ſweet, whereas thoſe of the latter were bitter. The ſame has been confirmed to me by ſeveral gentlemen, who have reſided many years at Gibraltar and Minorca, where this grows naturally in plenty.

β. [The ſtipules of this variety have a recumbent ſoft ſpine at the baſe, as in *A. declinatus*, whence there is an affinity between them; only in this the ſpine is rather more ſtiff. The leaves are briſtle-ſhaped at top. The branches are angular and ſtreaked, whereas in the Garden Aſparagus they are round and ſmooth[e].

According to Monſ. Villars, the wild differs from the cultivated Aſparagus, in having the leaves much finer, and ſtanding out wide from the twig; in being ſhorter, ſtraighter, and of a higher green. Situation may very well produce theſe differences; α being found wild on the ſea coaſt, and β in inland countries, frequently on mountains, and among buſhes on rocks.]

Mr. Miller is of opinion that the common Aſparagus, which is cultivated for the uſe of the table, may have probably been brought by culture to the perfection it now is, from the wild ſort, which grows naturally in the fens of Lincolnſhire, where the ſhoots are no larger than ſtraws; but if ſo, it muſt have been from very long culture and good management; for a friend of mine, ſays he, procured ſome ſeeds of the wild ſort, which he cultivated with great care, in very rich ground, yet could not bring the roots to produce ſhoots more than half the ſize of the garden kind, which grew on the ſame ground; but he always found the wild ſort came up a week or ten days earlier in the ſpring, and the ſhoots were exceeding ſweet.

I have lately had ſome doubt, adds Mr. Miller, whether the ſort of Aſparagus which grows naturally in England, was the ſame with that mentioned by Caſpar Bauhin[f], becauſe Tournefort and Vaillant both aſſert that they had cultivated that wild ſort in the royal garden at Paris ſeveral years, and it had never altered, therefore I procured ſpecimens of that, which I find to be extremely different from the Engliſh ſort. The leaves are much finer and ſhorter, and are produced in much larger cluſters; the branches grow much cloſer together, and the foot-ſtalks of the flowers are longer; therefore I believe it to be a diſtinct ſpecies from our wild ſort, which appears to me undoubtedly the ſame as the Garden Aſparagus.

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[a] Linn. prælect.

[b] Juſſieu.

[c] Linn. prælect.

[d] Stokes in With. Linn. Pollich, Krock.

[e] Linn. mant.

[f] A. ſylveſtris tenuiſſimo folio.

[It is a native of moſt parts of Europe, and alſo of Japan. With us it occurs on many parts of the coaſt, as at the Lizard point, Harwich, below Briſtol, in the iſle of Portland, *&c.* flowering in july.

The young ſhoots are generally eſteemed in the ſpring, and are cultivated for the table, eſpecially near London, in great abundance. According to Dr. Withering they are nutritious; but Lewis on the contrary ſays, they are ſuppoſed to promote appetite, but afford little nouriſhment. What is more certain is that they impart a very ſtrong ſmell to the urine, in a very little time after being eaten, and for this reaſon they are accounted by ſome an uſeful diuretic; by others however they are ſuppoſed to be injurious to the kidnies. It does not appear from common experience that they poſſeſs either of theſe qualities in any conſiderable degree. Many have an opinion of them for removing obſtructions, in dropſical and calculous caſes; but their qualities appear to be too mild to expect much from them as a medicine: others regard them as bad in gouty habits. The roots are ſuppoſed to be more aperient and diuretic than the young ſhoots; but neither the roots, nor the ſtalks when grown up ſo as to part into branches, give any ill ſmell to the urine[g].

The largeneſs and tenderneſs of the ſhoots are probably the circumſtances that have brought them into general uſe for the table. Pliny[h] mentions, that about Ravenna ſome of them were ſo large, that three weighed a pound. I do not recollect to have heard of any with us, which were more than half that weight.

Our old Engliſh writers call it *Aſparagus* and *Sperage*; when theſe names were vilely corrupted into *Sparrowgraſs*, and thence frittered down into *Graſs*, I am unable to ſay. In German it is called *Spargel*; in Dutch *Aſpergie*; in Daniſh *Aſpargis* or *Aſparris*; in Swediſh *Sparis* or *Spargel*; in French *Aſperge commune*; in Italian *Sparagio*; in Spaniſh *Aſparrago*; in Portugueſe *Eſpargo*; in Ruſſian *Sparſa* or *Sparſch*: all evidently from the ſame origin.

2. This reſembles the common ſort, but is higher; it has more leaves, and they are twice as long. The ſtem is annual. The ſtipules are ſolitary, lanceolate-ſubulate, with a membranaceous point at the baſe downwards. Leaves ſeven or ten in a bunch, filiform, ſpreading[i]. Native of the Cape of Good Hope. Introduced in 1787, by Mr. Francis Maſſon[k].

3. Stem round branching. Leaves linear or ſword-ſhaped, ſharp, narrow at the baſe, ſmooth. At the baſe of the leaves is a ſmall recurved prickle. Racemes axillary ſhort ſimple. Native of Ceylon[l].

4. Branches round, dichotomous, warted at the diviſions, with a minute nodding prickle[m].]

It has very crooked irregular ſtalks, ſhrubby, and riſing eight or ten feet high, putting out ſeveral weak ſide branches, having long narrow leaves on them, coming out in cluſters like thoſe of the Larch-tree; under each of theſe cluſters is placed a ſingle ſharp thorn. The ſtalks continue ſeveral years, and the leaves keep green all the winter. It is a native of the Cape of Good Hope. [Cultivated in 1759, by Mr. Miller. It flowers in auguſt and ſeptember[n].

5. This reſembles *A. falcatus*, but the leaves are ſmaller, and about ſeven in a bunch, not three as in that. The ſtipules put forth a reverſed ſpine. Branches flexuoſe, angular, in a manner ſhrubby, green. Native of the Cape[o].]

6. This ſends up many weak ſhoots growing in cluſters, and armed with ſharp ſpines, both on the ſides and at the ends of the ſhoots; the leaves come out in ſmall cluſters and continue green all the year. [It is a native of Aſia, and was cultivated in 1768, by Mr. Miller[p].]

7. Stems ſhrubby, three or four feet high, with very white bark, and armed with thorns which are ſingle, coming out juſt below each tuft of leaves. The ſtems continue ſeveral years, and put out many branches, with ſhort narrow leaves. Theſe continue green all the winter, if the plants are ſcreened from ſevere froſt. [The ſpines are ſtraight, ſpreading, or reflex[q]. It was cultivated in 1640; and is a native of Spain and Portugal[r].]

8. This has white, crooked, ſhrubby ſtalks, which riſe four or five feet high, but have no ſpines on them; the leaves come out in cluſters like thoſe of the Larch-tree; they are very ſhort, and end in ſharp prickles, ſo that they are troubleſome to handle. [It reſembles *A. aphyllus*, but the leaves are generally ſeven, ſcarcely thicker than a thread; whereas that has uſually three together, of thrice the thickneſs, and very much awl-ſhaped[s]. Scopoli remarks, that if the leaves are to be called ſpines, then this is the *A. aphyllus* of Linneus: but if they are to be called leaves, then it is the *acutifolius*. The ſpecimens which were ſent him of *A. aphyllus* had all the marks of *acutifolius*.—It is a native of Spain, Portugal, and the Levant: and was cultivated in 1739, by Mr. Miller[t].

9. The ſpines of this are a finger's length. It is a native of Spain[u].]

10. This ſends up many weak irregular ſhoots, which have no leaves, but inſtead thereof they are armed with ſhort ſtiff thorns, coming out four or five together, and ſpreading from each other every way. The flowers are ſmall, and of an herbaceous colour; the berries are larger than thoſe of the common ſort, and are black when ripe.

[Native of the ſouth of Europe; and cultivated in 1640[x].

11. Root tuberous. Stems ſhrubby, filiform, flexuoſe. Spines ſpreading, a little recurved, very acute. Branchlets from the axils of the ſpines, filiform, looſe, unarmed, deciduous. Leaflets acute, unarmed, ſhort. Branches among the branchlets or twigs, ſolitary, ſtiff[y]. Native of the Cape of Good Hope. Cultivated 1691, in the royal garden at Hampton-court[z].]

12. This ſends out from the root many weak climbing branches, which riſe five or ſix feet high; the ſhoots are armed with ſhort crooked ſpines, which are ſo cloſely ſet on, that it is difficult to touch the branches.

[Roots long, fuſiform, many, whitiſh, fleſhy, of a ſweetiſh pleaſant flavour. Hence ariſe very long twigs, divided into many axils, with ſhort ſharp prickles, either upwards or downwards, climbing up the neighbouring trees. Leaves broader, longer, and ſtouter than in the reſt of this genus: from which come out ſmall pale flowers, on ſlender peduncles; theſe are ſucceeded by red berries, in which are generally three angular ſeeds. The roots are eaten in Ceylon, where it grows naturally, with broth or milk; and the inhabitants are very fond of them[a]. Linneus remarks, that it is very nearly allied to *Medeola aſparagoides*. Cultivated in 1714, by the Dutcheſs of Beaufort[b].

13. Found by Tournefort in the Levant, about Derbent and elſewhere.]

PROPAGATION AND CULTURE.

The Garden Aſparagus is propagated by ſeeds, in the procuring of which, there ſhould be particular care to get it from a perſon of ſkill, who may be depended upon for his choice of the ſhoots, and integrity in ſupplying with his beſt ſeeds. But where a perſon is in poſſeſſion of ſome good beds of Aſparagus, it is much the beſt way to ſave it himſelf; in order to which, a ſufficient number of the faireſt buds ſhould be marked early in the ſpring, and permitted to run up for ſeeds; becauſe thoſe which run up after the ſeaſon for cutting the Aſparagus is over, are generally ſo backward, as not to ripen the ſeeds unleſs the ſummer is warm, and the autumn very favourable. In the choice of the buds to be left for ſeeds, there muſt be great regard had to their ſize and roundneſs, never leaving any that are inclinable to be flat, or that ſoon grow open headed, always chooſing the roundeſt, and ſuch as have the cloſeſt tops. But as ſeveral of theſe produce only male flowers, a greater number of buds ſhould be left, than might be neceſſary, if there could be a certainty of their being all fruitful. When the buds are left, it will be proper to thruſt a ſtick down by each, but there muſt be care had in doing this, not to injure the crown of the root. Theſe ſticks will ſerve as marks to diſtinguiſh them from the others when they are all run up. Toward the end of ſeptember the berries will be fully ripe, when the ſtalks ſhould be cut off, and the berries ſtripped into a tub, in which they may remain three weeks or a month to ſweat, by which means the outer huſks will be rotten; then fill the tub with water, and break all the huſks by ſqueezing them between your hands. Theſe huſks will all ſwim upon the water, but the ſeeds will ſink to the bottom; ſo that by pouring off the water gently, the huſks will be carried along with it, and by putting freſh water two or three times, and ſtirring your ſeed about, you will make it entirely clean: then ſpread the ſeed upon a mat or cloth, and expoſe it to the ſun and air in dry weather, until it is perfectly dry, when it may be put into a bag, and hanged up in a dry place till february, or the beginning of march, which is the proper ſeaſon for ſowing it; at that time you muſt prepare a bed of good rich earth made very level, whereon you muſt ſow your ſeeds broadcaſt, but not too thick, which will cauſe the plants to be ſmall; then tread the bed all over to bury the ſeed in the ground, and rake it over ſmooth.

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[g] Lewis mat. med.
[h] Hiſt. nat. l. 19. c. 4.
[i] Linn. ſyſt.
[k] Hort. kew.
[l] Linn.
[m] Linn. ſyſt.
[n] Hort. kew.
[o] Linn. mant.
[p] Hort. kew.
[q] Linn.
[r] Hort. kew.
[s] Linn.
[t] Hort. kew.
[u] Linn.
[x] Hort. kew.
[y] Linn.
[z] Hort. kew.
[a] Herman & Ray. hiſt.
[b] Hort. kew.

The following ſummer keep the ground diligently cleared from weeds, which will greatly add to the ſtrength of the plants; and toward the latter end of october, when the haulm is quite withered, you may ſpread a little rotten dung over the ſurface of the ground, about two inches thick, which will preſerve the young buds from being hurt with the froſts, &c.

Planting.

The ſpring following the plants will be fit to plant out for good, for plants of more than one year's growth are unfit to remove, as I have often experienced; and young plants will produce finer roots: you muſt therefore prepare your ground by trenching it well, burying therein a good quantity of rotten dung at the bottom of each trench, that it may lie at leaſt ſix inches below the ſurface of the ground; then level the whole plot very exactly, taking out all large ſtones: but this ſhould not be done long before you intend to plant your Aſparagus, in which you muſt be governed according to the nature of your ſoil or the ſeaſon; for if your ſoil be dry and the ſeaſon forward, you may plant early in march; but in a wet ſoil, it is better to wait till the end of that month or the beginning of april, which is about the ſeaſon that the plants are beginning to ſhoot. I know many people have adviſed the planting of Aſparagus at michaelmas, but this I have experienced to be very wrong; for in two different years I was obliged to tranſplant large quantities at that ſeaſon, but I had better have thrown away the plants: for upon examination in the ſpring, I found moſt of the roots were grown mouldy, and decaying, and I am ſure, not one in five of them ſucceeded, and thoſe which did were ſo weak, as not to be worth their ſtanding.

The ſeaſon being come for planting, you muſt, with a narrow pronged dung-fork, carefully fork up the roots, ſhaking them out of the earth, and ſeparating them from each other, obſerving to lay their heads even, for the more convenient planting them, which muſt be performed in this manner:

The plot of ground being levelled, you muſt begin at one ſide thereof, ranging a line very tight croſs the piece, throwing out a trench exactly ſtraight by the line about ſix inches deep, being careful not to turn up the dung; into which trench you may lay your roots, ſpreading them with your fingers, and placing them upright againſt the back of the trench, that the buds may ſtand forward, and be about two inches below the ſurface of the ground, and at twelve inches diſtance from each other; then with a rake, draw the earth into the trench again, laying it very level, which will preſerve the roots in their right poſition; then remove the line a foot farther back, and make another trench in the like manner, laying therein your plants as before directed, and continuing the ſame diſtance row from row, only obſerving between every four rows, to leave a diſtance of two feet four inches for an alley to go between the beds to cut the Aſparagus, &c.

The plot of ground being finiſhed and levelled, you may ſow thereon a ſmall crop of Onions, which will not hurt the Aſparagus, provided the Onions are not too cloſe, and tread in the ſeeds, raking the ground level.

There are ſome perſons who plant the ſeeds of Aſparagus in the place where the roots are to remain, which is a very good method, if it is performed with care. The way is this: after the ground has been well trenched and dunged, lay it level, and draw a line croſs the ground in the ſame manner as is practiſed for planting the young plants; then with a dibble make holes at a foot diſtance, into each of which drop two ſeeds, for fear one ſhould miſcarry; theſe holes ſhould not be more than half an inch deep; then cover the ſeeds, by ſtriking the earth in upon it; and go on removing the line a foot back for another row; and after four rows are finiſhed, leave a ſpace for an alley between the beds, if it is deſigned to ſtand for the natural ſeaſon of cutting; but if it is to be taken up for hot-beds, there may be ſix rows planted in each bed, and the diſtance in the rows need not be more than nine inches. This ſhould be performed by the middle of february, becauſe the ſeeds lie long in the ground; but if Onions are intended to be ſown upon the ground, that may be performed a fortnight or three weeks after, provided the ground is not ſtirred ſo deep as to diſturb the Aſparagus-ſeeds, in raking the Onion-ſeeds into the ground.

As the roots of Aſparagus always ſend forth many long fibres which run deep into the ground, ſo when the ſeeds are ſown where they are to remain, the roots will not be broken or injured, as thoſe muſt be which are tranſplanted; therefore will ſhoot deeper into the ground, and make much greater progreſs, and the fibres will puſh out on every ſide, which will cauſe the crown of the root to be in the centre; whereas in tranſplanting, the roots are made flat againſt the ſide of the trench.

When the Aſparagus is come up, and the Onions have raiſed their ſeed-leaves upright (which will be in ſix weeks after planting) you muſt with a ſmall hoe cut up all the weeds, and thin the crop of Onions where they may have come up in bunches: but this muſt be done carefully, and in dry weather, that the weeds may die as faſt as they are cut up, being careful not to injure the young ſhoots of Aſparagus, as alſo to cut up the Onions which grow near the ſhoots. This work muſt be repeated about three times, which if well done, and the ſeaſon not too wet, will keep the ground clear from weeds until the Onions are fit to be pulled up, which is commonly in auguſt, and is known when their greens fall down and begin to wither. When you have drawn off the Onions, it will be neceſſary to clean the ground well from weeds, which will keep it clean till the alleys are dug to earth the beds, which muſt be done in october, when the haulm is decayed; for if you cut off the haulm while green, the roots will ſhoot freſh again, which will greatly weaken them. This young haulm ſhould be cut off with a knife, leaving the ſtems two inches above ground, which will be a guide for you to diſtinguiſh the beds from the alleys; then with a hoe clear off the weeds into the alleys, and dig up the alleys, burying the weeds in the bottom, and throw the earth upon the beds, ſo that the beds may be about four or five inches above the level of the alleys: then a row of Coleworts may be planted in the middle of the alleys, but never ſow or plant any thing upon the beds, which would greatly weaken the roots; nor would I ever adviſe the planting of Beans in the alleys, as is the practice of many; for that greatly damages the two outſide rows of Aſparagus. In this manner it muſt remain till ſpring, when ſome time in march, the beds ſhould be hoed over, to deſtroy all young weeds; then rake them ſmooth, and obſerve all the ſucceeding ſummer to keep them clear from weeds, and in october dig up the alleys again, as was bebefore directed, earthing the beds, *&c.* [If you wiſh to ſave a year, you may purchaſe year-old plants from the nurſery-men or kitchen-gardeners at a ſhilling or eighteen-pence the hundred.]

Dreſſing.

The ſecond ſpring after planting, ſome perſons begin to cut ſome of the buds of Aſparagus for uſe, though it would be much better to ſtay until the third year; therefore now the beds ſhould be forked with a flat-pronged fork made on purpoſe, which is commonly called an Aſparagus-fork: this muſt be done before the buds begin to ſhoot in the ſpring, and ſhould be performed with care, leſt you fork too deep, and bruiſe the head of the root; then rake the beds over ſmooth, juſt before the buds appear above ground, which will deſtroy all young weeds, and keep your beds clean much longer than if left unraked, or if done ſo ſoon as forked. When the buds appear about four inches above ground, you may then cut them; but it ſhould be done ſparingly, only taking the large buds, and ſuffering the ſmall to run up to ſtrengthen the roots; for the more you cut, the greater will be the increaſe of buds, but they will be ſmaller and the roots ſooner decay. In cutting the buds, you muſt open the ground with your knife (which ſhould be very narrow-pointed, and long in the blade, and filed with teeth like a ſaw) to ſee whether any more young buds are coming up cloſe by it, which might be either broken or bruiſed in cutting the other, then with the knife ſaw it off about two inches under ground. This may appear a very troubleſome affair to people unacquainted with the practical part, but thoſe who are employed in cutting Aſparagus, will perform a great deal of this work in a ſhort time; but care in doing it is abſolutely neceſſary to be obſerved by all who cut Aſparagus.

The manner of dreſſing the Aſparagus-beds is every year the ſame as directed for the ſecond, viz. keeping them clean from weeds in ſummer, digging the alleys in october, and forking the beds toward the end of march, *&c.* only obſerve every other year to lay ſome rotten dung (from a Melon or Cucumber-bed) all over the beds, burying ſome in the alleys alſo, at the time for digging them up. This will preſerve the ground in heart to maintain the roots in vigour, and by this management, a plot of good Aſparagus may be continued for ten or twelve years in cutting, and will produce good buds, eſpecially if it is not cut too long each ſeaſon; for when it is not left to run up pretty early in june, the roots will be greatly weakened, and the buds will be ſmaller: therefore, in thoſe families, where Aſparagus is required late in the ſeaſon, a few beds ſhould be ſet apart for that purpoſe, which will be much better than to injure the whole plantation, by cutting it too long.

Dunging.

I cannot help taking notice of a common error that has long prevailed with many people, which is, that of not dunging the ground for Aſparagus, believing that the dung communicates a ſtrong rank taſte to the Aſparagus, which is a great miſtake, for the ſweeteſt Aſparagus is that which grows upon the richeſt ground; for poor land occaſions that rank taſte ſo often complained of, the ſweetneſs of Aſparagus being occaſioned by the quickneſs of its growth, which is always proportionable to the goodneſs of the ground, and the warmth of the ſeaſons. In order to prove this, I planted two beds of Aſparagus, upon ground which had dung laid a foot thick; and theſe beds were every year dunged extremely thick, and the Aſparagus produced from theſe beds was much ſweeter than any I could procure, though they were boiled together in the ſame water.

Quantity.

The quantity of ground neceſſary to be planted with Aſparagus, to ſupply a ſmall family, ſhould be at leaſt eight rods, leſs than that will not do; for if you cannot cut one hundred at a time, it will ſcarcely be worth while, for you muſt be obliged to keep it after it is cut two or three days, eſpecially in cold ſeaſons, to furniſh enough for one meſs; but for a larger family, ſixteen rods of ground ſhould be planted, which, if a good crop, will furniſh two or three hundred each day in the height of the ſeaſon.

Forcing.

But as there are ſeveral people who delight in having early Aſparagus, which is become a very great trade in the kitchen-gardens near London, I ſhall give proper directions for the obtaining it any time in winter.

You muſt firſt be provided with a quantity of good roots (either of your own raiſing, or purchaſed from ſuch gardeners as plant for ſale,) ſuch as have been two or three years planted out from the ſeed-bed; and having fixed upon the time you would willingly have your Aſparagus fit to cut, about ſix weeks before, you ſhould prepare a quantity of new ſtable horſe-dung, which ſhould be thrown in a heap for ten days or more, to ferment, mixing ſome ſea-coal aſhes with it; then it ſhould be turned over into a heap, where it muſt lie another week, when it will be fit for uſe. Then dig out a trench in the ground where you intend to make the bed, one foot and an half deep, the width of the frames that are deſigned to cover it, and the length in proportion to the quantity you intend to have: if deſigned only to ſupply a ſmall family, three or four lights at a time will be ſufficient, but for a larger family, ſix or eight lights will not be too much: then lay down your dung into the trench, working it very regularly, and beat it down very tight with a fork, laying it at leaſt three feet in thickneſs or more, when the beds are made in december; then put your earth thereon about ſix inches thick, breaking the clods and laying it level; and at one end, begin laying your roots againſt a little ridge of earth, raiſed about four inches high: your roots muſt be laid as cloſe as poſſible one to the other, in rows, with their buds ſtanding upright: and between every row lay a ſmall quantity of fine mould, obſerving to keep the crown of the roots exactly level. When you have finiſhed laying your bed with roots, you muſt lay ſome ſtiff earth up to the roots, on the outſides of the bed, which are bare, to keep them from drying; and thruſt two or three ſharp-pointed ſticks, about two feet long, down between the roots, in the middle of the bed, at a diſtance from each other. The uſe of theſe ſticks is to inform you what temper of heat the bed is in, which you may find by drawing up the ſticks, and feeling the lower part; and if, after the bed has been made a week, you find it does not heat, you may lay a little ſtraw or litter round the ſides, and alſo upon the top, which will greatly help it; or if you find it very hot, ſo as to endanger ſcorching the roots, it will be adviſable to let it remain wholly uncovered, and to thruſt a large ſtick into the dung, on each ſide of the bed in two or three places, to make holes for the great ſteam of the bed to paſs off, which in a ſhort time will reduce the bed to a moderate heat.

After the bed has been made a fortnight, you muſt cover the crowns of the roots with fine earth, about two inches thick; and when the buds begin to appear above ground through that earth, you muſt again lay on a freſh quantity, about three inches thick; ſo that in the whole, it may be five inches above the crowns of the root, which will be ſufficient.

Then you muſt make a band of ſtraw (or long litter,) about four inches thick, which muſt be faſtened round the ſides of the bed, that the upper part may be level with the ſurface of the ground: this muſt be faſtened with ſtraight ſticks about two feet long, ſharpened at the points, to run into the bed; and upon this band you muſt ſet your frames, and put your glaſſes thereon; but if, after your bed has been made three weeks, you find the heat decline, you muſt lay a good lining of freſh hot dung round the ſides of the bed, which will add a freſh heat thereto; and in bad weather, as alſo every night, keep the glaſſes covered with mats and ſtraw; but in the day time, let it be all taken off, eſpecially whenever the ſun appears; which, ſhining through the glaſſes, will give a good colour to the Aſparagus.

A bed thus made, if it works kindly, will begin to produce buds for cutting, in about five or ſix weeks, and will hold about three weeks in cutting: if rightly planted with good roots, it will produce, in that time, about three hundred buds in each light; ſo that where it is propoſed to be continued until the ſeaſon of natural Aſparagus, a freſh bed ſhould be made every three weeks, until the beginning of march, from the time of the firſt bed being made; but if the laſt bed is made about a week in march, it will laſt till the ſeaſon of natural Aſparagus; for the laſt beds will come a fortnight ſooner to cut after making, than thoſe made about Chriſtmas; and the buds will be larger, and better coloured, as they will then enjoy a greater ſhare of the ſun.

Where this method of forcing early Aſparagus is intended, there ſhould be every year ſuch a quantity planted, as you ſhall judge neceſſary, unleſs you intend to buy the roots from ſome other garden. The quantity of roots neceſſary to plant one light, is commonly known by the meaſure of the ground where they grow; for where there is a good crop, and few roots are miſſing, one rod of ground will furniſh enough for a light; but this calculation is made from the ground planted with roots, which are deſigned to be taken up after two or three years growth for forcing, in which there are ſix rows in a bed, at but ten inches diſtance, and the plants eight or nine inches aſunder in the rows; but where there is a greater ſpace between the rows, and fewer rows in a bed, then there muſt be a greater quantity of ground allotted for each light. Moſt of the kitchen-gardeners about London, take up their Aſparagus roots after two years growth from planting; but where the land is not very good, it will be better to let it have three or even four years growth, for if the roots are weak, the buds of Aſparagus will be very ſmall, and not worth the trouble of forcing. The beſt ground for planting Aſparagus, to have large roots for hot-beds, is a moiſt rich ſoil; but for thoſe that are to remain for a natural produce, a middling ſoil, neither too wet nor too dry; but a freſh ſandy loam, when well dunged, is preferable to any other.

Of the other ſpecies, which have a place among exotic plants in botanic gardens, thoſe which are natives of the ſouthern parts of Europe (n. 7, 8, 9, 10) may be propagated by ſeeds, in the ſame manner with the common ſort: but being more tender, ſome plants ſhould be ſet in pots, that they may be ſheltered in winter, and the reſt in a warm ſituation, where they may be occaſionally protected. The ſpecies from the Cape, &c. rarely producing ſeeds in England, may be increaſed by parting the roots in april. They muſt be planted in pots, and removed into the green-houſe or dry ſtove in the autumn. The third and twelfth ſorts muſt be placed in a moderate ſtove.

Asparagus Draco. See *Dracæna*.

Asparagus ſcandens. See *Medeola*.

Aspen-tree. See *Populus*.

ASPERŪGO. (*Ab aſperitate; from its roughneſs, a quality common to it with ſeveral other genera appertaining to the ſame natural order; and from which all theſe plants are called Aſperifoliæ.*)

Lin. gen. n. 189. *Reich.* 201. *Schreb.* 249. *Tournef.* 54. *Juſſ.* 131.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aſperifoliæ. Borragineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cleft, erect with unequal toothlets, permanent.

Cor. one-petalled, funnel-ſhaped; *tube* cylindrical, very ſhort; *border* ſemiquinquefid, obtuſe, ſmall; *throat* cloſed, with five convex, prominent, converging little ſcales.

Stam. *Filaments* five, in the throat, very ſhort: *anthers* oblongiſh, covered.

Pist. *Germs* four, compreſſed; *ſtyle* filiform, ſhort: *ſtigma* obtuſe.

Per. none. *Calyx* very large, erect, compreſſed: *lamellas* flat-parallel, ſinuate.

Seeds four, oblong, compreſſed, diſtant by pairs.

ESSENTIAL CHARACTER.

Cal. of the fruit compreſſed: *lamellas* flat-parallel, ſinuated.

SPECIES.

1. Aſperugo procumbens. *Procumbent Aſperugo.*
Lin. ſpec. 198. *Reich.* 399. *lapp.* 76. *ſuec.* 166. *hort. cliff.* 44. *Hudſ. angl.* 82. *With.* 198. *Hall. helv. n.* 606. *Scop. carn. n.* 199. *Oed. dan. t.* 552. *Sabb. hort.* 2. *t.* 25. *Dod. pempt.* 356.
Bugloſſum. *Bauh. pin.* 257. *Mor. hiſt.* 3. *ſ.* 11. *t.* 26. *f.* 13. *Ger.* 963. 2. *emac.* 1122. 2. *Raii hiſt.* 502.
Calyxes of the fruit compreſſed.

[2. Aſperugo ægyptiaca. *Egyptian Aſperugo.*
Lin. ſpec. 198. *Reich.* 399. *mant.* 344. *Jacqu. hort. v.* 3. *t.* 21.
Calyxes of the fruit ſwelling.

DESCRIPTIONS, &c.

1. Root annual. Stems proſtrate, angular with unequal ſides, rough with little hooks at the angles pointing backwards. Leaves petiolate, oblong-ovate, with hairs pointing toward the end, alternate, the upper ones almoſt oppoſite, moſtly in threes, pointing upwards, on the ſame ſide of the ſtem with the flowers. When the plant is young, the flowers are crowded on the top of the ſtalks; when old, they are ſingle from the axillas, on very ſhort peduncles. Calyx of the fruit appears very different from that of the flower, as if compoſed of two diſtinct valves, though in reality of one leaf; teeth tapering to a point, the middlemoſt in one of the valves longer than the reſt, but in the other valve ſhorter, and cloven at the end. Corolla ſcarcely exceeding the calyx, deep blue, often white. Fruits on ſhort peduncles, bowed down in a direction oppoſite to that of the leaves.

In roads and among rubbiſh. Newmarket, Boxley in Suſſex, Holy I. and near Purfleet. Flowering in april and may. Horſes, goats, ſheep, and ſwine eat it. Cows are not fond of it[a]. It is called by our old Engliſh writers, *Small wild Bugloſs*, or *Borage. Great Gooſe-graſs*, or *German Madwort.*

2. Root annual, columnar, the thickneſs of a quill, red. Stem half a foot high or more, branched from the bottom, divaricate or diffuſed, round below, but ſlightly angular in other parts, hiſpid. Leaves broad-lanceolate, ſometimes toothed, thickiſh, alternate, ſtiffiſh, the lower ones blunt and ſubpetiolate, the upper ones ſharp and ſeſſile, on both ſides and about the edges extremely hiſpid with almoſt pungent hairs, taking their riſe from a white knob. Flowers void of ſcent, all directed the ſame way, coming out ſucceſſively on thick peduncles on the branches produced, ſolitary by the ſide of a leaf, ſeldom axillary. Calyx hiſpid divided almoſt to the baſe into lanceolate-linear upright ſegments, nearly of the ſame length with the corolla. Petal pale yellow, and the ſcales of the throat yellow. Anthers blackiſh. Seeds black, wrinkled, obliquely acute, concave underneath[b]. Native of Egypt. It flowers from june to auguſt.]

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[a] Stokes in Withering, Haller, Ray.

[b] Jacquin.

PROPAGATION AND CULTURE.

1. The common ſort may eaſily be propagated by ſeeds ſown in autumn ; or, if they be permitted to ſcatter, the plants will come up of themſelves.

[2. The Egyptian ſort may alſo be raiſed from ſeeds, but they muſt be ſown in a moderate hot-bed. The plants will flower in the open air in ſummer, but they muſt be houſed in winter.]

[**ASPERŪLA.** (*A diminutive from aſper, rough, the ſeeds being roughiſh.*)

Lin. gen. n. 121. *Reich.* 128. *Schreb.* 157. *Juſſ.* 196.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Stellatæ. Rubiaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* ſmall, four-toothed, ſuperior.

Cor. one-petalled, funnel-ſhaped ; *tube* cylindric, long ; *border* four-parted : *diviſions* oblong, obtuſe, reflex.

Stam. *Filaments* four at the top of the tube : *anthers* ſimple.

Pist. *Germ* twin, roundiſh, inferior : *ſtyle* filiform, bifid at top : *ſtigmas* headed.

Per. Two dry, globular, united *berries.*

Seed ſolitary, roundiſh, large.

Obs. A. tinctoria *and* pyrenaica *have moſt of the flowers trifid.* Reich.

ESSENTIAL CHARACTER.

Cor. one-petalled, funnel-ſhaped. *Seeds* two, globular.

SPECIES.

1. Aſperula odorata. *Sweet-ſcented Woodroof.*
Lin. ſpec. 150. *Reich.* 294. *ſuec.* 121. *mat. med.* 50. *hort. cliff.* 33. 2. *Hudſ. angl.* 66. *With.* 158. *Curtis lond.* 4. 15. *Hall. helv. n.* 728. *Pollich pal. n.* 145. *Oeder dan. t.* 562. *Mill. fig. t.* 55. *f.* 2. *Blackw. t.* 60. *Berg. phyt.* 7. *Mor. hiſt. ſ.* 9. *t.* 22. *f.* 4. *Ger.* 966. *emac.* 1124. 1. *Park.* 563. 1. *Turn. herb.* 3. *p.* 24, 25. *Bauh. hiſt.* 3. 718. 3. *Raii hiſt.* 483. 1. *Plenck. ic. t.* 53.
Galium odoratum. *Scop. carn. n.* 158.
Leaves eight in a whorl lanceolate, flowers in bunches peduncled.

2. Aſperula arvenſis. *Blue* or *Field Woodroof.*
Lin. ſpec. 150. *Reich.* 294. *hort. cliff.* 33. 1. *upſ.* 27. *Hall. helv. n.* 733. *Scop. carn. n.* 159. *Pollich pal. n.* 146. *Bauh. pin.* 334. 2. *Dod. pempt.* 355. 3. *Raii hiſt.* 483. 2.
Rubia. *Bauh. hiſt.* 3. 719. *f.* 1.
Leaves ſix in a whorl, flowers ſeſſile terminal aggregate.

3. Aſperula taurina. *Broad-leaved Woodroof.*
Lin. ſpec. 150. *ſyſt.* 148. *Reich.* 295. *hort. cliff.* 33. 3. *vir. cliff.* 9. *Hall. helv. n.* 732. *Sauv. monſp.* 164.
Galium taurinum. *Scop. carn. n.* 148.
Rubia. *Bauh. hiſt.* 3. 717. *f.* 2. *Mor. hiſt.* 3. *ſ.* 9. *t.* 21. *f.* 1. *row.* 3. *Lob. ic.* 800.
Leaves four in a whorl ovate-lanceolate, flowers in terminal bunches.

4. Aſperula craſſifolia. *Thick-leaved Woodroof.*
Lin. ſyſt. 149. *Reich.* 295. *mant.* 37.
Leaves four in a whorl oblong lateral revolute bluntiſh pubeſcent.

5. Aſperula calabrica. *Calabrian Woodroof.*
Lin. ſyſt. 149. *ſuppl.* 120. *L'Herit. ſtirp. nov.* 4. 65. *t.* 32.
Oleander creticus. *Raii hiſt.* 1919. *Zan. hiſt.* 216. *t.* 166. (Thymelæa).
Leaves four in a whorl oblong obtuſe ſmooth and even.

6. Aſperula tinctoria. *Narrow-leaved Woodroof.*
Lin. ſpec. 150. *Reich.* 295. *ſuec.* 122. *Gmel. ſib.* 3. 166. 41. *Jacq. vind.* 35. *Hall. helv. n.* 729. *Sauv. monſp.* 163.
Galium tinctorium. *Scop. carn. n.* 149.
G. album 3. *Tabern. hiſt. t.* 733. *f.* 1. *good.*
Leaves linear : the lower ſix, the middle four in a whorl : ſtem flaccid : moſt of the flowers trifid.

7. Aſperula pyrenaica. *Pyrenean Woodroof.*
Lin. ſpec. 151. *Reich.* 296. *Hall. helv. n.* 731.
Rubia. *Bauh. pin.* 333. 7. *prodr.* 146. 8. *Mor. ſ.* 9. *t.* 22. *f.* 10.
Leaves four in a whorl lanceolate-linear, ſtem erect, flowers generally trifid.

8. Aſperula cynanchica. *Squinancy-wort.*
Lin. ſpec. 151. *Reich.* 296. *Hudſ. angl.* 66. *With.* 159. *Hall. helv. n.* 730. *Pollich pal. n.* 147. *Sauv. monſp.* 163. *Mor. hiſt. ſ.* 9. *t.* 22. *f.* 9. *Berg. phyt. t.* 81. *Sowerby engl. bot. t.* 33.
Rubia cynanchica. *Bauh. pin.* 333. *Bauh. hiſt.* 3. 723. 2. *Raii hiſt.* 485. *ſyn.* 225.
Galium cynanchicum. *Scop. carn. n.* 147.
G. montanum, &c. *Col. ecphr.* 1. 296. *t.* 297. *f.* 1.
G. album minus. *Tabern. hiſt.* 433. *f.* 2.
Leaves four in a whorl, linear : the upper ones oppoſite ; ſtem erect : flowers quadrifid.

9. Aſperula ariſtata. *Awn-flowered Woodroof.*
Lin. ſyſt. 149. *ſuppl.* 120.
Leaves linear, rather fleſhy ; the lower ones four in a whorl ; flowers ſubtern awned.

10. Aſperula lævigata. *Shining Woodroof.*
Lin. ſyſt. 149. *Reich.* 296. *mant.* 38. 330. *Bocc ſic.* 10. *t.* 11. *f.* 5. *and* 13. *t.* 6. *f.* 1.
Galium rotundifolium. *Lin. ſpec.* 157. *Hall. helv. n.* 727. *Jacqu. auſtr.* 1. 58. *t.* 94.
Rubia. *Bauh. hiſt.* 3. 718. *f.* 2. *Mor. ſ.* 9. *t.* 21. *f.* 4. & 5. *Bauh. pin.* 334. 11. *prodr.* 145. 3.
Leaves four in a whorl, elliptic, nerveleſs, ſmoothiſh : peduncles divaricate, trichotomous ; ſeeds ſcabrous.

11. Aſperula hexaphylla. *Six-leaved Woodroof.*
Allion. pedem. n. 48. *t.* 77. *f.* 3.
Leaves ſix in a whorl, linear ; flowers umbelled terminal, ſubſeſſile.

DESCRIPTIONS, &c.

1. Root perennial, ſlender, jointed, yellowiſh, creeping a little below the ſurface, and ſending out many ſmall fibres. Stem upright, about a ſhort ſpan in height commonly ſimple, four-cornered with a groove on each ſide, ſmooth. Leaves ſmooth, a little rolled back at the ſides : the edges and nerves ſet with little ſoft ſpines : the lower ones obtuſe, the upper pointed : two ſeſſile leaves at each diviſion of the peduncles. Panicle or corymb commonly trifid, each diviſion bearing about four flowers. Calyx ſcarcely any : corolla three lines and a half in diameter, ſnowy white, and when a little magnified, appearing ſprinkled with ſhining particles : nectary a ſmall gland ſurrounding the baſe of the ſtyle : anthers ſmall white, growing brown with age : germ hiſpid ; ſtyle ſhort ; ſtigma bifid, white : fruit covered with ſtiff, hooked hairs.—Native of many parts of Europe, in woods and ſhady places : flowering in may, ſometimes in april.

The ſcent is pleaſant, and when dried this plant diffuſes an odour like that of Vernal-graſs (Anthoxanthum odoratum). It is ſaid to give a grateful flavour to wine : and, when kept among cloaths, not only to impart an agreeable perfume to them, but to preſerve them from inſects. Cows, horſes, ſheep, and goats are reported to eat it.

Since it contains an acid principle, with much fixed alkaline ſalt, it is thought by ſome that it may be uſeful in obſtructions of the liver and biliary ducts ; modern practice however rejects it[a].

The Engliſh name is not derived from any foreign language, and the orthography of it is various.—Turner calls it *Wood-roſe* or *Wood-rowell* ; Gerard *Woodrooffe*, *Woodrowe* and *Woodrowell* ; Parkinſon *Woodroofe* ; Dr. Withering ſays, it is ſpelt in ſome old authors *Woodderowffe.* Among the moderns *Woodroof* and *Woodruff* have obtained. It ſeems at firſt, that theſe names are derived from the place of growth, and the roughneſs of the ſeeds ; but the learned Turner has given us another and more probable derivation, in theſe words. "It is a ſhort "herbe of a ſpan long, fourſquare and ſmal, about "the which growe certaine orders of leaves, certayne ſpaces goynge betwene, repreſenting ſome

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[a] Curtis, Withering, Haller, Scop. Pollick, Bergius.

“ kindes of *rowelles* of ſporres, whereof it hath the “ name in Engliſh.” The corruption from *Woodrowel* to *Woodroof* through *Woodrowe* is eaſy.

2. Root annual, ſlender, with a yellow bark. Stem upright, a foot high, roughiſh, jointed, dichotomous; the diviſions oppoſite. Leaves from ſix to eight, linear-lanceolate, bluntiſh or but little acute, eight lines long and one broad, the edges turned back, ſmooth and of a lively green above, beneath whitiſh with hairs preſſed to the ſurface, and rough. A cloſe umbel of ſeſſile flowers terminates the ſtem and branches, ſurrounded with leaves ciliate round the edge. Corollas blue with ſtreaks of darker blue. Germs ſmooth. Anthers and ſtigma yellowiſh[b]. It flowers in july.

Native of France, Germany, Switzerland, Auſtria, Carniola, Savoy, Piedmont.

The roots dye a fine red.

It was introduced here in 1772, by Monſieur Richard[c].

3. Roots perennial, woody, red, branching, intertwined. Stems upright, a foot high, with alternate branches. Leaves a little hairy, with nerves like Plantain[d]. Peduncles one or two, alternate. Bractes ciliate. All the flowers hermaphrodite, with a two-parted piſtil, which ſeldom grows up before the flower fades[e].

According to Scopoli, it reſembles the *A. cynanchica*, but differs in its manner of flowering, not from the axils, but from the top of the ſtem; in having all the flowers hermaphrodite; and in the whole plant being moderately villoſe.

It is a native of the mountains of Switzerland, Italy, *&c.* Mr. Miller cultivated it in 1739; and it flowers from april to june[f].

4. Stem alternately branching, diffuſed, ſubpubeſcent. Leaves the length of the internodes, gibbous above like thoſe of *Sedum*: on the branches the whorls are more remote, the leaves narrow-lanceolate and unequal. The flowering-branches upright, branching alternately. The laſt leaves in pairs. The flowers few in terminating bunches. Corollas pubeſcent on the outſide. Native of Crete and the Levant[g]. It flowers in june, and was introduced in 1775, by Monſ. Thouin[h].

5. This is an underſhrub, about a cubit high, proſtrate, and extremely fetid in all its parts. Stem branched, diffuſed, ſomewhat woody, with an aſh-coloured bark: branches oppoſite, ſpreading, procumbent, round, ſomewhat rugged, red. Leaves oppoſite, ſubſeſſile, linear-lanceolate, ſharp at both ends, quite entire, one-nerved, ſmooth, thickiſh, having a ſmall degree of ruggedneſs ariſing from almoſt inviſible ſtiff points along the edges and the rib; they are of a paler green underneath, ſpreading, twelve or fifteen lines in length, and three or four in breadth. There is a ſhort, ſharp, upright ſtipule between the leaves, half embracing the ſtem. The flowers are in terminating corymbs, compoſed of three upright peduncles; they are three or four in number, ſcarcely pedicelled, red. Bracte two-leaved, acute, ſpreading a little, below the germs[i]. It reſembles the foregoing ſpecies, but is ſmooth[k].

Native of Syria between Aleppo and Antioch, Calabria and Sicily. It flowers during moſt of the ſummer, and ſome part of the autumn. The ſhrubby ſtalks, leaves in pairs, and fetid ſmell ſufficiently diſtinguiſh this ſpecies[l].

6. Stems branching, procumbent unleſs ſupported, ſtreaked, ſwelling under the leaves, three feet in length. Leaves four in a whorl, ſometimes five, at top two, at bottom ſix; under the flowers ovate-lanceolate, reſembling thoſe of Wild Thyme. Peduncles from the axils forming little umbels. Corolla white. Seeds ſmooth. The whole plant is green and ſmooth[m].

The roots are uſed in Gotland inſtead of Madder, for dying wool of a red colour[n]. Native of Sweden, Germany, Switzerland, France, Carniola, Siberia.

It was cultivated in 1764, by Mr. James Gordon[o].

7. Roots perennial. Stems ſix or ſeven inches high. Leaves keeled; acute, ſmooth; the lower ones ſhorter, more obtuſe; lanceolate; the upper and floral leaves oppoſite, broader, acute, lanceolate. Flowers red. It has the ſtature of *Sherardia arvenſis*[p]. Native of the Pyrenees and about Baſil.

8. Roots perennial. Stems from four inches to a foot and half in length, proſtrate, hard, numerous, branching dichotomouſly. Leaves generally in fours, rarely five in a whorl, very unequal in length, commonly two longer and two ſhorter, the upper ones generally conjugate, but ſometimes two very ſmall leaves appear beſides, they are all entire, roughiſh and ſeſſile, blunt but tipped with a ſharp point. The flowers grow on erect branches, from the axils of the leaves; they are long and divided, forming thin faſtigiate umbels. The corollas are bluſh-coloured, elegantly marked with red lines; ſometimes they are white. Linneus has deſcribed them as they are when dry, rugged and a little wrinkled on the outſide. Germs ſmooth, red. The flowers have a ſweet ſmell, rarely perceived, like thoſe of the Woodroof[q]. They are commonly four-cleft, but Haller remarked it about Martinach with a trifid corolla.

Native of France, Germany, Switzerland, Carniola, Italy, and the Levant. Abundant in many parts of England on chalk downs, as about Dartford in Kent, on Epſom downs, Hertfordſhire, Gogmagog hills, Newmarket heath, Swaffham in Norfolk, Armingale wood by Norwich, the Suſſex downs, *&c.* flowering from june to auguſt.

It has the trivial name from κυων and αγχειν.—Dalechampius ſeems to be the chief authority for the reputation this plant formerly acquired in the cure of quinſies. He ſays it ſhould be applied externally as well as taken internally. It is entirely out of uſe[r].

9. Stem upright. Flowers pale, yellowiſh, placed parallel, with the diviſions bluntly awned. Native of the ſouth of Europe[s].

10. Stems ſimple, ſmooth, ſpreading. Leaves ſubpetioled, obtuſe, ſpreading, ſcarcely ciliate. Flowering branches horizontal, bifid. Two ſmall lanceolate bractes. Flowers uſually in threes, peduncled, white[t].

According to Monſ. La Chenal[u], Linneus's plant comprehends two diſtinct ſpecies, namely, Firſt—Galium n. 727. of Haller, and Jacqu. auſtr. t. 94. the ſtem of which is hirſute at bottom; the four leaves ovate, three-nerved, the edges ciliate with longiſh hairs, hirſute at the nerves; the ſeeds white and hiſpid.—Secondly, with a ſmooth ſtem; the four leaves ovate-oblong, very ſoft, the edges ciliate with ſhort hairs, the nerves hardly viſible, the ſeeds a little rough, but by no means hairy. This is what Linneus has deſcribed in his Mantiſſa, under the name of *Aſperula rotundifolia*[x]. The leaves become quite ſmooth by cultivation, and hence probably Linneus finally gave it the name of *lævigata*. The plant of Jacquin, and probably of Haller, ſeems to be a diſtinct ſpecies: the ſpecimen ſent from Switzerland by Monſ. Duval, in Dr. Smith's herbarium, has the ſeeds remarkably rough, whereas in the original *Galium rotundifolium* of the Linnean herbarium, now *Aſperula lævigata*, they are only rugoſe, which appearance they may have taken up in drying.

Jacquin doubts whether his plant be the ſame with that of Linneus's Mantiſſa. He deſcribes it thus. Root perennial, fibroſe, branched, browniſh, two or three lines thick. Stems ſeveral, herbaceous, weak and moſtly proſtrate, four-cornered, ſmoothiſh, very much branched, half a foot or at moſt a foot in height, diffuſed often circularly. Leaves obovate, blunt with a ſmall point, which however is ſometimes wanting, three-nerved, ciliate with ſmall hairs, and having a few ſcarcely viſible hairs on both ſides. The ſmall branches end in two or three peduncles, which are themſelves ſingle, bifid or trifid, and capillary. Corollas ſmall, white, ſome quite flat, others ſlightly campanulate at the baſe; the ſegments are ſemiovate and ſharp, with ſcarcely any tube. Germs and ſeeds hiſpid with hooked hairs. Anthers pale-coloured.

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[b] Pollich. [c] Hort. kew. [d] Haller. [e] Linneus. [f] Hort. kew. [g] Linn. mant. [h] Hort. kew. [i] L'Heritier. [k] Linn. ſuppl. [l] L'Heritier. [m] Haller. [n] Linn. ſuec.

[o] Hort. kew. [p] Linn. [q] Haller, Pollich, Engl. Bot. [r] Eng. Bot. [s] Linneus. [t] Ibid. [u] Act. helv. 8. 144. [x] p. 38. & 330.

Native of the ſouth of Europe. Introduced in 1775, by Monſ. Thouin. It flowers in june and july[y].

11. Root perennial. Stems ſometimes branching at the baſe, but generally ſimple. Leaves acuminate, flat, erect; the internodes a little longer than the leaves. The umbels are accompanied with ten or twelve leaves, like the others, only ſhorter. Corollas purple, white within, the ſegments a little revolute. Seeds oblong, compreſſed. The whole plant is ſmooth. It grows in the fiſſures of the rocks near Tende[z].

PROPAGATION AND CULTURE.

All theſe plants being perennial, except the ſecond, may be increaſed by the roots, as well as by ſeeds. The firſt ſort will proſper under the ſhade of ſhrubs in wilderneſs quarters. The fifth muſt have the protection of a greenhouſe, and does not continue many years, but it may be increaſed both by ſeeds and cuttings. The eighth, growing naturally in chalk; and moſt of the others being natives of rocks, muſt have a dry open ſituation.]

ASPHODELUS. [From α and σφάλλω, ſubplanto. *Lin.* q. σπόδελον, from σποδος aſhes: Aſphodel being planted with the mallow on graves. *Ray.*]

Lin. gen. 421. *Reich.* 454. *Schreb.* 569. *Tournef.* 178. *Gærtn.* 17. *Juſſ.* 52.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Coronariæ*. *Aſphodeli* Juſſ.

GENERIC CHARACTER.

CAL. none

COR. one-petalled, ſix-parted: *diviſions* lanceolate, flat, ſpreading. *Nectary*, ſix very ſmall valves, converging into a globe, inſerted into the baſe of the corolla.

STAM. *Filaments* ſix, ſubulate, inſerted into the valves of the nectary, bowed; alternately ſhorter. *Anthers* oblong, incumbent, riſing.

PIST. *Germ* roundiſh, within the nectary: *ſtyle* ſubulate, in the ſame ſituation with the ſtamens: *ſtigma* truncate.

PER. *Capſule* globular, fleſhy, three-lobed, three-celled.

SEEDS ſeveral, triangular, gibbous on one ſide.

OBS. *The filaments in ſome are declining, in others bowed outwardly.*

ESSENTIAL CHARACTER.

Cor. ſix-parted. *Nectary*, ſix valves covering the germ.

SPECIES.

1. Aſphodelus luteus. *Yellow Aſphodel* or *King's-ſpear*. *Lin. ſpec.* 443. *ſyſt.* 330. *Reich.* 2. 60. *hort. cliff.* 127. 1. *upſ.* 83. *Jacqu. hort.* 1. 32. *t.* 77. *Blackw. t.* 233. *Hall. helv. n.* 1206. *Raii hiſt.* 1192. *n.* 4. *Plenck. ic. t.* 266. *Dod. pempt.* 208. *Bauh. hiſt.* 2. 632. *Mor. hiſt. ſ.* 4. *t.* 1. *f.* 6. *Ger.* 87. 4. *emac.* 94. 4. *Park. theat.* 1218. *f.* 4.

Stem leafy, leaves three-ſided ſtriated.

2. Aſphodelus ramoſus. *Branched Aſphodel* or *King's Spear*.

Lin. ſpec. 444. *ſyſt.* 330. *Reich.* 2. 60. *mat. med.* 94. *hort. cliff.* 127. 2. *Sauv. monſp.* 20. *Scop. carn.* 2. *n.* 412. *Villars dauph.* 2. 265. *Murray in comm. gott.* 1776. 37. *t.* 7. *Bauh. pin.* 28. *n.* 1. *Raii hiſt.* 1191. 1. *Plenck. ic. t.* 267. *Black. t.* 238. *Cluſ. hiſt.* 1. 196. 1. *Mor. hiſt. t.* 1. *f.* 1. *Bauh. hiſt.* 2. 625. *Ger.* 86. 1. *emac.* 93. 2. *Park.* 1218. *f.* 3.

β. A. albus. *Mill. dict. n.* 3. *Bauh. pin.* 28. 2. *Raii hiſt.* 1192. 2. *Cluſ.* 197. 2. *Dod. pempt.* 206. *Mor. hiſt. ſ.* 2. *Ger.* 86. 2. *emac.* 93. 1.

Stem naked, leaves enſiform keeled ſmooth.

3. Aſphodelus fiſtuloſus. *Onion-leaved Aſphodel*. *Lin. ſpec.* 444. *Reich.* 2. 61. *Gærtn. fruct.* 1. 68. *Gouan hort.* 174. *illuſtr.* 26. *Bauh. pin.* 29. 7. *Cluſ. hiſt.* 197. *f.* 2. *Ger. emac.* 48. *f.* 3. *Mor. hiſt. ſ.* 4. *t.* 1. *f.* 5. *Raii hiſt.* 1193. 4. (Phalangium.)

Stem naked, leaves ſtiff ſubulate ſtriated ſubfiſtuloſe.

DESCRIPTIONS, &c.

1. The roots of *Yellow Aſphodel* are compoſed of many thick, fleſhy, yellow tubers, joined into a head at the top; whence ariſe ſtrong, round, ſingle ſtalks, near three feet high, covered their whole length with long, three-cornered, boat-ſhaped leaves, of a ſea-green colour; the upper part of the ſtalk is adorned half way with yellow ſtar-ſhaped flowers, which begin to open at bottom, ſo that on the ſame ſpike there is often a ſucceſſion of flowers during a full month from the time of its beginning to flower, which is in june, or towards the end of may. [The tubers of the root are four or five inches long, and hardly ſo thick as the little finger. The leaves are ſubulate, acuminate, ſtriated, ſmooth, ſpreading, but embracing the ſtem by the baſe dilated on both ſides into a whitiſh membrane. Towards the top of the ſtem there are thin, membranaceous, whitiſh, ſubpellucid bractes, from the axils of which come out one-flowered peduncles. The corolla ſmells ſweet, and is ſo deeply divided, that it can ſcarcely be called monopetalous: three of the petals, which were the outer ones whilſt the flower was cloſed, and are placed alternately with the three others, are only half their breadth; of theſe, the loweſt is more diſtant from the two next than the reſt are from each other. The ſcales of the nectary are nothing elſe but the baſes of the filaments ſpread out, each faſtened to a petal, and all converging ſo as to cover the germ: which is roundiſh and marked with ſix grooves, three deeper than the reſt; in theſe, a little above the middle, is a pore, whence iſſues a ſweet liquor, which in time fills the ſpace between the ſcales and the germ: this pore becomes an oblong dark-green ſpot in the fruit, but when that is ripe it vaniſhes. All the filaments are bent down in a curve, and bend up again towards the end; three of them are double the length of the other three, and have much larger anthers. The capſule is at firſt green, ſhining, even: but when ripe it becomes wrinkled and browniſh: it opens by three diſtinct valves, having a partition in the middle, on each ſide of which at the bottom is lodged a ſingle ſeed; ſo that there are two ſeeds in each cell, and ſix in each capſule: they are very ſharply three-cornered[a].

It is a native of Sicily, where it was found by Ray.]

2. The *White* or *branched Aſphodel* has roots compoſed of many thick fleſhy fibres, to each of which is faſtened an oblong tuber, as large as a ſmall potatoe; the leaves are long and flexible, having acute edges, they grow in irregular cluſters from the crown of the root; among theſe come out the ſtalks, which riſe more than three feet high, ſending out ſeveral ſide branches, which are naked; the upper parts of theſe are adorned with many ſtar-ſhaped flowers, which are white with a purple line running longitudinally along the outſide of each ſegment. They grow in long ſpikes, flowering ſucceſſively from the bottom upwards. They appear the beginning of june, and the ſeeds ripen in autumn.

β. Mr. Miller makes the unbranched White Aſphodel to be a diſtinct ſpecies. The roots, he ſays, are the ſame, but the leaves are longer and narrower; the ſtalks are ſingle, never putting out any ſide branches; the flowers are of a purer white, and grow in longer ſpikes.

[Native of the ſouth of Europe. Immenſe tracts of land in Apulia are covered with it, and it affords very good nouriſhment to the ſheep [b].]

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[y] Hort. kew.

[z] Allioni.

[a] Jacquin.

3. *Onion-leaved Aſphodel* is an annual plant. The roots are compoſed of many fleſhy yellow fibres. The leaves are ſpread out from the crown of the root, cloſe to the ground in a large cluſter; they are convex on their under ſide, but flat above, and hollow. The flower-ſtalks riſe immediately from the root, and grow about two feet high, dividing upwards into three or four branches, which are adorned with white ſtarry flowers, having purple lines on the outſide: theſe come out in july and auguſt, and their ſeeds ripen in october, ſoon after which the plants decay. It grows naturally in the ſouth of France, Spain, and the iſland of Crete.

[Capſule ſuperior, globular, the ſize of a ſmall pea, tranſverſely wrinkled, the valves having a partition in the middle of each. Two ſeeds in each cell, but one often abortive; they are oblong, three-ſided, acuminate downwards, and have deep pits and tranſverſe wrinkles, their colour is a brown bay [c].

Linneus recommends it to be conſidered whether this be not a ſpecies of *Anthericum*.

Theſe three Aſphodels were all cultivated by Gerard in 1596 [d].

Scopoli has deſcribed and figured another ſpecies, under the name of *Aſphodelus liburnicus* [e]. It has a round ſtem, a foot high, and a line in thickneſs. Flowers pendulous, yellow, looſe, an inch long, ſtreaked with five browniſh lines: peduncles ſimple, half the length of the corollas: under each an oval bracte, whitiſh and pointed. The leaves are ſetaceous, at the baſe of the ſtem, ſubtriquetrous, an inch or more long, with a very thin membrane to each, the angles rough, and appearing toothed when magnified. Three ſtamens are longer than the other three: and the filaments are ſaffron-coloured. It was found in Iſtria by Mygind [e].]

PROPAGATION AND CULTURE.

1. The yellow Aſphodel multiplies very faſt by roots, and will ſoon overſpread a large border, if ſuffered to remain unremoved, or if the ſide ſhoots are not taken off.

2. The ſecond does not increaſe very faſt by roots, nor ſhould it be often tranſplanted, for that will weaken it, ſo that the flower ſtems will not riſe ſo tall, or produce ſo many flowers, as when left undiſturbed for ſome years; therefore the beſt way is to propagate it by ſeeds.

The variety is not quite ſo hardy as either of the others, but in very ſevere froſt is ſometimes killed, unleſs the roots be covered in winter.

Theſe Aſphodels are pretty ornaments for a flower-garden, and, requiring very little trouble to cultivate them, are rendered more acceptable. They may be propagated by ſeeds, which ſhould be ſown ſoon after they are ripe, on a warm border of light freſh earth: in the ſpring the plants will appear, when you ſhould carefully clear them from weeds, and in dry weather they muſt be frequently watered: if this be duly obſerved, the plants will have acquired ſtrength enough to be tranſplanted by the Michaelmas following: at which time you muſt prepare a bed of freſh earth in the flower nurſery, into which you ſhould plant the roots, at about ſix inches diſtance every way; obſerving to plant them ſo low, as that the top of the roots may be three or four inches under the ſurface of the bed; and ſome old tan, or dung, ſhould be ſpread over the ſurface of the ground, to keep out the froſt: in this bed they may remain one year, during which time, they ſhould be kept clear from weeds; by which time, the roots having acquired ſtrength enough to produce flowers the following year, they ſhould, in autumn, when their leaves are decayed, be carefully taken up, and tranſplanted into the flower-garden, obſerving to place them in the middle of the borders, amongſt other hardy kinds of flowers, where being properly intermixed, they will make an agreeable variety, and continue a long time in flower.

3. The third ſort is an annual plant, and is only propagated by ſeeds; theſe ſhould be ſown in the autumn, when they will more certainly grow than if ſown in the ſpring: when the plants are up, they will require no other trouble but to keep them clean from weeds, until they have put out four or five leaves, when they ſhould be carefully removed to the places where they are to remain. If the ſeeds of this plant are permitted to ſcatter, the plants will come up without care, and thoſe which are not removed, will be the ſtrongeſt plants, and produce a greater number of flowers.

[ASPLENIUM. (From α and σπλὴν, becauſe it was ſuppoſed to dry up the ſpleen.) *Spleenwort.*

Lin. gen. n. 1178. *Reich.* 1295. *Schreb.* 1631. Lingua Cervina *Tournef.* 319. Trichomanes *Tournef.* 315. *a, b.*

Claſſ. 24. 1. Cryptogamia Filices. *Ferns.*

GENERIC CHARACTER.

Fructifications diſpoſed in right lines along the under diſk of the frond.

SPECIES.

* *Frond ſimple.*

1. Aſplenium rhizophyllum. *Root-leaved Spleenwort.*
Lin. ſpec. 1536. *Reich.* 4. 401. *amæn.* 2. 337. *Gron. virg.* 2. 166.
Phyllitis. *Pluk. alm.* 154. *t.* 105. *f.* 3. *Mor. hiſt.* 3. 557. 14. *ſ.* 14. *t.* 1. *f.* 14.
Fronds cordate-enſiform undivided, top filiform rooting.

2. Aſplenium Hemionitis. *Mule's-tongue, Mule's-Fern* or *Spleenwort.*
Lin. ſpec. 1536. *Reich.* 4. 401. *Lour. cochinch.* 677.
Hemionitis. *Bauh. pin.* 353. 2. *Cluſ. hiſt.* 2. 214. *Raii hiſt.* 135.
Fronds ſimple cordate-haſtate five-lobed quite entire, ſtipes ſmooth and even.

3. Aſplenium Scolopendrium. *Hart's-tongue Spleenwort.*
Lin. ſpec. 1537. *Reich.* 4. 401. *mat. med.* 224. *vir. cliff.* 103. *hort. cliff.* 474. *ſuec.* 941. *Hudſ. angl.* 452. *Wither. arr.* 3. 51. *Curtis lond.* 1. 67. *Lightf. ſcot.* 660. *Bolton. fil.* 18. *t.* 11. *Weiſ. crypt.* 292. *Hall. helv. n.* 1695. *Scop. carn. n.* 1261. *Pollich pal. n.* 957. *Sauv. monſp.* 27. *Berg. phyt.* 2. 105. *Jungh. offic. cent.* 1. *f.* 5. *Lour. cochinch.* 677.
Lingua cervina. *Bauh. pin.* 353. *Plum. fil.* 34. *t.* A. *f.* 4. *Blackw. t.* 138. *Mor.* 14. 1. 1.
Phyllitis. *Ger. emac.* 1138. *f.* 1. *Park.* 1046. *Raii hiſt.* 134. *ſyn.* 116.
β. Phyllitis criſpa. *Bauh. hiſt.* 3. 757.
Curled Hart's-tongue Spleenwort.
γ. P. ſ. Lingua Cervina maxima, undulato folio auriculato per baſim. *Pluk. phyt. t.* 248. *f.* 1.
Wave-leaved Hart's-tongue Spleenwort.
δ. Lingua cervina multifido folio. *Bauh. pin.* 353.
Cluſtered Hart's-tongue Spleenwort.
ε. P. ſ. Lingua Cervina minor criſpa, fol. multifido, ramoſa. *Pluk. phyt. t.* 248. *f.* 2.
Branching-cluſtered Hart's-tongue Spleenwort.
Fronds ſimple cordate-lingulate quite entire, ſtipes hirſute.

4. Aſplenium nidus. *Bird's-neſt Spleenwort.*
Lin. ſpec. 1537. *Reich.* 4. 402. *Forſt. florul. n.* 425.
Phyllitis, &c. *Mor.* 3. 558. 14. 1. 15.
Scolopendria, &c. *Breyn. cent.* 129. *t.* 99.
Fronds ſimple lanceolate quite entire ſmooth.

5. Aſplenium ſerratum. *Serrate-leaved Spleenwort.*
Lin. ſpec. 1538. *Reich.* 4. 402. *Brown. jam.* 92. 1.
Lingua cervina, &c. *Plum. amer.* 27. *t.* 39. *fil. t.* 124.
Phyllitis, &c. *Pet. fil.* 106. *t.* 6. *f.* 7. *Sloan. jam.* 1. 72. *n.* 5.
Fronds ſimple lanceolate ſerrate ſubſeſſile.

6. Aſplenium plantagineum. *Plaintain-leaved Spleenwort.*
Lin. ſpec. 1537. *Reich.* 4. 403. *Brown. jam.* 92.
Fronds ſimple ovate-lanceolate ſubcrenate, ſtipe four-cornered.

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[b] Symonds in Young's Annals.

[c] Gærtner.

[d] Hort. kew.

[e] Fl. carn. n. 411. t. 12.

7. Aſplenium lanceum. *Lance-leaved Spleenwort.*
Lin. ſyſt. 933. *Thunb. jap.* 333.
Frond ſimple elliptic entire ſmooth, ſtipe round ſcaly.

8. Aſplenium bifolium. *Double-leaved Spleenwort.*
Lin. ſpec. 1538. *Reich.* 4. 403.
Lingua cervina, &c. *Plum. fil.* 116. *t.* 133.
Phyllitis, &c. *Pet. fil.* 107. *t.* 13. *f.* 11.
Fronds pinnate; leaflets lanceolate ſubſinuate connate.

** *Frond pinnatifid.*

9. Aſplenium Ceterach. *Common Spleenwort* or *Miltwaſte.*
Lin. ſpec. 1538. *ſyſt.* 933. *Reich.* 4. 403. *hort. cliff.* 474. *mat. med.* 225. *Hudſ. angl.* 452. *Lightf. ſcot.* 661. *Bolton fil.* 20. *t.* 12. *Sauv. monſp.* 270. *Hall. helv. n.* 1694. *Scop. carn. n.* 1262. *Berg. phyt.* 2. 107. *Blackw. t.* 216. *Mor.* 561. *ſ.* 14. *t.* 2. *row.* 3. *Plum. fil.* 33. *t.* B. *f.* 3. *Ger.* 978. 1. *emac.* 1140. *f.* 1. *Park. theat.* 1046. *f.* 1. *Bauh. hiſt.* 3. 749. *Raii hiſt.* 139. *ſyn.* 118.
Fronds pinnatifid; lobes alternate confluent obtuſe.

10. Aſplenium obtuſifolium. *Blunt-leaved Spleenwort.*
Lin. ſpec. 1538. *Reich.* 4. 404.
Adiantum alis latioribus. *Pet. fil.* 117. *t.* 2. *f.* 4.
Fronds ſubpinnate; pinnas obtuſe ſinuate, decurrent, alternate.

*** *Frond pinnate.*

11. Aſplenium nodoſum. *Knotted-ſtalked Spleenwort.*
Lin. ſpec. 1539. *Reich.* 4. 404. *Brown. jam.* 93. *Lour. cochinch.* 678.
Phyllitis. *Pet. fil.* 143. *t.* 6. *f.* 16.
Lingua cervina nodoſa. *Plum. fil. t.* 108. *Raii ſuppl.* 63.
Filix. *Plum. amer.* 4. *t.* 6. *Sloan. jam.* 1. 85. *t.* 41. *f.* 1.
Fronds pinnate; pinnas oppoſite lanceolate quite entire.

12. Aſplenium ſalicifolium. *Willow-leaved Spleenwort.*
Lin. ſpec. 1538. *Reich.* 4. 404.
Lonchitis glabra major. *Plum. amer.* 18. *t.* 27. *fil. t.* 60. *Raii ſuppl.* 67.
Lonchitis ſtriata. *Pet. fil.* 110. *t.* 3. *f.* 2.
L. major, &c. *Sloan. jam.* 1. 78. 24.
Fronds pinnate; pinnas ſickle-lanceolate crenate from the baſe upwards angular.

13. Aſplenium Trichomanes. *Common Maidenhair.*
Lin. ſpec. 1540. 19. *Reich.* 4. 404. *lapp.* 388. *ſuec.* 942. *hort. cliff.* 474. *mat. med.* 225. *Woodv. med. bot.* 565. *t.* 204. *Hudſ. angl.* 452. *Wither. arr.* 3. 52. *Light. ſcot.* 662. *Bolton fil.* 22. *t.* 13. *Hall. helv. n.* 1693. *Scop. carn. n.* 1263. *Weiſ. crypt.* 296. *Pollich pal. n.* 958. *Lour. cochinch.* 678. *Blackw. t.* 370. *Fl. dan. t.* 119. *Berg. phyt.* 2. 109. *Mor.* 14. 3. 10. *Ger. emac.* 1146. *f.* 1. *Park. theat.* 1051. *Raii hiſt.* 140. *ſyn.* 119. *Plum. fil.* 26. *t.* B. *f.* 1.
Fronds pinnate; pinnas roundiſh crenate.

14. Aſplenium viride. *Green Spleenwort.*
Hudſ. angl. 453. *Wither. arr.* 3. 52. *Lightf. ſcot.* 663. *Bolt. fil.* 24. *t.* 14.
Trichomanes coſta viridi quandoque bifida fol. lenticularibus crenatis. *Raii ſyn.* 119.
β. Tr. fol. eleganter inciſis. *Tourn. inſt.* 539. *t.* 350. *f.* 1, c. *Raii ſyn.* 120. *Mor. hiſt. ſ.* 14. *t.* 3. *f.* 13. *Pluk. phyt. t.* 73. *f.* 6.
Fronds pinnate; pinnas roundiſh crenate truncate at the baſe.

15. Aſplenium ebeneum. *Ivory-ſtiped Spleenwort.*
Ait. hort. kew. 3. 462.
Frond pinnate; pinnas lanceolate ſubfalcate ſerrate eared at the baſe, ſtipe very gloſſy ſimple.

16. Aſplenium dentatum. *Tooth-leaved Spleenwort.*
Lin. ſpec. 1540. *Reich.* 4. 405. *Brown. jam.* 93. 5. *Plum. amer.* 35. *t.* 50. *fil. t.* 101. *Pet. fil.* 120. *t.* 2. *f.* 15.
Fronds pinnate; pinnas wedge-ſhaped obtuſe crenate-emarginate.

17. Aſplenium marinum. *Sea Maidenhair* or *Spleenwort. Dwarf Sea-Fern.*
Lin. ſpec. 1540. *Reich.* 4. 405. *hort. cliff.* 474. *Hudſ. angl.* 453. *Lightf. ſcot.* 664. *Wither. arr.* 3. 53. *Bolt. fil.* 26. *t.* 15. *Mor.* 14. 3. 25. *good. Pet. gaz. t.* 91. *f.* 1. *good. Ger. emac.* 1143. *f.* 4. *t.* 33. *f.* 1.
Frond pinnate; pinnas obovate ſerrate gibbous above obtuſe, wedged at the baſe.

18. Aſplenium cultrifolium. *Sickle-leaved Spleenwort.*
Lin. ſpec. 1538. *Reich.* 4. 405. *hort. cliff.* 474. *Plum. fil.* 45. *t.* 59.
Fronds pinnate; pinnas ſickle-lanceolate, gaſh-ſerrate, from the baſe downwards angular.

19. Aſplenium rhizophorum.
Lin. ſpec. 1540. *Reich.* 4. 406. *Swartz. obſ.* 399. *Brown. jam.* 92. *Pluk. alm.* 9. *t.* 253. *f.* 4.
Fronds pinnate rooting at top; pinnas ovate repand ſomewhat eared: very ſmall ones remote quite entire.

20. Aſplenium monanthemum. *One-flowered Spleenwort.*
Lin. ſyſt. 933. *mant.* 130. *Reich.* 4. 406. *Smith ic. ined.* 3. 73.
Fronds pinnate; pinnas trapeziumed obtuſe ſerrate entire behind; one line of fructification.

21. Aſplenium Ruta muraria. *Wall-rue. Tentwort. White Spleenwort.*
Lin. ſpec. 1541. *Reich.* 4. 406. *ſuec.* 943. *mat. med.* 225. *Hudſ. angl.* 453. *Wither. arr.* 3. 53. *Engl. bot.* 150. *Bolt. fil.* 28. *t.* 16. *Lightf. ſcot.* 665. *Hall. helv. n.* 1691. *Scop. carn. n.* 1265. *Weiſ. crypt.* 298. *Pollich pal. n.* 959. *Berg. phyt.* 2. 111. 113. *Fl. dan. t.* 190. *Blackw. t.* 219. *Mor.* 14. 5. 22. *Ger.* 983. *emac.* 1144. 3. *Park.* 1050. 4. *Raii hiſt.* 146. *ſyn.* 122. *Plum. fil.* 29. *t.* A. *f.* 3.
Fronds alternately decompound; leaflets wedge-ſhaped crenulate.

22. Aſplenium alternifolium. *Alternate-leaved Spleenwort.*
Lin. ſyſt. 933. *Jacq. miſc.* 2. 51. *t.* 5. *f.* 2. *Hall. helv. n.* 1690. *Breyn. cent.* 1. 189. *ic.* 97. *Mor. ſ.* 14. *t.* 5. *f.* 25.
A. Breynii. *Retz. obſ.* 1. 32.
Fronds ſimply pinnate; leaflets alternate, wedge-ſhaped, gaſhed above.

23. Aſplenium Adiantum nigrum. *Black Maidenhair.*
Lin. ſpec. 1541. *Reich.* 4. 407. *Hudſ. angl.* 454. *Wither. arr.* 54. *Lightf. ſcot.* 666. *Bolt. fil.* 30. *t.* 17. *Hall. helv. n.* 1692. *Scop. carn. n.* 1264. *Pollich pal. n.* 960. *Berg. phyt.* 2. 115. *Fl. dan. t.* 250. *Blackw. t.* 220. *Mor.* 14. 4. 16. *Ger.* 975. 1. *emac.* 1137. 1. *Park.* 1049. 2. *Bauh. hiſt.* 3. 743. *Raii hiſt.* 152. 2. *ſyn.* 126.
Fronds ſubtripinnate, leaflets alternate, pinnas lanceolate gaſh-ſerrate.

24. Aſplenium Trichomanes ramoſum. *Branched Maidenhair.*
Lin. ſpec. 1541. *Reich.* 4. 407. *Bauh. hiſt.* 3. 755. *f.* 1. *Raii ſyn.* 119.
A. lanceolatum. *Hudſ. angl.* 454. *Bolt. fil. t.* 17. *f.* 2.
Fronds doubly-pinnate, pinnas obovate crenate, lower leaflets ſmaller.

25. Aſplenium marginatum. *Margined Spleenwort.*
Lin. ſpec. 1539. *Reich.* 4. 407. *Pet. fil.* 108. *t.* 12. *f.* 2. *Plum. fil.* 88. *t.* 106.
Fronds pinnate; pinnas oppoſite cordate-lanceolate ſubmarginate quite entire.

26. Aſplenium ſquamoſum. *Scaly-ſtiped Spleenwort.*
Lin. ſpec. 1539. *Reich.* 4. 407. *Pet. fil.* 112. *t.* 5. *f.* 2. *Plum. fil.* 86. *t.* 103.
Fronds pinnate; pinnas acuminate gaſhed, ſtipe ſcaly.

27. Aſplenium ſtriatum. *Striated Spleenwort.*
Lin. ſpec. 1539. *Reich.* 4. 408. *Pet. fil.* 113, 114. *t.* 3. *f.* 3, 4. *Plum. fil.* 15. 16. *t.* 18. 19.
Fronds pinnate; pinnas pinnatifid obtuſe crenate; the terminal one acuminate.

28. Aſplenium eroſum. *Lacerated Spleenwort.*
Lin. ſpec. 1539. *Reich.* 4. 408. *Brown. jam.* 94. *Sloan. jam.* 1. 78. *t.* 33. *f.* 2.
Fronds pinnate; pinnas trapeze-oblong, ſtriated, eroſe, eared at the baſe.

29. Aſplenium japonicum. *Japoneſe Spleenwort.*
Lin. ſyſt. 934. *Thunb. jap.* 334.

Frond pinnate; pinnas acute gaſh-pinnatifid ſerrulate; ſtipe ſcaly.

30. Aſplenium reſectum. *Half-leaved Spleenwort.*
Smith ic. ined. 3. t. 72.
Fronds pinnate; pinnas trapezium-ſhaped acuminate gaſh-crenate entire behind.

31. Aſplenium bulboſum. *Bulbous-rooted Spleenwort.*
Loureiro cochinch. 678.
Fronds pinnate; pinnas lanceolate ſlightly crenate; root bulbous.

Species from Swartz.

32. Aſplenium proliferum.
Swartz. prodr. 129. *Sloan. jam.* 1. 71. *t.* 26. *f.* 1.
Fronds ſubſeſſile broad-lanceolate, the firſt leaves obovate, rooting at the end.

33. Aſplenium pumilum.
Swartz. prodr. 129.
A. anthriſcifolium. *Jacqu. collect.* 2. 103. *t.* 2. *f.* 3, 4.
Hemionitis. *Plum. fil. t.* 66. *f.* A.
Frond ternate, leaflets three-parted gaſhed.

34. Aſplenium dimidiatum.
Swartz. prodr. 129.
Fronds pinnate, pinnas trapeze-oblong acuminate, angular upwards, entire and flat downwards.

35. Aſplenium fragrans.
Swartz. prodr. 130.
Fronds ſubtripinnate, leaflets alternate, pinnas lanceolate broadiſh, ſerrate at the tip.

36. Aſplenium grandiflorum.
Swartz. prodr. 130.
Fronds pinnate; pinnas alternate lanceolate ſubſerrate, at the baſe rectangular above, rounded below.

37. Aſplenium diſſectum.
Swartz. prodr. 130. *Plum. fil.* 46. (Lonchitis.)
Fronds pinnate: pinnas lanceolate gaſh-ſerrate tailed at the tip.

38. Aſplenium præmorſum.
Swartz. prodr. 130.
Frond tripinnatifid, pinnas ſomewhat wedge-ſhaped, pinnules eroſe-toothed at the tip.

39. Aſplenium cicutarium.
Swartz. prodr. 130. *Sloan. jam.* 1. 92. *t.* 52. *f.* 3. bad.
Frond tripinnate very ſmooth, the upper ones pinnatifid, leaflets lanceolate entire.

Species from Forſter.

40. Aſplenium flaccidum.
Forſt. fl. auſtral. n. 426.
Fronds pinnate; leaflets alternate remote pinnatifid, linear ſtiff.

41. Aſplenium lucidum.
Forſt. fl. auſtral. n. 427.
Fronds pinnate; leaflets oppoſite oblong-ovate acuminate ſerrulate.

42. Aſplenium polyodon.
Forſt. fl. auſtral. n. 428.
Fronds pinnate; leaflets trapezoid acuminate acute doubly-ſerrate,

43. Aſplenium obliquum.
Forſt. fl. auſtral. n. 429.
Fronds pinnate; ſtipes ſcaly; leaflets oblong oppoſite acuminate ſerrate, the outer margin ſhorter.

44. Aſplenium obtuſatum.
Forſt. fl. auſtral. n. 430.
Fronds pinnate; leaflets oppoſite oblong obtuſe ſerrate.

45. Aſplenium tenerum.
Forſt. fl. auſtral. n. 431.
Fronds pinnate; leaflets rhomb-oblong obtuſe gaſh-ſerrate.

46. Aſplenium caudatum.
Forſt. fl. auſtral. n. 432.
Fronds pinnate; leaflets pinnatifid linear/briſtle-ſhaped at the tip, ſegments blunt gaſh-ſerrate at the tip, ſtipe rough with hairs.

47. Aſplenium bulbiferum.
Forſt. fl. auſtral. n. 433.
Fronds ſubbipinnate; leaflets decurrent oblong obtuſe pinnatifid; fructifications proliferous.

DESCRIPTIONS, *&c.*

1. Root fibroſe, Fronds triangular, acuminate, point long, linear; at the baſe hollowed, eared; on long petioles. Fructifications irregularly diſperſed over the whole diſk of the leaf in oblong ſpots[a]. The ends of the fronds bend down to the ground, and there throw out roots, by which means this ſpecies of fern propagates itſelf. It was ſent to Moriſon from Virginia by Baniſter in 1680[b], and is found in other parts of North America. According to the catalogue of the royal botanic garden at Kew, it was introduced about 1764, by Mr. John Bartram. Probably Moriſon had only dry ſpecimens, and not the living plant. This is not Sloane's *Phyllitis*, figured in t. 26. f. 1. of his hiſtory of Jamaica. See *Aſp. proliferum* n. 33.

2. Mule's-Fern is very nearly allied to Hart's-tongue (n. 3.), but the longitudinal diameter of the frond ſcarcely exceeds the tranſverſe one[c].

It is a low fern, not above ſix inches in height, with a fibroſe root. The ſtipes are ſlender and in tufts. The fronds are ſmooth, with five ſublinear, unequal, expanded lobes. The fructifications are in oblique lines, making an acute angle with the rachis[d].

Native of the South of Europe, and Madeira. Introduced in 1779, by Mr. Francis Maſſon[e].

3. Root black, hard, covered with ſcales, and emitting numerous ſtrong black fibres. Stipe and lower part of the midrib covered with brown membranaceous, chaffy narrow ſcales. Fronds from five inches to a foot in length, and from an inch to an inch and half in breadth, lanceolate, rounded and hollowed at the baſe, of a tough and firm texture, of a dark ſhining green above, paler underneath, having numerous parallel veins running obliquely from the midrib to the margin; which is uſually more or leſs waved: but the fronds are much ſubject to vary; and hence ſeveral varieties have been noticed by authors, as the curled, waved, cluſtered and branching Hart's-tongue.

Fructifications in parallel lines, oblique to the midrib, commonly in one row on each ſide of it, but ſometimes there is a double row, thoſe of the inner row much larger than the outer; the lower part of the frond is often barren: the lines are narrow at firſt, and covered with a pale membranaceous pellucid involucre, which burſts when the capſules ſwell, and then they are much wider, and the capſules are globular and brown, each ſurrounded with a jointed elaſtic ring; when the ſeeds are ripe, the capſule is forced open by this, and they are diſperſed to a conſiderable diſtance. The ſeeds are very numerous, and ſcarcely viſible to the naked eye; when magnified they appear roundiſh, and full of little projecting points[f].

Native of moſt parts of Europe, in ſhady lanes, on walls and rocks, in wells and damp caverns. Common in many parts of England, eſpecially in the north. It is in full ſeed from ſeptember to november. The officinal names are *Lingua cervina*, *Phyllitis* and *Scolopendrium*. It is called *Hart's-tongue*, from the form of the leaf, in all the northern languages, with very little variation; in French *Langue de cerf*; in Italian *Lingua di cervo*; in Spaniſh and Portugueſe *Lingua cervina*.

The leaves were recommended as aperients and corroborants, in obſtructions of the viſcera, *&c.* They have been chiefly uſed in apozems and infuſions[g].

Ray recommends the plant, from his own experience, as a good medicine againſt convulſive diſorders; but it is diſcarded from the preſent practice. The common people indeed ſtill uſe an ointment made with the leaves of this, as alſo of *Ophiogloſſum*, or Adder's tongue, in burns and ſcalds.

4. The leaves of this are two feet long, and ſix or ſeven inches wide, firm and thick, ſmooth, and ſtreaked at an acute angle. The lines of fructification between the nerves or parallel ſtreaks are ſhort, ſcarcely extending one-third of the breadth of the leaf. It roots into the tops of trees. The leaves

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[a] Colden in Gron. virg.
[b] Moriſon.
[c] Linneus
[d] Loureiro.
[e] Hort. kew.
[f] Curtis, Lightf. Bolton.
[g] Lewis.

come out in a circle, are erect, and form a kind of umbel, in the middle of which birds make their neſts [h].

Native of Java and the Society iſles.

5. The root conſiſts of brown fibres, ſending up eight or nine fronds, three inches long, three quarters of an inch broad where broadeſt, yellowiſh green, narrow at the beginning, increaſing to near the end, and then decreaſing to a blunt point.

Native of woods in the inland parts of Jamaica [i].

6. This ſeldom riſes above ten or twelve inches; the fronds riſe from a thick fibrous root, which generally runs into the ground, whereas the foregoing ſometimes grows upon trees. The margin of the fronds is even, and the ſtipe ſmooth. Native of Jamaica [k].

7. The ſtipe is flexuoſe and decumbent. The lines of fructification are nearer to the outer edge. It differs from the fourth in having the fronds ſmaller and ſharp, the ſtipe round, and ſcaly at the baſe, and the lines of fructification remote from the rib. It differs from the third in having a lanceolate frond not cordate. Native of Japan [l].

8. Root compoſed of many thickiſh branching black fibres; fronds all double, or compoſed of two equal ſimilar leaflets united at the baſe by a common membrane. Each part reſembles a frond of common Hart's-tongue, (n. 3.) except that it is ſinuate on the edge. The common peduncle forks a very little above the baſe, and forms the midrib, whence branch other nerves oblique to the midrib, but parallel to each other; and between theſe are the lines of fructification [m].

Native of South America.

9. The root conſiſts of many fibres adhering to a ſhort ſhapeleſs head, which is ſurrounded thickly by the ſtumps of decayed leaves, and is of a dark-brown colour. Fronds many, from three to ſix inches in length, the hollows between the lobes nearly of the ſame ſize and ſhape as the lobes themſelves: there are about twenty pairs of theſe lobes in a frond, they are ſhort, broad, roundiſh, entire but waved on the edge, largeſt in the middle of the frond, diminiſhing gradually both to the end and the baſe; they are of a dark ſhining green on the upper ſide; and when the plant is old the edges are rolled backwards. The ſtipe is ſhort and brown. Linneus remarks, that the leaves are ſo ſcaly underneath, that the fructifications are not diſtinguiſhable; but this is only when the fronds are old, and is occaſioned by the involucres of the fructification being very large: for when they are young the lines are ſufficiently diſtinct, they are three or four, and ſometimes five, ſix, and even ſeven in number, placed obliquely near the midrib on each ſide; at firſt they are pale coloured; but as the plant advances in growth, the ſeed-veſſels enlarge, turn brown, and when they burſt run together, and cover the whole lower diſk, as in the genus *Acroſtichum* [n].

Native of moſt parts of Europe, on old walls and in the clefts of moiſt rocks: as about Briſtol, Bury in Suffolk, Heydon in Norfolk, Aſheridge in Hertfordſhire; near Malham Tarn, and many other places in the northern countries. It is in ſeed from may to october.

It has been recommended as a pectoral, and as an aperient in obſtructions of the viſcera: and an infuſion of the leaves has been given againſt the gravel [o]. It was recommended by the ancients for the various diſorders of the ſpleen, but it is entirely a ſtranger to modern practice [p].

10. Native of South America.

11. Height a foot and half, (Browne ſays three or four feet) upright, ſmooth. Pinnas long, ſtriated. Fructifications in oblique ſtraight parallel lines. from the edge of the frond to the rachis [q]. In old leaves they are ſo cloſe, that it may eaſily be miſtaken for an *Acroſtichum* at firſt view [r].

Native of the Weſt-Indies and Cochinchina.

12. Height a foot and half. Stipe blackiſh. Pinnas alternate, a third of an inch diſtant from each other, on very ſhort footſtalks: the middle pinnas are largeſt, being an inch and quarter long, and about half an inch broad at the baſe; they end in a point, are ſerrate on the edges, and are eared at the uppermoſt edge of each pinna [s].

Native of Jamaica and the Antilles.

13. Roots ſmall, conſiſting of brown capillary fibres. Fronds five or ſix inches in length, ſometimes ſhorter and ſometimes longer, lanceolate. Stipe and rachis ſmooth, gloſſy, blackiſh purple. Pinnas fifteen or twenty pairs, the loweſt moſt remote, the reſt nearer and nearer by ſlow gradation to the top, all oppoſite, their figure approaching to an oval, largeſt below, gibbous on the upper ſide at the baſe, and obliquely cut off on the lower, rounded or blunt at the end, crenate except at the baſe, where they are entire [t]. The ſeminal lines are oblique to the midrib, three, four, or five in number, pale yellow or whitiſh when young, and covered with a membranous involucre; when this burſts, a multitude of brown capſules come out, which at length cover the whole under ſurface [u]. According to Gleditſch, it differs from the others, in having the ſcale of the involucre ovate, gaping at the edge, and the capſules ſubſeſſile. The leaflets vary ſometimes in figure, and manner of notching about the edge.

Native of Europe, in the crevices of rocks and walls, and in ſhady places among ſtones. It is in ſeed from may to october.

The country people ſometimes give a tea or ſyrup of it for coughs and other complaints of the thorax. A little of the ſyrup mixed with water makes a very pleaſant draught. That which is brought from abroad has orange-flower water in it. But ſeveral different ferns are made uſe of for ſyrup of Capilaire.

14. The ſtipe of this is more tender, and frequently of a pale green colour, but ſometimes browniſh towards the root: in ſome ſpecimens they are brown and gloſſy, as in the foregoing. Pinnas eighteen or twenty pairs: leaflets ſometimes alternate, rhomboidal or trapezium-ſhaped, attached to the rachis by one of the angles, the upper and lower ſides of the baſe entire, the remainder of the edge crenate [x], more deeply than in the preceding [y]. The ſeed-veſſels firſt appear in two or three white oblong ſpots about the centre of the leaflet; theſe turn of a yellowiſh brown, and when burſt become confluent, covering the middle with a browniſh nap [z]. Though the leaflets of this be rather angular than roundiſh, the notches deeper, and the baſe more truncate, yet I think it may be doubted whether this is really diſtinct from the preceding; the green colour of the rachis can hardly be admitted as a ſpecific difference.

Native of moiſt rocks on the mountains of Yorkſhire, Weſtmoreland, and North Wales. Sometimes the leaves are proliferous or branched, which induced Linneus to call this *A. Trichomanes ramoſum* [a].

15. Native of North America. Cultivated in 1779, by John Fothergill, M. D. [b]

16. Native of South America and the Weſt-Indies. *A pygmæum* of Linneus, is nothing more than a young plant of this ſpecies [c].

17. *Sea Spleenwort* has fronds from three inches to a foot in length, but commonly about five or ſix inches. Stipes ſmooth, generally reddiſh brown. Pinnas from ſeven or eight to twenty pairs, from half an inch to an inch in length, nearly rhomboidal, ſometimes lanceolate, ſharply crenate, the notches equal in number to the lines of fructification; they are lobed on the upper ſide next the baſe, and on the lower ſide obliquely truncate, both above and below, at the baſe, entire, rounded or blunt at the end. Lines of fructification four or five (Lightfoot ſays, from three to nineteen) on

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[h] Linneus.
[i] Sloane.
[k] Browne.
[l] Thunberg.
[m] Plumier.
[n] Bolton. Woodw. in With. Haller.
[o] Lewis.
[p] Lightf.
[q] Loureiro.
[r] Browne.

[s] Sloane.
[t] Bolton.
[u] Weis.
[x] Bolton.
[y] Lightf.
[z] Bolton.
[a] Lightf.
[b] Hort. kew.
[c] Swartz. obſ.

each ſide of the nerve, running obliquely, always diſtinct [d].

Native of Suſſex, Devonſhire, Cornwall, Cumberland, Lancaſhire, Scotland, and Wales, on rocks of the ſea coaſt.

Mr. Lightfoot obſerved ſome imperfect ſtarved ſpecimens of this ſpecies, in the coves at Weems in Scotland, which he believes to be the ſame with the plant deſcribed and figured by Sibbald in *p.* 7. *part* 2. of his *Scotia illuſtrata*, and which Mr. Hudſon named *Adiantum trapeziforme.*

18. Native of the iſland of Martinico.

19. This ſeldom grows above ten or twelve inches in length, and is always found with the top bending towards the ground [e]. The young plant is ſimply pinnate, but when farther advanced it is bipinnate [f].

Native of Jamaica.

20. Fronds numerous, aſcending, a foot high, frequently twiſted, linear-lanceolate, acute, very ſmooth. Stipes ſlightly quadrangular, flat above with ſharp edges, roundiſh beneath, dark brown, ſhining, ſmooth. Leaflets very numerous, ſlightly alternate, ſeſſile, ſpreading very much, half an inch long, the lower ones oppoſite. Line of fructification ſingle (ſeldom two), towards the middle of the leaflet, between the hinder edge and the nerve. Involucre membranaceous, brown, opening towards the nerve, with an entire waving margin; it is never turned back. Capſules brown, globular, with a jointed ring. This is confounded by the younger Linneus with *A. reſectum* (n. 30.) Native of the Cape of Good Hope [g].

21. Fronds many from one root, three or four inches high, furniſhed at the end with three (ſometimes only two) pinnas, placed alternately; they are ſhort, broad, either rhomboidal or trapezium-ſhaped, very dark green above, paler underneath; the two ſides next the baſe entire, the two others finely crenate. The fructifications firſt appear in two or three longiſh white oblique dots on each ſide the nerve; when the ſeeds are ripe the veſſels burſt, and cover the whole diſk of the frond except the edge [h].

Native of Europe, in the fiſſures of walls and rocks. In ſeed from june to october. This alſo was formerly uſed in coughs and obſtructions, but is now entirely out of repute.

22. This differs from our common Wall-Rue in having the ſtems more ſimple, black at the baſe, with one or two ſhort diviſions only, having three leaves lobed and two-lobed: the other leaves are ſolitary, the firſt cut with four toothlets at moſt; the upper ones ſimple, with the tip ſhortly cut, much longer and more ſimple than thoſe of *Ruta muraria.* In the lower part of the leaf are two or three lines, ſeldom four, of a longiſh form [i]. Linneus perſiſted in regarding this as a variety only of the foregoing [k]. Native of Switzerland and Auſtria.

23. *Black Maidenhair* has the fronds commonly eight or nine inches high, ſometimes a little more or leſs; their outline is triangular. Stipes gloſſy, black or very dark red. Pinnas alternately pinnate, bright gloſſy green above, paler underneath; theſe are alſo pinnate, and the pinnules are ſubdivided half way into oval ſerrate lobes. The fructifications appear at firſt in oblique whitiſh lines (three to ſeven), which afterwards become brown, and when they burſt cover the diſk of the leaflet except the edge [l].

Native of Europe, in the fiſſures of rocks and old walls, and among ſtones in ſhady places. In ſeed from april to october.

There are varieties in the leafing of this Fern.

24. Mr. Bolton deſcribes the plant which he has figured thus. Leaves not broader below than in the middle, lance-ſhaped: ſecond leaves alternate, remote, tapering; lobes divided down to the middle rib, of a roundiſh figure, and deeply crenate at top.

He looks upon it as a variety of the preceding ſpecies, and aſks whether it be *A. lanceolatum* of Hudſon; whoſe ſpecific character runs thus—"fronds "doubly pinnate lanceolate, leaflets alternate, pinnas "obovate gaſh-crenate." The plant figured by John Bauhin ſeems to be a variety of *A. Trichomanes*, and this being referred to by Linneus, his plant cannot be the ſame with that of Hudſon.

25, 26, 27. Natives of South America.

28. Height from fourteen to eighteen inches. Stipe black and ſimple. Leaves pointed, and appearing as if torn at the margin. Native of Jamaica [m].

29. Stipe compreſſed, furrowed, ſcaly at bottom, ſmooth above, upright, two feet high. Pinnas oppoſite, ſeſſile, lanceolate, the lower longeſt, the upper ſubtriangular, pointed; the lobes ovate, obtuſe, ſerrulate. Lines of fructification parallel approximating, three or four contiguous. It differs from *A. ſquamoſum* in having gaſhed ſerrulate pinnas [n]. Native of Japan.

30. Frond a foot high, lanceolate, acute, ſmooth. Stipe round, dark brown, ſhining, furniſhed very ſeldom with a very few ſcattered little ſcales. Leaflets numerous, alternate, ſubſeſſile, ſpreading, an inch long, entire at the baſe and along the hinder edge, and appearing as if cut off at the nerve in front and at the tip unequally gaſh-crenate, veined with cloven veins; the lower ones are commonly oppoſite: the end lobe is lengthened out, almoſt linear, alternately ſerrate. Lines of fructification two or three, very ſeldom four, towards the tip of the leaflets, commonly between the hinder margin and the nerve. Integument or involucre membranaceous, brown, always taking its riſe from a vein, gaping on the inſide or towards the nerve, with an entire waving edge; it is never turned back. Capſules brown, ſhining, with a jointed ring. This and *A. monanthemum* ſeem as if the leaflets had been cut in half. Found by Commerſon in the iſland of Bourbon [o].

31. Root bulbous, roundiſh, farinaceous, large, brown. Height one foot, diffuſed. Stipes fleſhy, thick, tubercled, reclining. Leaflets ſmooth. Fructifications in oblique parallel lines. Native of the mountains of Cochinchina, where the root is eaten [p].

32. Root ſmall, ſcaly, black, with many long dark-brown fibres. Leaves many, of different ſizes, the largeſt two inches and a half long, and about half an inch broad near the middle. They end in a point, which bows down to the ground, takes root, and ſends out rounder leaves, in time growing longer, and with their ends taking root. The ſeed lies in round ſpots on each ſide of the middle rib underneath [q]. Native of Jamaica.

33. Fronds ſeveral, upright, about four inches high, very like the leaves of *Tordylium Anthriſcus.* Stipes round, ſlender, black and ſhining at bottom, but among the leaflets green, with ſmall briſtles ſcattered over it. Leaflets elongate-triangular, acute, ſubpetioled, divided into rounded blunt lobes; the loweſt and end leaflets are longer than the reſt, and eared on each ſide at the baſe; on the nerves are very ſmall briſtles, ſcarcely viſible with the naked eye. Fructifications on the whole back of the frond, oblong, aſcending, rufous, from two to four lines in length [r]. Native of Jamaica and Martinico.

34—39. Natives of Jamaica. The laſt has a ſolid black root, covered with a black hairy moſs towards its top, whence riſe nine or ten leaves about three inches high. Stipes dark green, at an inch from the ground dividing into ſeveral alternate twigs, thoſe in the middle being largeſt, about three quarters of an inch long, made up of alternate, ſmall, roundiſh pinnules, deeply cut in at the edge, of a pale green colour above, and underneath having very many ferruginous ſpots [s].

40—47. Natives of New Zealand.

Some of theſe may probably be of the genus

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[d] Bolton, Lightf. Woodw. M.S.
[e] Browne.
[f] Swartz.
[g] Smith.
[h] Bolton, Lightf.
[i] Haller.
[k] Jacquin.
[l] Lightfoot.

[m] Browne.
[n] Thu
[o] Smith.
[p] Loureiro.
[q] Sloane.
[s] Sloane.

Cænopteris. The 39th ſpecies is thought to be ſo by Dr. Smith[t].

PROPAGATION AND CULTURE.

Whoever is deſirous of cultivating any of theſe Ferns, muſt have walls, rocks or heaps of ſtones to ſet the hardy ſpecies in; or pots may be filled with loamy undunged earth, or ſand, gravel and lime rubbiſh for that purpoſe, placing them in the ſhade. Hart's-tongue has been raiſed from ſeed; but all the ſorts may be increaſed by parting the roots. Some of the foreign ones muſt be placed under a common frame in winter; and it is evident that ſuch as are natives of the Weſt-Indies and other hot climates, require the protection of a ſtove.

ASPLENIUM. See *Acroſtichum*, and *Meniſcium.*

ASPRELLA. See *Leerſia.*

ASSA-FOETIDA. See *Ferula.*]

[ASSONIA. (*So named in honour of Ignatius de Aſſo, a Spaniſh Botaniſt, author of a Flora of Aragon,* &c.)
Lin. gen. Schreb. n. 1123. *Cavanill. diſſ.* 3. *p.* 120.
Dombeya, *ib. p.* 121.
Claſſ. 16. 5. Monadelphia Dodecandria.
Nat. order of *Columniferæ. Malvaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* double.
Outer three-leaved, unilateral, deciduous.
Inner one-leafed, five-parted; *parts* lanceolate, acute, reflex.

COR. *Petals* five, roundiſh, narrowed at the baſe, ſpreading, withering, affixed to the pitcher of the ſtamens.

STAM. *Filaments* fifteen, filiform, upright, ſhorter than the corolla, conjoined at the baſe into the form of a pitcher. *Anthers* oblong ſubſagittate, erect: five linear-lanceolate, ſomewhat erect, coloured, petal-formed *ſtraps* between the ſtamens, proceeding from the pitcher.

PIST. *Germ* roundiſh, five-furrowed. *Style* ſimple, longer than the ſtamens, permanent. *Stigmas* five, recurved.

PER. *Capſule* ſubglobоſe or turbinate, five-celled: *cells* ſeparable, bivalve.

SEEDS ſolitary or in pairs, ſubovate.

OBS. Aſſonia *differs from* Pentapetes, *as* Sida *from* Lagunæa.—Aſſonia *Cav. with the outer perianth one-leafed, three-toothed, and with five ſtyles, does not ſeem ſeparable from* Dombeya *Cav. with the outer perianth three-leaved, and a ſingle ſtyle, any more than the Hibiſcus tiliaceus from the other Hibiſci; or the one-ſtyled Sidas from the reſt; eſpecially as* Dombeya ovata *Cav. has the ſtyle divided nearly to the baſe.* S.

ESSENTIAL CHARACTER.

Cal. double: outer one-leafed or three-leaved, inner one-leafed. *Cor.* five-petalled, without any tube, affixed to the pitcher of ſtamens. *Filam.* connected in form of a pitcher, with petal-ſhaped ſtraps between them. *Style* one or five. *Capſ.* five-celled. *Seeds* not winged.

SPECIES.

1. Aſſonia populnea.
Cavan. diſſ. 120. *t.* 42. *f.* 1.
Leaves cordate ovate-acuminate, flowers corymbed.

2. Aſſonia palmata.
Dombeya palmata. *Cavan. diſſ.* 122. *t.* 38. *f.* 1.
Leaves cordate palmate ſmoothiſh, lobes ſeven acute, ſerrate-crenate; flowers corymbed.

3. Aſſonia acutangula.
Dombeya acutangula. *Cavan. diſſ.* 123. *t.* 38. *f.* 2.
Leaves cordate roundiſh-three-cuſped crenate, at firſt tomentoſe; flowers racemed.

4. Aſſonia angulata.
Dombeya angulata. *Cavan. diſſ.* 123. *t.* 39. *f.* 1.
Leaves cordate roundiſh, angular at top, ſerrate-toothed, tomentoſe; umbels numerous; common peduncles ſhorter than the petiole.

5. Aſſonia tiliæfolia.
Dombeya tiliæfolia. *Cavan. diſſ.* 124. *t.* 39. *f.* 2.
Leaves cordate roundiſh-acute crenate; flowers racemecorymbed.

6. Aſſonia tomentoſa.
Dombeya tomentoſa. *Cavan. diſſ.* 125. *t.* 39. *f.* 3.
Leaves cordate roundiſh crenate tomentoſe, with almoſt circular veins; flowers umbelled.

7. Aſſonia punctata.
Dombeya punctata. *Cavan. diſſ.* 125. *t.* 40. *f.* 1.
Leaves ovate-lanceolate long quite entire tomentoſe underneath, rugged with dots in the upper ſurface.

8. Aſſonia decanthera.
Dombeya decanthera. *Cavan. diſſ.* 126. *t.* 40. *f.* 2.
Leaves ovate acuminate repand-crenate ſmooth; ſtamens five two-anthered; flowers ſmall umbelled.

9. Aſſonia umbellata.
Dombeya umbellata. *Cavan. diſſ.* 127. *t.* 41. *f.* 1.
Leaves cordate ovate-oblong, acuminate repand ſmooth; flowers umbelled globular.

10. Aſſonia ovata.
Dombeya ovata. *Cavan. diſſ.* 127. *t.* 41. *f.* 2.
Leaves ovate toothed five-nerved tomentoſe; ſtyle very ſmall.

11. Aſſonia ferruginea.
Dombeya ferruginea. *Cavan. diſſ.* 128. *t.* 42. *f.* 2.
Leaves ovate-oblong ſeven-nerved ferruginous beneath; petioles, peduncles, and calyxes tomentoſe.

DESCRIPTIONS, *&c.*

Not approving of multiplying genera, I have followed Schreber in uniting Dombeya with Aſſonia. I have left the ſpecies as I find them in Cavanilles, except that I refer to Pentapetes for his Dombeya phoenicia. Perhaps ſome of the other ſpecies of Dombeya, and even his Aſſonia populnea, may hereafter be found to range more properly under the genus Pentapetes.

1. This is a middle-ſized tree, reſembling Hibiſcus populneus: the wood is ſweet-ſcented, and blue in the centre; whence the French in the iſle of Bourbon call it *Bois de ſenteur bleu ou galeux*; when it is of a certain age it becomes very hard. Leaves alternately ſcattered, large, generally quite entire but ſometimes having a few teeth and being waved, acuminate, and hanging down obliquely. Flowers in a ſort of corymb both axillary and terminating; the common peduncle dichotomous, and having uſually a ſingle flower on each diviſion on a longer pedicel. Outer calyx ſo ſmall as ſcarcely to be obſerved without an attentive inſpection: the ſegments of the inner calyx ſpreading very much at firſt, then turned back, and finally bent upwards, ſo as cloſely to embrace the fruit. Petals ſmall, oblong, obliquely ſickle-ſhaped, at firſt white but afterwards becoming ferruginous. The five ſtraps or barren filaments are broader and a little ſhorter than the other fifteen. Germ ſomewhat flatted, pubeſcent. Styles five, very ſhort[a]. Fruit globular, umbilicate, five-capſuled, the capſules converging, one-celled, and each cell containing two ſeeds[b].

Native of the iſle of Bourbon, in hilly woods; flowering there in may[c].

2. Stem arboreous branched. Leaves alternate, on long petioles, but yet longer than they; lobes oblong, acuminate. Stipules lanceolate, acute, tomentoſe, deciduous. Flowers on ſolitary peduncles at the ends of the branches, longer than the petiole, branched above, and in a ſort of corymb; theſe, with the pedicels, branches, petioles, and calyxes are tomentoſe. Leaflets of the outer calyx cordate, roundiſh, the middle one larger, ſeſſile, the ſide ones petioled; the inner calyx much longer. Corolla an inch and half wide, at firſt white, then ſulphur-coloured, and finally, when it inveſts the fruit, ferruginous; but this is the caſe with the following ſpecies. Style villoſe at the baſe, purple at top. Fruit ſubovate, woolly, with five obtuſe angles; and one ſeed in each capſule. Native of the iſle of Bourbon; flowering there in may and june. The natives call it *Mabot-tantan*, on account of the reſemblance which the leaves bear to thoſe of Ricinus Palma Chriſti, which is there named *Tantan*[d].

3. Stem arboreous. Leaves alternate, petioled, large, about the ſame length with the petioles, ſeven-

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[t] Ic. ined. 2. 50.

[a] Cavanilles. [b] Juſſieu. [c] Cavanilles. [d] Ibid.

nerved, having frequently an angle or tooth between the baſe and the lateral cuſps; they are tender, and ferruginouſly tomentoſe, but become almoſt bald with age. Stipules lanceolate, deciduous. Racemes ſolitary, axillary, upright, longer than the petiole; flowers on long pedicels. Peduncles, petioles, and branches tender. Calyxes extremely tomentoſe. Theſe and the corolla as in the foregoing; but the latter ſmaller, about an inch wide, veined and coriaceous. Fruit ſhaped like a pear, tomentoſe, and having one ſeed in each cell or capſule. Native of the iſle of Bourbon[e].

4. Stem arboreous, with tomentoſe branches. Leaves with three angles at the tip, and frequently another on each ſide at the baſe; they are ſeven-nerved, and near five inches in diameter. Stipules broad, oblong, acuminate, ſtem-claſping, deciduous. Umbels ſolitary, axillary. Common peduncle an inch long, thick, woody; pedicels about ten, ſcarcely three lines in length, tomentoſe. Inner calyx tomentoſe; ſegments ſmall, containing the fruit. Style ſmall: ſtigmas longer, villoſe, permanent. Fruit globular, tomentoſe; with two ſeeds in each cell or capſule. Native of the iſle of Bourbon[f].

5. Stem arboreous. Branches, peduncles, calyxes, and petioles tender and very tomentoſe. Leaves alternate, numerous, nearly equal to the petioles, the ſame ſize and figure with thoſe of the Lime-tree (Tilia europæa), ſeven-nerved, tomentoſe but becoming almoſt bald by age. Stipules ſublanceolate, broad at the baſe, very ſharp at the tip, villoſe. Peduncles axillary, ſolitary, upright, longer than the petiole, divided at the end into two oppoſite horizontal racemes, in which are ſeveral flowers on ſhort pedicels. The middle leaflet of the outer calyx is kidney-ſhaped, ſeſſile, and broader; the lateral ones are ſhortly ovate, and petioled. Corolla an inch in diameter. Native of the iſle of Bourbon[g].

6. Stem arboreous, branched; the branches and whole tree very tomentoſe. Leaves alternate, nearly equal to the petiole, ſharp, ſeven-nerved. Stipules coriaceous, broad-ovate, acuminate, ciliate, half-ſtem-claſping. Common peduncle very long, axillary, ſolitary at the top of the branches, forked at the top, and terminated by two umbels; pedicels near twenty, an inch in length; between the two umbels is a long ſingle pedicel, ſuſtaining one flower. Middle leaf of the outer calyx cordate, roundiſh, ſharp, ſeſſile, veined; the two lateral ones are ſubovate, and end in a petiole: the inner calyx is ſomewhat larger. Petals roundiſh-ſickle-ſhaped. Anthers ſhort. Native of Madagaſcar[h].

7. This is a tree with a trunk growing to the thickneſs of the human leg or thigh, with a very dark-brown bark. Branches alternate, tomentoſe. Leaves three or four inches long, and about an inch and half broad, commonly entire (but ſometimes crenulate or ſinuate), ſlightly repand, rounded at the baſe, five or ſix times longer than the petioles. Stipules narrow lanceolate, very ſharp, long, tomentoſe, deciduous. Flowers on a long, axillary common peduncle, umbelled, white but becoming ferruginous by age, the eye and ſtamens purple, ſcarcely more than half an inch in diameter. Pedicels (twenty to thirty) half an inch in length, one-flowered. Leaflets of the outer calyx, ſubulate: both that and the inner extremely tomentoſe. Petals ſub-ovate, ſpreading very much. Germ roundiſh, tomentoſe, without any ſtyle: this tree may therefore probably be dioecous, and Commerſon ſaw only the male. Native of the iſle of Bourbon[i].

8. Stem arboreſcent, with a brown, furrowed bark. Leaves alternate, ſcattered, four times as long as the petioles. Stipules ſubovate, oblong, deciduous. Common peduncles axillary, ſolitary, at the ends of the branches, ſhorter than the leaf: pedicels fifteen to twenty, two or three lines in length. The outer calyx conſiſts of three very ſmall briſtles; the ſegments of the inner acute; both are ſmooth. Corolla ſmall, ſcarcely three lines in diameter. Filaments only ten, five barren, broader, longer; five fertile, half the length of the others, ſupporting two anthers, the upper one ſhortly pedicelled, the lower ſubſeſſile: anthers ſubſagittate, ſhort. Germ ovate-five-cornered, very ſmall: ſtyle ſhort, cloven into two or three at the tip; ſtigmas red, revolute. One ſeed in each cell of the fruit. Native of Madagaſcar[k].

9. This is a tree entirely ſmooth, with a brown bark. Leaves petioled, longer than the petioles, either repand about the edge or obſoletely and broadly crenate. Stipules ſhort, ſublinear, deciduous. Common peduncles ſolitary, axillary, on the tops of the branches, reddiſh, very ſmooth, ſhorter than the leaflets, terminated by a ſingle globoſe umbel; pedicels twenty to thirty nearly an inch in length. Leaflets of the outer calyx ſmall, lanceolate, lateral; ſegments of the inner narrow lanceolate. Corolla larger than in the foregoing ſpecies, ſpreading; petals roundiſh-ſickle-ſhaped, at firſt whitiſh, but becoming finally deeply ferruginous; they are permanent. Fruit globular, five-furrowed, tomentoſe; with one ſeed in each cell or capſule.

Native of the iſle of Bourbon, where they make ropes of the bark[l].

10. Stem fruteſcent or arboreſcent, branched, covered with a ferruginous nap. Leaves alternate, white underneath, rugged on the upper ſurface, double the length of the petioles. Stipules capillary, upright, tomentoſe. Flowers on axillary, ſolitary, upright peduncles, ſhorter than the leaf, at the ends of the branches. The peduncles are forked at the top, and there is a corymb on each diviſion; the flowers are pedicelled. The leaflets of the outer calyx are narrow lanceolate and tomentoſe; the ſegments of the inner are ſharp and not reflex. Corolla a little larger than the calyx and ſpreading; petals narrow, roundiſh at the end but not ſickle-ſhaped, quite entire, the ſame colour as the foregoing; their claws are permanent and deeply ferruginous. Germ very ſmall, villoſe. Style ſo very ſmall as not to be viſible with the naked eye except when the fruit is ripe. Stigmas thickiſh, upright, red, longer than the ſtyle, but very ſmall. Fruit globular-five-cornered, within the ſegments of the calyx. Capſules or cells ſubtomentoſe, with one ovate-acuminate, black ſeed in each. Native of the iſle of Bourbon[m].

11. Stem arboreſcent, from eight to ten feet high (ſcarcely four in our ſtoves); the branches, eſpecially the younger ones clothed with a rufous nap. Leaves on the extreme twigs ſcattered alternately, acuminate, tooth-ſerrulate, green on the upper ſurface and ſmooth, tomentoſe on the under. Stipules ſubulate, tomentoſe. Flowers on axillary, ſolitary peduncles, double the length of the petiole, nearly upright, forked at the top, with a many-flowered corymb on each diviſion. Calyx, corolla, and ſtamens as in the foregoing ſpecies. Germ roundiſh, ſomewhat hirſute, reddiſh; ſtyle very ſmall, divided into five threads ſhorter than the ſtamens. Fruit tomentoſe, roundiſh-five-cornered. Seeds rather oblong, keeled at the part of contact, convex on the other ſide. It may perhaps be no more than a variety of the preceding; the leaves however of this are acuminate, much broader at the baſe, ſeven-nerved and very much toothed; whereas in that they are ſtrictly ovate, five-nerved, and the teeth are diſtant. Native of the iſle of Mauritius. Cultivated in the royal garden at Paris; but it has not flowered there. Obſerved firſt by Commerſon in may 1769[n].

PROPAGATION AND CULTURE.

See *Hibiſcus*, and *Pentapetes*.

Assonia or Dombeya phoenicea. See *Pentapetes*.

ASTER. (Ἀστὴρ, *Gr. a ſtar; ſo called becauſe the flower is radiated.*)

Engl. *Starwort.* Fr. *Aſtere.*

Lin. gen. n. 954. *Reich.* 1034. *Schreb.* 1291. *Tournef.* 274. *Vaill. mem. acad.* 1720. *Dill. elth.* 36. *f.* 41. *Juſſ.* 181. *Gærtn. t.* 170.

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[e] Cavanilles. [f] Ibid. [g] Ibid. [h] Ibid. [i] Ibid.

[k] Cavanilles. [l] Ibid. [m] Ibid. [n] Ibid.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.
Nat. order of *Compoſiti Radiati*. *Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* imbricate: the inner ſcales prominent a little at the end, the lower ones ſpreading.

Cor. *Compound* radiate: *Corollules* hermaphrodite numerous in the diſk. *Females* ligulate, more than ten in the ray.—*Proper*, of the *hermaphrodite*, funnel-ſhaped, with a five-cleft ſpreading border; of the *female* ligulate, lanceolate, three-toothed, at length rolling back.

Stam. hermaphr. *Filaments* five, capillary, very ſhort: *anther* cylindric, tubulous.

Pist. hermaphr. *Germ* oblong: *ſtyle* filiform, the length of the ſtamens: *ſtigma* bifid, ſpreading—*females*, *germ* and *ſtyle* the ſame: *ſtigmas* two, oblong, revolute.

Per. none. *Calyx* ſcarcely changed.

Seeds ſolitary, oblong, ovate. *Down* capillary.

Rec. naked, flattiſh.

ESSENTIAL CHARACTER.

Recept. naked. *Down* ſimple. *Cor.* ray more than ten. *Cal.* imbricate, lower ſcales ſpreading.

SPECIES.

* *Shrubby.*

[1. Aſter taxifolius. *Yew-leaved Starwort.*
Lin. ſpec. 1225. *ſyſt.* 760. *Reich.* 3. 803. *Berg. cap.* 286. *amæn. acad.* 6. *afr. n.* 69. *Raii ſuppl.* 159. *n.* 27.
Underſhrubby; leaves decurrent, ſubulate, channelled, ciliate, flowers terminal.

2. Aſter reflexus. *Reflected-leaved Starwort.*
Lin. ſpec. 1225. *ſyſt.* 760. *Reich.* 3. 803. *amæn.* 6. *afr.* 68. *Berg. cap.* 285. *Comm. hort.* 2. 51. *t.* 28. *Raii ſuppl.* 159. 22.
Shrubby; leaves ovate, ſubimbricate, recurved, ſerrate-ciliate; flowers terminal.

3. Aſter crinitus.
Lin. ſpec. 1225. *ſyſt.* 760. *Reich.* 3. 803. *amæn.* 6. *afr. n.* 66.
Shrubbyiſh; leaves ovate-oblong, acute, tomentoſe underneath; calyxes terminated with a hair.]

4. Aſter fruticoſus. *Shrubby Starwort.*
Lin. ſpec. 1225. 5. *Reich.* 3. 804. *hort. cliff.* 409. *Berg. cap.* 287. *Mill. dict. n.* 29. *Comm. hort.* 2. 53. *t.* 27.
β. *Pluk. mant.* 29. *t.* 340. *f.* 19. *Raii ſuppl.* 158. *n.* 20.
Shrubby; leaves linear, dotted; peduncles one-flowered, naked.

** *Herbaceous, entire-leaved, peduncles naked.*

[5. Aſter tenellus. *Briſtly-leaved Starwort.*
Lin. ſpec. 1225. *ſyſt.* 760. *Reich.* 3. 804. *mant.* 471. *amæn.* 5. *afr.* 67. *Jacqu. obſ.* 4. *p.* 8. *t.* 88. *Curtis magaz. t.* 33. *Pluk. alm.* 56. *t.* 271. *f.* 4. *Raii ſuppl.* 164. *n.* 84.
Leaves filiform prickle-ciliate; calyxes hemiſpheric, with equal leaflets.]

6. Aſter alpinus. *Alpine* or *great blue Mountain Starwort.*
Lin. ſpec. 1226. *ſyſt.* 761. *Reich.* 3. 804. *Mill. dict. n.* 1. *Hall. helv. n.* 82. *Gouan. monſp.* 442. *Jacqu. auſtr.* 1. *t.* 88. *Gmel. ſib.* 2. 173. *t.* 73. *f.* 2. *Curtis magaz. t.* 199. *Raii hiſt.* 268. *n.* 15.
β. *Bauh. pin.* 267. *n.* 4. A. ſcaber. *Mill. dict. n.* 16.
γ. *Bauh. pin.* 267. *n.* 2. *prodr.* 124. *Raii hiſt.* 269. *n.* 16. *Mor. hiſt.* 119. *n.* 21.
Leaves ſubſpatulate rough with hairs, quite entire; ſtems ſimple, one-flowered.

7. Aſter ſibiricus. *Siberian Starwort.*
Lin. ſpec. 1226. *Reich.* 3. 805. *Mill. dict. n.* 34. *Gmel. ſib.* 2. 186. *t.* 80. *f.* 1.
Leaves lanceolate almoſt ſtem-claſping, ſerrate hairy-ſcabrous; calyxes lax, leaflets lanceolate acuminate leafy hiſpid.

8. Aſter Tripolium. *Sea Starwort.*
Lin. ſpec. 1226. *Reich.* 3. 805. *ſuec.* 753. *Mill. dict. n.* 3. *Hudſ. angl.* 368. *With.* 915. *Sowerby eng. bot. t.* 87. *Lightf. ſcot.* 482. *Relh. cant.* 318. *Gmel. ſib.* 2. 187. *t.* 80. *f.* 2. *Scop. carn. n.* 1076. *Fl. dan. t.* 615. *Mor. hiſt.* 121. *n.* 37. *ſ.* 7. *t.* 22. *f.* 36. *Pet. herb. t.* 17. *f.* 10, 11. *Ger.* 333. *emac.* 413. 1, 2. *Park.* 674. *Bauh. hiſt.* 2. 1064. 2. *Raii hiſt.* 270. *n.* 20. *ſyn.* 175.
α. Flore radiato. *With a radiate flower.*
β. Flore diſcoideo. *With a naked diſcous flower.*
Leaves linear-lanceolate quite entire fleſhy ſmooth, three-nerved, calycine leaflets ſubmembranaceous obtuſe.

9. Aſter Amellus. *Italian Starwort.*
Lin. ſpec. 1226. *Reich.* 3. 805. *hort. cliff.* 407. *Hall. helv. n.* 83. *Scop. carn. n.* 1077. *Pollich pal. n.* 801. *Jacqu. auſtr.* 5. *t.* 425. *Allion. pedem. n.* 702. *t.* 69. *f.* 2. *Mill. dict. n.* 2. *Blackw. t.* 109. *Raii hiſt.* 268. *n.* 13. *Mor. hiſt.* 119. *n.* 18.
Amellus. *Virg. georg.* 4. 271. *edit. Mart. ic. p.* 368. *Caleeol. veron.* 8.
Leaves oblong-lanceolate entire ſcabrous; branches corymbed: calyxes imbricate, ſubſquarroſe, leaflets obtuſe, the inner membranaceous coloured at the end.

10. Aſter divaricatus. *Divaricate Starwort.*
Lin. ſpec. 1226. *Reich.* 3. 806. *Mill. dict.* 35. *Gron. virg.* 123. & 1. *p.* 99. *Pluk. alm.* 56. *t.* 79. *f.* 1.
Branches divaricate; leaves ovate, ſerrate; floral leaves quite entire, rather obtuſe, ſtem-claſping.

*** *Herbaceous, entire-leaved, peduncles ſcaly.*

[11. Aſter hyſſopifolius. *Hyſſop-leaved Starwort.*
Lin. ſyſt. 761. *Reich.* 3. 806. *mant.* 114, 517.
Leaves linear-lanceolate drawn to a point at the baſe, quite entire ſtiff; branchlets corymbed faſtigiate: leaflets frequently linear imbricate; calyxes imbricate.]

12. Aſter dumoſus. *Buſhy Starwort.*
Lin. ſpec. 1227. *Reich.* 3. 806. *hort. cliff.* 408. *Mill. dict. n.* 27. *Gron. virg.* 123. *Herm. par. t.* 95. *Pluk. alm.* 56. *t.* 78. *f.* 6. *Raii ſuppl.* 165. *n.* 1. *Mor. hiſt.* 121. *n.* 44.
Leaves linear quite entire ſmooth, thoſe on the branchlets very ſhort; branches panicled; calyxes cylindric cloſely imbricate.

13. Aſter ericoides. *Heath-leaved Starwort.*
Lin. ſpec. 1227. *Reich.* 3. 807. *Mill. dict. n.* 12.
Leaves linear quite entire very ſmooth, thoſe of the branchlets ſubulate approximating, thoſe of the ſtem elongated; calyxes ſubſquarroſe, leaflets acute, ſtem ſmooth.

14. Aſter tenuifolius. *Fine-leaved Starwort.*
Lin. ſpec. 1227. *Reich.* 3. 807. *Mill. dict. n.* 14. *Pluk. alm.* 56. *t.* 78. *f.* 5.
Leaves ſublinear quite entire; peduncles leafy.

[15. Aſter linarifolius. *Savory-leaved Starwort.*
Lin. ſpec. 1227. *Reich.* 3. 807. *Pluk. alm.* 56. *t.* 14. *f.* 7. *Raii ſuppl.* 165. *n.* 3. *Mor.* 121. *n.* 34.
Leaves linear quite entire mucronate ſcabrous ſtiff, upper ones lax remote; calyxes imbricate, branches faſtigiate.

16. Aſter linifolius. *Flax-leaved Starwort.*
Lin. ſpec. 1228. *ſyſt.* 761. *Reich.* 3. 808. *hort. cliff.* 408. *Mill. dict. n.* 4. *Gron. virg.* 123. *Mor. hiſt.* 3. 121. *n.* 33.
Leaves linear quite entire roughiſh; branches corymbed; faſtigiate with ſmall leaflets; calyxes imbricate; rays about equal to the diſk.

17. Aſter acris.
Lin. ſpec. 1228. *Reich.* 3. 808. *Gouan. monſp.* 442. *Sauv. monſp.* 54. *Garid. aix.* 47. *t.* 11. *Barr. ic.* 606. *good. Lob. ic.* 349. *good. Pluk. alm.* 56. *t.* 271. *f.* 3?
A. linarifolius. *Mill. dict. n.* 10.
A. tripolii flore. *Bauh. pin.* 267. *Raii hiſt.* 269. *Mor.* 120. *n.* 31.
Leaves lanceolate-linear ſtiff quite entire flat; flowers corymbed faſtigiate; peduncles leafy.

18. Aſter concolor.
Lin. ſpec. 1228. *Reich.* 3. 808. *Mill. dict. n.* 11. *Gron. virg.* 123.
Leaves ovate ſeſſile quite entire; ſtem quite ſimple; raceme terminal.

19. After rigidus. *Stiff-leaved Starwort.*
Lin. ſpec. 1228. *Reich.* 3. 809. *Mill. dict. n.* 25? *Gron. virg.* 124.
Leaves linear alternate; flowers terminal ſolitary.

20. After Novæ Angliæ. *New-England Starwort.*
Lin. ſpec. 1229. *Reich.* 3. 809. *hort. cliff.* 408. *Mill. dict. n.* 5. *Gron. virg.* 124. *Herm. par. t.* 98. *Raii ſuppl.* 156. *n.* 3.
α. ramis breviſſimis ſubconfertis. *With very ſhort cluſtered branches.*
β. ramis numeroſis paniculatis. *With numerous panicled branches.*
Leaves lanceolate quite entire cordate ſtem-claſping hairy; calyxes longer than the diſk, looſe, leaflets linear-lanceolate nearly equal; ſtem hiſpid.

21. After undulatus. *Waved Starwort.*
Lin. ſpec. 1228. *Reich.* 3. 809. *hort. cliff.* 408. *Mill. dict. n.* 6. *Gron. virg.* 124. *Herm. par. t.* 96. *Mor. hiſt.* 3. 120. *n.* 26.
Leaves ſerrate hairy waved, lower cordate; petioles winged dilated at the baſe; branchlets virgate, calyxes imbricate; ſtem hiſpid.

22. After grandiflorus. *Cateſby's Starwort.*
Lin. ſpec. 1231. *ſyſt.* 762. *Reich.* 3. 809. *Mill. dict. n.* 15. *fig. t.* 282. *Mart. rar. t.* 19. *Gron. virg.* 99, 124. *Dill. elth. t.* 36. *f.* 41.
Leaves ſtem-claſping linear quite entire hiſpid ciliate; thoſe of the branches and calyx reflex.

**** *Herbaceous, leaves ſerrate, peduncles ſmooth.*

23. After cordifolius. *Heart-leaved Starwort.*
Lin. ſpec. 1229. *ſyſt.* 762. *Reich.* 3. 810. *hort. cliff.* 408. *Mill. dict. n.* 13. *Mor. hiſt.* 3. 121. *n.* 35. *f.* 7. *t.* 22. *f.* 34. *Corn. canad.* 64. *t.* 65.
Leaves heart-ſhaped acute, finely ſerrate, underneath hairy; petioles almoſt ſimple; branches panicled; ſtem rough with hairs.

24. After puniceus. *Red-ſtalked Starwort.*
Lin. ſpec. 1229. *Reich.* 3. 810. *hort. cliff.* 408. *Mill. dict. n.* 7. *Herm. lugdb.* 649. *t.* 651. *Mor. hiſt.* 3. 120. *n.* 28.
α. ſeptempedalis, caulibus ſaturate purpureis. *Ait. hort. kew.* 209.
β. octopedalis, caul. e viridi rufeſcentibus. *Ait. hort. kew.* 209. A. altiſſimus. *Mill. dict. n.* 20.
γ. tripedalis. *Ait. hort. kew.* 209.
Leaves ſtem-claſping lanceolate ſerrate ſubſcabrous; branches panicled; calyxes ſurpaſſing the diſk, leaflets linear-lanceolate nearly equal; ſtem hiſpid.

25. After annuus. *Annual Starwort.*
Lin. ſpec. 1229. *Reich.* 3. 810. *hort. cliff.* 409. *upſ.* 262. *Mill. dict. n.* 28. *Fl. dan. t.* 486. *Mor. hiſt.* 3. 122. *n.* 48. *Corn. canad.* 193. *t.* 194. *Park. theat.* 528. *f.* 4.
Leaves ſomewhat hairy, the lower ones ſubovate ſerrate; the upper lanceolate; calyxes hemiſpheric; leaflets ſubequal ſtrigoſe.

[26. After vernus. *Vernal Starwort.*
Lin. ſpec. 1230. *Reich.* 3. 811. *Gron. virg.* 124.
Root-leaves lanceolate quite entire obtuſe; ſtem almoſt naked filiform a little branching; peduncles naked.

***** *Herbaceous, leaves ſerrate, peduncles ſcaly.*

27. After indicus. *Indian Starwort.*
Lin. ſpec. 1230. *Reich.* 3. 811. *Thunb. jap.* 316. *Pluk. alm.* 57. *t.* 149. *f.* 4.
Leaves ovate-oblong, ſerrate; floral leaves oval-lanceolate quite entire; branchlets one-flowered.

28. After lævis. *Smooth Aſter.*
Lin. ſpec. 1230. *Reich.* 3. 811.
Leaves ſtem-claſping oblong quite entire ſhining, root-leaves ſubſerrate; branches ſimple bearing about one flower; calyxes imbricate; peduncles leafy ſubdivided; leaflets ſomewhat wedge-ſhaped acute, thickened at the end; ſtem ſmooth.

29. After mutabilis. *Variable Starwort.*
Lin. ſpec. 1230. *Reich.* 3. 811. *Mill. dict. n.* 33. *Herm. lugdb.* 65. *t.* 67. *Pluk. alm.* 56. *t.* 326. *f.* 1. *Murr. prodr.* 180.
Leaves almoſt ſtem-claſping lanceolate ſerrate gloſſy drawn to a point below; branchlets virgate; calyxes ſomewhat leafy, lax; ſtem ſmooth.

30. After Tradeſcanti. *Tradeſcant's Starwort.*
Lin. ſpec. 1230. *Reich.* 3. 812. *hort. cliff.* 408. *upſ.* 262. *Park. theat.* 132. *Mor. hiſt.* 3. 121. *n.* 43. *Raii hiſt.* 270. *n.* 21.
α. flor. cæruleis. *Tradeſcant's dwarf Starwort.*
β. flor. albis. *Tradeſcant's tall Starwort.*
Leaves lanceolate ſerrate ſeſſile ſmooth; the middle branches virgate; calyxes cloſely imbricate; ſtem round ſmooth.

31. After Novi Belgii. *New Holland Starwort.*
Lin. ſpec. 1231. *Reich.* 3. 812. *hort. cliff.* 408. *upſ.* 262. *Mill. dict. n.* 9. *Murr. prodr.* 181. *Herm. lugdb.* 66. *t.* 67.
Leaves almoſt ſtem-claſping lanceolate ſmooth but ſcabrous about the edge, the lower ſerrate; branches ſubdivided; calyxes looſely imbricate, leaflets linear-lanceolate; ſtem round ſmooth.

[32. After tardiflorus. *Late-flowering Starwort.*
Lin. ſpec. 1231. *Reich.* 3. 812.
Leaves ſeſſile lanceolate drawn to a point at the baſe ſerrate ſmooth; calyxes lax, leaflets lanceolate-linear ſubequal, ſmooth.]

33. After miſer. *Small white-flowered Starwort.*
Lin. ſpec. 1232. *Reich.* 3. 813. *Mill. dict. n.* 8.
Leaves ſeſſile lanceolate ſubſerrate ſmooth; calyxes imbricate, leaflets acute; diſk equal to the rays.

[34. After macrophyllus. *Broad-leaved blue Starwort.*
Lin. ſpec. 1232. *Reich.* 3. 813. *L'Herit. ſtirp. nov.* 2. *t.* 66. *Vaill. act.* 583. *Gærtn. fruct.* 2. 449.
Leaves ſerrate, oblong; the upper ovate ſeſſile, thoſe on the ſtem cordate petioled; upper petioles winged.]

35. After chinenſis. *Chineſe Starwort, China Aſter.*
Lin. ſpec. 1232. *ſyſt.* 763. *Reich.* 3. 813. *hort. cliff.* 407. *upſ.* 262. *Dill. elth.* 38. *t.* 34. *f.* 38. *Mill. dict. n.* 30.
Leaves ovate angular toothed petiolate, calyxes expanding leafy terminal.

[36. After tataricus. *Tartarian Starwort.*
Lin. ſyſt. 763. *ſuppl.* 373.
Root-leaves lanceolate-ovate ſerrate ſcabrous; ſtem few-flowered.

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37. After hiſpidus. *Shaggy Starwort.*
Lin. ſyſt. 763. *Thunb. jap.* 315.
Loweſt leaves oblong crenate ſcabrous, ſtem-leaves lanceolate entire ciliate; ſtem ſcabrous.

38. After ſcaber. *Rugged Starwort.*
Lin. ſyſt. 763. *Thunb. jap.* 316.
Leaves oblong ſerrate ſcabrous, peduncles panicled.]

Species recited by Mr. Miller, &c.

39. After glaber. *Peach-leaved Starwort.*
Mill. dict. n. 17.
A. perſicæ fol. ſerratis glabris, flor. ſparſis pallide cæruleis. *Dillen. cat. oxon.*
Leaves oblong-lanceolate acute ſerrate, ſtem branching, flowers terminal, calyxes linear erect.

40. After ſerotinus. *Late-flowering blue Starwort,* vulg. *Michaelmas Daiſy.*
Mill. dict. n. 18.
A. cæruleus ſerotinus fruticeſcens Tradeſcanti. *Raii hiſt.* 269.
Leaves oblong acute broader at the baſe half-ſtem-claſping, ſtem branching, flowers terminal, for the moſt part ſolitary.

41. After præcox. *Early Starwort.*
Mill. dict. n. 19.
A. pyrenaicus præcox fl. cæruleo majori. *H. R. Par.*
Leaves oblong acute ſcabrous ſharply toothed half-ſtem-claſping, ſtem erect hairy, flowers corymbed, calyxes hairy erect.

42. After altiſſimus. *Lofty Starwort.*
Mill. dict. n. 20. See puniceus β. n. 24.

43. After ramoſiſſimus. *Branching Starwort.*
Mill. dict. n. 21.
Leaves linear-lanceolate ſtiff; ſtem very branching ſpreading, flowers placed regularly one above another, peduncles leafy.

44. After umbellatus. *Umbelled Starwort.*
Mill. dict. n. 22. *Ait. hort. kew.* 3. 199.
Leaves lanceolate, drawn to a point at the baſe, quite entire, about the edge ſcabrous; branches corymbed faſtigiate.

45. Aſter nervoſus. *Three-nerved Starwort.*
Mill. dict. n. 23.
Leaves linear-lanceolate acute nerved; ſtem ſimple; flowers terminal in a kind of umbel.

46. Aſter paniculatus. *Panicled Starwort.*
Mill. dict. n. 24. *Ait. hort. kew.* 207.
Lower leaves ovate half-ſtem-claſping at the baſe; upper leaves lanceolate ſmall; ſtem panicled; branches one-flowered; peduncles leafy.

47. Aſter latifolius.
Mill. dict. n. 26.
A. latifolius tripolii flore. *H. R. Par.* } according
A. canadenſis linariæ folio. *H. R. Par.* } to Miller.
Leaves linear-lanceolate ſmooth three-nerved; flowers corymbed terminal.

48. Aſter procumbens. *Procumbent Starwort.*
Mill. dict. n. 32. *fig. t.* 57. *f.* 2.
A. amer. proc. bellidis minoris facie. *Houſt. M.S.S.*
Leaves ovate toothed; ſtem procumbent; peduncles naked axillary one-flowered.

[49. Aſter holoſericeus.
Forſt. florul. n. 296.
Herbaceous, leaves oblong-lanceolate ſerrate, underneath ſilver-ſilky, ſcapes one-flowered leafy.

50. Aſter coriaceus.
Forſt. florul. n. 297.
Herbaceous, leaves ovate quite entire, furrowed above, woolly underneath, ſcapes one-flowered leafy woolly.

Species of Aſter from the Kew catalogue.

51. Aſter Cymbalariæ. *Cymbalaria-leaved Starwort.*
Ait. hort. kew. 197.
Shrubby; leaves ovate ſinuate rough with hairs, calyxes imbricate rough with hairs.

52. Aſter nemoralis. *Wood Starwort.*
Ait. hort. kew. 198.
Leaves linear-lanceolate drawn to a point at the baſe ſomewhat ſcabrous; branches filiform one-flowered; calyxes lax imbricate, leaflets acute.

53. Aſter paludoſus. *Marſh Starwort.*
Ait. hort. kew. 201.
Leaves linear ſtem-claſping erect quite entire very ſmooth ſcabrous at the edge; peduncles almoſt naked, calyxes ſquarroſe.

54. Aſter patens. *Spreading hairy-ſtalked Starwort.*
Ait. hort. kew. 201.
Leaves oblong entire acute cordate almoſt ſtem-claſping ſcabrous; branches ſpreading elongated few-flowered; calyxes imbricate ſubſquarroſe; ſtem rough with hairs.

55. Aſter folioloſus. *Leafy Starwort.*
Ait. hort. kew. 202. *Dill. elth.* 39. *t.* 35. *f.* 39.
Leaves lanceolate-linear quite entire ſmooth, thoſe on the branchlets ſpreading very much; calyxes imbricate, leaflets acute, ſtem pubeſcent.

56. Aſter multiflorus. *Small-leaved Starwort.*
Ait. hort. kew. 203. *Dill. elth. t.* 36. *f.* 40.
α. ramulis ſubmultifloris. *Early-flowering Starwort.*
β. ramulis unifloris. *Late-flowering Starwort.*
Leaves linear quite entire ſmoothiſh; branches one-ranked; calyxes imbricate ſquarroſe; ſcales ſomewhat leafy acute; ſtem pubeſcent.

57. Aſter ſalicifolius. *Willow-leaved Starwort.*
Ait. hort. kew. 203.
Leaves linear-lanceolate quite entire ſmooth, calyxes imbricate lax; ſtem gloſſy.

58. Aſter æſtivus. *Labrador Starwort.*
Ait. hort. kew. 203.
Leaves lanceolate almoſt ſtem-claſping quite entire ſmooth ſcabrous about the edge; calyxes lax, with equal leaflets.

59. Aſter junceus. *Slender-ſtalked Starwort.*
Ait. hort. kew. 204.
Leaves lanceolate-linear ſeſſile ſmooth, the loweſt ſubſerrate, thoſe of the branchlets lanceolate; branches virgate; calyxes imbricate; ſtem ſmoothiſh.

60. Aſter pendulus. *Pendulous Starwort.*
Ait. hort. kew. 204.
Leaves elliptic-lanceolate ſerrate ſmooth, thoſe of the branchlets rather remote; branches very much divaricated pendulous; ſtem pubeſcent.

61. Aſter diffuſus. *Diffuſe Starwort.*
Ait. hort. kew. 205.
α. caule tomentoſo, ramis patentiſſimis, diſco rubro. *Red-flowered.*
β. c. pubeſcente, ram. virgatis, diſco ſtramineo. *White-flowered.*
Leaves elliptic-lanceolate ſerrate ſmooth proportioned; branches ſpreading; calyxes imbricate; ſtem pubeſcent.

62. Aſter divergens. *Spreading downy-ſtalked Starwort.*
Ait. hort. kew. 205.
Leaves elliptic-lanceolate ſerrate ſmooth, thoſe on the ſtem linear-lanceolate elongated; branches ſpreading; calyxes imbricate; ſtem pubeſcent.

63. Aſter corymboſus. *Corymbed Starwort.*
Ait. hort. kew. 207.
α. caule purpureo.
β. caule viridi.
Leaves cordate ſmooth acuminate all finely ſerrate; petioles ſimple; branches faſtigiate; ſtem ſmooth.

64. Aſter ſpectabilis. *Showy Starwort.*
Ait. hort. kew. 209.
Leaves lanceolate ſomewhat ſcabrous, the lower ſerrate; branches corymbed; calycine leaflets lax leafy nearly wedge-ſhaped ſharpiſh ſquarroſe.

65. Aſter Radula. *Rough Starwort.*
Ait. hort. kew. 210.
Leaves lanceolate ſerrate acuminate wrinkled very ſcabrous; calyxes imbricate, leaflets lanceolate obtuſe.

DESCRIPTIONS, *&c.*

In this numerous genus, the far greater part of the ſpecies are hardy, herbaceous, fibrous-rooted, autumn-flowering, ſhowy perennials, with annual ſtems, from one to five feet in ſtature. America has furniſhed a conſiderable number of them; and they are particularly adapted to adorn large borders and plantations of ſhrubs in the latter ſeaſon. Two only (n. 25. 35.) are annual: and no more than five (n. 6, 8, 9, 17, 25.) natives of Europe. Some ſpecies from the Cape (n. 1—4) are ſhrubby plants of the greenhouſe.

1. Leaves alternate, much crowded, linear, revolute, tomentoſe underneath, rigid, acute: flowers ſeſſile, ſolitary[a].

Stem ſcarce a foot high, erect, branching at top. Branches ſubaggregate, ſimple, leafy, erect. Leaves channelled-concave, ciliate, broader at the baſe, ſeſſile, ſcattered, imbricate, erect-ſquarroſe. Flowers ſubpedunculated[b].

2. Stem proliferous. Leaves crowded, ſeſſile, little, ſmooth, the lower ones ſerrate, the upper ciliate almoſt like *Gorteria ſpinoſa*, but all the parts only one tenth part of the ſize. Flowers ſolitary, ſeſſile: ray blood-red[c].

3. Branches leſs divided. Leaves ſeſſile, exquiſitely pointed, rough about the edges. Peduncles terminal, leafy, one-flowered. Ray of the flower blue[d].]

4. Stems three feet high, with ſide woody branches having cluſters of narrow leaves like thoſe of the Larch tree. The flowers are produced from the ſide of the branches, upon long ſlender peduncles ſingly: they are of a pale blue colour, and appear the beginning of march. [Branches filiform, round, aſcending, tomentoſe, rough with ſcars, determinately ſubdivided. Branchlets aggregate, divided into aggregate peduncles. Leaves narrow, acute, ſeſſile, approximating. Peduncles in twos or threes, very long, finely tomentoſe, erect[e]. Cultivated 1759, by Mr. Miller[f].

Theſe all grow naturally at the Cape of Good Hope.

5. Root perennial. Stem annual, ſeven inches high, round, a little hairy, branching at top. Leaves ſcattered, linear, muricated underneath, with the end ſtanding out. Flowers ſolitary, terminal, peduncled, hanging down before they open, and during the night. Diſk of the corolla yellow; ray blue,

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[a] Linn. amæn.
[b] Berg. cap.
[c] Linneus.
[d] Ibid.
[e] Berg. cap.
[f] Hort. kew.

often and eſpecially in the night rolled back. Down ſeſſile, white with very thin rays. This alſo is from the Cape[g]. Introduced 1774 by Maſſon[h].

6. Calyx equal[i]. Stem-leaves two, ſeldom three[k]. Leaves dry, rather hairy, roughiſh; next the root petiolate, ovate, ciliate, entire; on the ſtem few, ſlender, lanceolate. Sometimes the ray of the flower is white[l].]

The Alpine Starwort ſeldom riſes more than nine (four to ſix) inches high on the Alps, and when tranſplanted into a garden, (nine or ten) not above ſixteen. At the top of each ſtalk is one large blue flower, ſomewhat like that of the Italian Starwort (n. 9.). It flowers in june; and grows wild on the Alps [and Pyrenees, in Auſtria, Savoy, about Montpellier, *&c.* Cultivated 1759, by Mr. Miller[m].]

β. Stems ſeveral, a foot and half high, with many ſide branches diverging every way; leaves lanceolate rough. Flower moſtly ſolitary, large, blue, like that of the Italian Starwort, but paler, and flowering earlier. Alps.

[γ. Stem round, hairy, a foot high, dividing into one or two branches; leaves broad, roundiſh, roughiſh about the edge, ending in a ſtiff point, rigid, thick. On the top of the ſtem one large pale-blue flower. Auſtria[n].]

7. Stems two feet high, ſending out ſide branches. Peduncles one-flowered. Ray of the corolla blue. It flowers in auguſt. Siberia. [Cultivated 1768, by Mr. Miller. It varies with leaves broader at the baſe, and numerous flowers; and leaves narrower at the baſe, with few flowers[o].

8. Root perennial. Stem ſmooth, ſtriated, branched towards the top, one or more, from ſix or nine inches to two or three, and even four or five feet in height; whence ſome authors have made a great and leſs variety. Upper branches exceeding the ſtem; the lower gradually ſhorter, ſlightly compreſſed, deeply ſcored. Leaves alternate, pointed, half-ſtem-claſping, either bent down or expanding, edge ſomewhat ſerpentine, and beſet with points, the rudiments as it were of ſerratures, thickiſh, beſet above with very ſmall whitiſh points, ſmooth, even, almoſt veinleſs. Flowering branches from the axillas of the upper leaves. Flowers abundant in thin looſe umbels, having a ſweetiſh ſcent. Calyx ſhort cylindric; ſcales in two or three unequal rows, ovate, obtuſe, ſcored, green and brown, with reddiſh brown tips. Florets of the ray twenty-one to twenty-three, generally pale purple: of the centre about eighteen, yellow. The florets of the ray are ſometimes white; and flowers occur without any ray[p]. This variety is found in the iſle of Wight. Native of ſalt marſhes on the ſea coaſt of Europe: by inland ſalt lakes in Germany and Siberia. With us alſo frequent about Briſtol; and not only on the coaſt, but in the interior parts of the kingdom; where Dr. Stokes ſuppoſes, with good reaſon, that its preſence may indicate ſalt ſprings. It flowers in july and auguſt.—Moriſon obſerves that in the morning, the flowers being expanded, appear blue; the blue florets quickly vaniſhing, and the diſk remaining, they appear yellow; in the evening theſe go off, and the white down of the ſeeds ſhows itſelf: thus the flower undergoes a triple change within the day, and hence is called *Tripolium* (παρὰ τὸ τριχῶς ϖολεῖσθαι.)]

9. The ſtems of the *Amellus* or Italian Starwort grow in large cluſters from the root, and each of them branch at the top into eight or ten peduncles, each terminated by a ſingle, large flower, having blue rays, with a yellow diſk. It flowers in auguſt or ſeptember, and in mild ſeaſons, will often continue till the middle of november. It grows naturally in the vallies of Italy, Sicily and Narbonne, [alſo in Auſtria, Carniola, Germany, and Switzerland, where I found it very common about Bienne.] It is generally ſuppoſed to be the *Amellus* of Virgil. The leaves and ſtalks being rough and bitter, the cattle ſeldom browſe upon them, ſo that they remain in the paſtures, after the graſs is eaten bare, and making a fine appearance when they are full of flowers, might well engage the poet's attention. [Cultivated 1596, by Gerard[q].

Caſpar Bauhin mentions an *Amellus* with roundiſh leaves, ſhorter than in the common ſort, and obtuſe, only throwing out a little ſpine at the end; they are alſo quite entire: whereas in the common ſort the leaves are erect, of a long elliptic form, and pointed; ſometimes entire, and ſometimes ſlightly toothed about the edge: the branches are leſs ſpreading, the peduncles ſhorter, often bearing two flowers, only half the ſize of the others. The flowers are in other reſpects alike, and they grow in the ſame places. Their differences do not alter by culture[r]. It varies with a white flower[s].]

10. Stems rough, about two feet high, dividing toward the top into many forked branches, diverging from each other. The flowers grow almoſt in an umbel, and appear the beginning of ſeptember. Virginia.

[11. Stem a foot high, rather ſtiff: rudiments of branches from each axilla. Leaves ſharp to both ends, an inch long, bent inwards from the vertical line. Panicle of flowers faſtigiate, with terminal peduncles, and two or three linear leaves. Calyxes ovate, cloſely imbricated. Eight purple florets in the ray; diſk elevated greeniſh; ſtamens teſtaceous; piſtil yellow. North America[t]. Cultivated 1760, by Mr. Miller[u].

12. Stems upright, two feet high, full of branches, which are filiform. Stem-leaves narrow-lanceolate; on the branches linear. Peduncles filiform, ſtriated, one-flowered, with very narrow leaflets on them. Flowers ſmall, with an erect, imbricate, looſe calyx; ray copious, white; diſk yellow, with fewer flowers[x].

Cultivated 1725 in Chelſea garden[y].]

13. Stems ſlender, three feet high, with ſlender ſide branches moſt of their length, ſo as to form a thick buſh; they are terminated by ſingle flowers. [Cultivated 1758, by Mr. Miller[z].

14. Stems five feet high, ſlender, angular, ſmooth, not branching much. Leaves alternate, not very rough. Flowers terminal, ſolitary, ſmall, white. The peduncles have very ſmall ſubulate leaflets ſcattered over them[a].

15. Stems purpliſh. Leaves very rough, ſharp, keeled, ſcattered. Peduncles alternate. Flowers terminal, ſolitary, few[b]. Cultivated 1712[c].

16. Leaves lanceolate, gradually narrowing to the end. Peduncles with very ſmall ſubulate ſcales[d].]

Stems ſtrong, from two to three feet high, putting out many ſide branches near half their length, terminated by one blue flower, which appears in auguſt and ſeptember. [Cultivated 1739, by Mr. Miller[e]. *Theſe are all natives of North America.*]

17. The ſtems divide into a great number of branches, which divide again toward the top into ſeveral ſmaller ones, with very narrow leaves their whole length: the flowers grow in large cluſters at the top, forming a ſort of corymb; they are of a pale blueiſh colour, and appear the beginning of auguſt. This grows naturally in the ſouth of France about Montpellier, and in Italy. [Alſo in Spain and Hungary. Gmelin found a variety with a yellow flower in Siberia.]

18. Four feet high. Flowers pale blue, appearing about Michaelmas. [The whole plant is tomentoſe, eſpecially the leaves and calyxes. Raceme ſimple, with very ſhort peduncles[f]. Native of Virginia.

19. Leaves ſmall, ſtiff, frequent; ſtem woody, weak, not branching, terminated by one ſpecious flower; floſcules of the ray long, purple; of the diſk ferrugineous; calyx ſcaly, ſwelling, round. Native of Virginia[g].

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[g] Linneus.
[h] Hort. kew.
[i] Linn.
[k] Gouan.
[l] Haller.
[m] Hort. kew.
[n] Bauh. prodr.
[o] Hort. kew.
[p] Lightf. and Wither.

[q] Hort. kew.
[r] Allioni.
[s] Caſp. Bauh. Haller, &c.
[t] Linn.
[u] Hort. kew.
[x] Linn.
[y] Hort. kew.
[z] Ibid.
[a] Linn.
[b] Ibid.
[c] Hort. kew.
[d] Linn.
[e] Hort. kew.
[f] Linn.
[g] Clayton in Gron.

Though Miller refers to Gronovius, yet he ſays it has ſide branches, that the flower is white, and that it grows naturally in Philadelphia: he probably means therefore a different ſpecies.]

20. Stems many, five feet high, brown, terminated by large purple violet flowers, growing in a looſe panicle, and expanding in auguſt. [The peduncles are ſo ſhort as ſcarcely to appear among the flowers[h]. Native of New England and Virginia. Cultivated 1731, by Mr. Miller[i].]

21. Leaves broad heart-ſhaped at bottom. Stems between two and three feet high, with ſmall ſide branches, upon which the flowers come out in looſe ſpikes; they are of a pale blue colour, inclining to white. It flowers in auguſt. [The leaves on the peduncles are minute and ovate. It is a North American plant[k]. Cultivated 1699, by Jacob Bobart[l].]

22. Stems many, three and even four feet high, ſtiff and reddiſh, hairy, and branching pyramidically. The branches have ſmall, lanceolate leaves, growing alternate, hairy and rough to the touch, the ſize of thoſe on common Hyſſop; and each is terminated by one large blue flower, coming out at the end of october, and making a fine appearance moſt part of november. Mr. Cateſby brought it from Virginia about the year 1720, and gave it to Mr. Fairchild, gardener at Hoxton, who propagated it in ſuch plenty, that in a few years it was diſtributed into moſt curious gardens near London, and is now become common.

23. [Stem ſmoothiſh, much branched at the top. Root-leaves cordate, ſharply ſerrate, a little hairy underneath: the lower ſtem-leaves ovate, ſerrate, with edged petioles; the upper ſpatulate-lanceolate, ſtem-claſping. Panicle corymbed. Peduncles naked. Calyxes imbricate, cloſe. Ray whitiſh, ſcarcely purple, with twelve floſcules[m]. Moriſon ſays that it is purple extremely diluted.] According to Miller it is white; and the ſtems are ſlender, two feet high. It flowers in ſeptember. [Native of North America, and the northern parts of Aſia[n]. Cultivated 1759, by Mr. Miller[o].]

24. Stems ſeveral, ſtrong, upwards of two feet high, of a purple colour. Flowers on ſingle peduncles, forming a corymb at top, and of a pale blue colour: they appear at the end of ſeptember.—North America. [Cultivated 1739, in Chelſea garden. It varies in height from eight to three feet. The ſtems are either dark purple, or reddiſh green[p].]

β. According to Mr. Miller, this variety has ſtrong ſtems, eight or nine feet high, and upright. Leaves hairy. Flowers purple inclining to red, and ſurrounded by a few narrow leaves. It came from Philadelphia, and flowers in november.

25. Stems ſtraight, about two feet high, terminated by a corymb of white flowers, opening in auguſt. Annual. North America [and Denmark. Cultivated 1640[q].

26. Stem green, hairy, erect; leaves like thoſe of daiſy, floſcules ſlender, white. Virginia[r].

27. Stem herbaceous, round, ſtriated, erect, ſmooth, branching, two feet high and upwards: branches alternate, erect, like the ſtem. Leaves on very ſhort petioles, alternate, acute, green above, pale underneath, ſmooth; the lower oblong, remotely and acutely ſerrate, larger than the others and two inches long; the upper lanceolate, entire, gradually leſs and leſs. Flowers terminal, ſolitary. Native of Japan, and China, flowering from auguſt to october[s].

28. Stem erect, ſmooth, angular, narrow. Leaves alternate, remote, a little ſerrate in the middle, quite ſmooth on both ſides. Panicle not very branching. Very ſmall ſubulate leaves ſcattered over the peduncles. Ray of the corolla blue. Obſerved in North America by Kalm[t]. Cultivated 1758, by Mr. Miller[u].

29. This differs from the next in having the calyx more cloſely imbricate, and the ray of the corolla deep purple; the diſk is firſt yellow, then purple. The plant is lower than the 31ſt., and very corymboſe. The leaves of the peduncles and calyx ſquarroſe and recurved, by which it is eaſily diſtinguiſhed: the lower ſcales are not larger than the reſt[x].

Murray affirms that Herman's plant by no means agrees with this deſcription of Linneus's. He thus deſcribes it. Stem three feet high, upright, round, firm and almoſt woody towards the root, not ſo thick as a gooſe quill, rugged, deep red, towards the top ſmooth, and either green, or ſpotted or ſtreaked with red; the upper half is panicled; the branches of the panicle are ſpreading, upright, ſtiff, alternate, forming a ſort of pyramid. Leaves entire except a few obſcure notches, broad-lanceolate, deep green, here and there red about the margin, glaucous, veined, gibboſe at the baſe, the upper ones ſtem-claſping, the lower ones narrower towards the baſe. Flowers at the ends of the ſtem and branches, either ſolitary or ſeveral. Scales of the peduncle linear, acute. Calyx ovate-cylindric, with five rows of imbricate, lanceolate ſcales. Twenty or more florets in the ray. It flowers at the end of october[y]. Miller ſays the end of auguſt. Cultivated by him in 1731[z].

30. Radical leaves three or four inches long, like thoſe of willow, from green inclining to brown, with ſmall ſcattered ſerratures. Among theſe come out round, ſmooth, woody, browniſh ſtems, clothed with ſimilar leaves, only ſhorter; they are elegantly divided into many ſlender, hard branches, two or three feet high, adorned with abundance of very ſmall white flowers during the months of ſeptember and october[a]. According to Ray, the diſk is purple. The ray of the corolla is firſt white, and afterwards becomes purpliſh. Native of Virginia[b]. Cultivated 1656, by John Tradeſcant, junior[c].—For the After Tradeſcanti of Miller, ſee n. 40.

31. This is ſo like the *Aſter mutabilis* (if that be the ſame with Herman's t. 57.) that it may be eaſily miſtaken for it. The *A. novi belgii* however, flowers ſomewhat earlier. Stem obſcurely furrowed, of a paler red, not ſo erect, but irregularly flexuoſe, corymboſely branched, the branches divaricate and much divided. Leaves of the ſame form, ſometimes having a ſingle ſerrature, the edge ſcabrous, if the finger be drawn toward the baſe, the ſurface rough with inviſible hairs. Flowers more ſolitary, ſomewhat ſmaller; on long, ſcaly, yellow peduncles. Scales of the calyx diſtant, in five rows. Diſk of the corolla yellow; ray pale blue, revolute[d].] Height near four feet, having broad leaves at the bottom, which diminiſh gradually to the top. The flowers appear at the latter end of auguſt. [Native of Virginia and Penſylvania[e]. Cultivated 1759, by Mr. Miller[f].

32. Stems two feet high, ſcarcely branching, ſmooth, often proſtrate. Leaves largiſh, ſmooth, rather ſtiff, ſerrate in the middle, and having a pubeſcent ſtreak. The axillas of the branches divaricate, purpliſh. Flowers like thoſe of the foregoing; diſk yellow, the floſcules of the ray narrower, pearl-coloured or pale blueiſh, ſcarcely notched at the end: leaflets of the calyx imbricate; the lower ones longeſt. The peduncles have one leaflet.—It differs from the 31ſt in having the branches more divaricate, with a kind of knot or joint at the baſe, and flexuoſe: the leaves twice as big, with the teeth ſtanding out: the ſurface oblique and bent down above the baſe on each ſide. Native of North America[g]. Linneus obſerves that it flowered with him only once in eighteen years. Introduced in 1775, by Mr. John Cree. With us it flowers from july to ſeptember[h].

33. Stem a foot and half high, thick, green, leſs panicled than in the reſt. The ſtem-leaves a little ſerrate, nodding; thoſe on the branches lanceolate. Calyxes ovate-imbricate, with erectiſh leaflets, the

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[h] Linn. [i] Hort. kew. [k] Linn. [l] Hort. kew. [m] Linn. [n] Ibid. [o] Hort. kew. [p] Ibid. [q] Park. theat. [r] Clayton in Gronov. [s] Thunberg. [t] Linn. [u] Hort. kew.

[x] Linn. [y] Prodr. 180. [z] Hort. kew. [a] Moriſon. [b] Linn. [c] Hort. kew. [d] Murray. [e] Linn. [f] Hort. kew. [g] Linn. [h] Hort. kew.

length of the ray, which is white, very ſmall, and poor: diſk ſmall, very convex, pale, with darker yellow ſtyles. Native of North America[i].] Stems ſlender, above three feet high, ſending out many weak branches on every ſide, with very ſmall leaves: flowers on ſhort peduncles on every ſide of the branches, appearing in november, and often continuing part of december. [Introduced in 1776, by Mr. Thouin[k].

34. The radical leaves petiolate; thoſe on the branches ſmall and ſerrate. Peduncles crowded at the top, often trifid. Native of North America[l]. Cultivated 1739, by Mr. Miller. It varies with the root-leaves oblong and ovate[m].

35. Linneus remarks that the *China Aſter* recedes ſomewhat from the other ſpecies in the fructification: and Dillenius obſerves that it differs from them all in its manner of growth, in the form of its leaves, and the ſize of its flowers. The height is from eighteen inches to two feet; the ſtem erect, ſtiff, furrowed, as thick as the little finger, putting out long bending branches from top to bottom. The leaves next the ground and at the origin of the branches are large, and reſemble thoſe of common Chenopodium or Gooſefoot: thoſe on the branches are much ſmaller, and the upper ones are narrow and very entire. The flowers are the largeſt and handſomeſt of any in this genus: the diſk yellow, at firſt flat, then convex; the floſcules of the ray broad and long, ſcarcely notched at the end[n]. *Dillenius* received the ſeeds from Profeſſor van Royen of Leyden, and affirms, as well as Mr. Miller, that this ſpecies came originally to Europe from China. Linneus doubts of this.]

According to Mr. Miller, the ſeeds of the China Aſter were ſent by the Miſſionaries to France, where the plants were firſt raiſed in Europe. In the year 1731, ſays he, I received ſeeds, from which I raiſed plants, with red, and ſome with white flowers; and in 1736 I received ſeeds of the blue flower; but theſe were all ſingle. They came by the title of *La Reine Marguerite*, as the French ſtill call it. In 1752, I received ſeeds of the double flowers, both red and blue: and in 1753, the ſeeds of the double white ſort, from Dr. Job Baſter of Zirkzee.

[Beſides the common varieties; white, blue, purple and red, both ſingle and double; there is now another in the gardens, with variegated blue and white flowers.

36. Radical leaves large, running into the petioles; not three-nerved; not ſerrate either at the tip or baſe. Stem rough, ſcarcely twice as long as the radical leaves; with a few, narrower leaves. Flowers large, five or eight in number. The peduncle has two, alternate, ſlender, very entire bractes. Calyx a little imbricate, not at all purple at the tips. Ray of the corolla blue. Siberia[o].

37. Stem erect, hiſpid, branching, a foot high. Branches alternate, divaricate, reſembling the ſtem. The lower leaves obtuſe, remotely notched; the ſtem and branch-leaves alſo obtuſe, gradually leſs; all rough. Flowers terminal ſolitary; ray white: down ferruginous[p].

38. Stem herbaceous round, ſtriated, erect, purple, ſmooth, a foot and more high, at top branched in panicles. Leaves alternate, petiolate, pointed; above green, very rough with white cilias on the edge and ſurface; underneath pale, veined, ſmooth, ſpreading; the lower ones two inches long, the upper gradually leſs. Flowers terminal, in panicled branchlets. Peduncles and pedicels naked, leafleſs. A lanceolate bracte under each pedicel. Both natives of Japan[q].]

39. Height five feet, with branching ſtalks, divided at the top into ſeveral peduncles, terminated by large pale-blue flowers, which are in beauty in october. Native of North America.

40. This was brought from Virginia by John Tradeſcant. Stems numerous, three feet and a half high, ſhooting out many lateral branches, terminated by pretty large flowers, very pale blue tending to white.

41. Stems ſeveral, ſtrong, hairy, a foot and half high, dividing into many ſmall branches at the top. Flowers large, blue, expanding at the end of july. Alps and Pyrenees.

43. Stems ſlender, purpliſh, about three feet high, ſending out many ſide branches, ſpreading horizontally, almoſt the whole length. Flowers ſmall, pale purple, appearing in november. North America.

44. [Stems ſtiff, channelled, about two feet high. Leaves placed alternately on every ſide. Flowers white, expanding at the end of ſeptember. Philadelphia. [Stem ſix feet high, ſtiff, ſmooth, branching only at top. Ray of the flower white. Native of Nova Scotia. Flowers in july and auguſt. Cultivated 1759, by Mr. Miller[r].]

45. This has much the appearance of the foregoing ſort, but the leaves are narrower, whiter on their under ſide, and have three longitudinal veins: the flowers are alſo larger and whiter. It grows about the ſame height, and flowers at the ſame time with the former. I received it from Mr. Peter Collinſon, who procured it from Penſylvania.

46. Height four feet. The ſtems put out ſide branches toward the top, which grow erect, forming a looſe ſpike of large blue flowers, expanding about the end of october. North America.

47. Stems a foot and half high, terminated by peduncles on every ſide, each ſuſtaining one pale-blue flower. Canada.

48. Roots buſhy, fibrous, creeping in the ground, and ſending out many ſlender round ſtems, which bend and incline to the ground: they are about four or five inches long, deſtitute of leaves, each ſuſtaining one flower, the ſhape and ſize of the common field Daiſy, of a whitiſh purple colour, but the rays are narrower. The calyx is ſcaly.—This ſpecies was diſcovered by Dr. Houſtoun, in the year 1729, about Vera Cruz in America: he ſent the ſeeds to England, ſome of which grew in the Chelſea garden, and the plants flowered the following ſummer, but did not perfect their ſeeds.

[Perhaps ſome of theſe may not be diſtinct from the foregoing ones: and there are doubtleſs many ſpecies recited by authors, which have not yet taken their proper place in the ſyſtem. In Gordon's catalogue we have the following names, not to be found in Linneus.

1. Aſter alienatus. *Strange-flowered Starwort.*
2. A. virgatus. *Slender-branched.* N. 59?
3. A. ſalicifolius. *Willow-leaved.* N. 57.
4. A. purpureus. *Purple.*
5. A. aculeatus. *Prickly-leaved.*
6. A. repens. *Broad-leaved creeping.*
7. A. corymboſus. *White, with heart-ſhaped leaves.* N. 63.]

But the whole genus requires the hand of ſome ſagacious botaniſt to extricate it from the confuſion in which it lies at preſent.

49, 50. Natives of New Zealand.

The following ſpecies are from the catalogue of the royal garden at Kew.

51. Found at the Cape by Maſſon. Introduced 1786. It flowers moſt of the ſummer.

52. Stem a foot high. Ray of the flower blue; diſk white. Native of Nova Scotia. Introduced 1778, by Mr. William Malcolm. It flowers in auguſt and ſeptember.

53. Leaves three or four inches long, and two or three lines broad, remote. Peduncles naked, except two leaflets for the moſt part, under the calyx. Ray blue, large: diſk yellow. Native of the ſwamps of Carolina. Introduced 1784, by Mr. John Fairbairne. It flowers in ſeptember and october.

54. Stem three feet high. Branches remote divaricate pubeſcent. Leaves bent obliquely at the baſe, the upper minute ſubimbricate. Ray of the flower pale blue; diſk tawny. Native of Virginia.

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[i] Linn. [k] Hort. kew. [l] Linn. [m] Hort. kew. [n] Dillen. hort. elth. [o] Linn. ſuppl. [p] Thunb. [q] Ibid.

[s] Hort. kew.

Introduced about 1773, by George Aufrere, Eſq. It flowers in ſeptember and october.

55. Native of North America. Cultivated 1732 at Eltham, by James Sherard, M. D. It flowers in october[s].

Stems ſeveral, ſtraight, round, ſtiff, ſmooth, green or ſometimes purpliſh brown; cloathed almoſt from the bottom with oblong, narrow, cuſpidate, pendulous, ſmooth leaves, roughiſh at the edge, deep green with rhomboidal veins. Flowers on long leafy peduncles at the ends of the twigs, larger than in the *ericoides*, with the ray of a pale blue[t].

56. Native of North America. Cultivated 1732, by Dr. Sherard. It flowers in ſeptember and october[u]. Leaves, eſpecially the lower ones, rough, the veins forming rhomboids on the ſurface. The ſtems require ſupport on account of the abundance of flowers. Scales of the calyx minute, reflex; flowering-branches and peduncles covered with leaflets reſembling theſe ſcales; ray white. The flowers are ſmaller and cloſer than in *A. dumoſus*; the bottom leaves longer, more obtuſe, rougher; and the ſtems are more branching[x].

57. Stem the height of a man. Leaflets of the calyx acute, expanding at the end. Ray of the flower blueiſh fleſh-colour. Native of North America. Cultivated 1760, by Mr. Miller. It flowers in ſeptember and october.

58. Stem two feet high, hiſpid. Ray blue. Native of North America. Introduced 1776, by Meſſ. Gordon and Græffer. It flowers in july and auguſt.

59. Stem four feet high. Leaflets of the calyx acute, ſpreading a little at the end. Ray ſlightly fleſh-coloured; diſk elevated, pale yellow. Native of North America. Cultivated 1758, by Mr. Miller. It flowers in october.

60. Ray of the flower white; diſk yellow, changing to ferruginous. Native of North America. Cultivated 1758, by Mr. Miller. It flowers in october.

61. Ray white. Native of North America. Introduced 1777, by Meſſ. Kennedy and Lee. It flowers in ſeptember.

62. Stem five feet high and upwards, weak. Calyx cylindric, with numerous acute leaflets. Ray white, ſhorter than the calyx; diſk reddiſh. Native of North America. Cultivated 1758, by Mr. Miller. It flowers in october.

63. Native of North America. Cultivated 1765, by Peter Collinſon, Eſq. It flowers in ſeptember.

64. Stem two feet high. Ray blue. Native of North America. Introduced 1777, by William Pitcairn, M. D. It flowers in auguſt and ſeptember.

65. Native of Nova Scotia. Introduced 1785, by Dr. Pitcairn. It flowers in ſeptember[y].]

PROPAGATION AND CULTURE.

The ſpecies from the Cape (n. 1—5. and n. 51.) together with the Indian Starwort (n. 27.) and the two Japaneſe ſpecies (n. 37, 38.) not producing ſeeds in England, are propagated by cuttings, any time during the ſummer. Theſe ſhould be planted in ſmall pots filled with light earth, and plunged into an old hot-bed; where, if they are ſhaded from the ſun, and gently watered, they will put out roots in ſix weeks, when they may be placed in the open air; and in about a month after, they ſhould be ſeparated, each into a ſmall pot filled with light ſandy earth. In october they muſt be removed into the greenhouſe, and placed where they may enjoy as much free air as poſſible, but be ſecured from froſt or damps, either of which will deſtroy them; ſo that they are much eaſier preſerved in a glaſs-caſe, where they will enjoy more light and air than in a greenhouſe; but they muſt not be placed in a ſtove, for artificial heat will ſoon deſtroy the plants. Theſe ſorts are at preſent in few Engliſh gardens.

The North American ſpecies, which make at leaſt three fifths of the genus, together with the Alpine and Italian Starworts, are eaſily propagated by parting the roots in autumn; they are moſt of them hardy, and will thrive in almoſt any ſoil or ſituation: [for theſe reaſons, and becauſe they adorn the latter ſeaſon, with the abundance and variety of their ſpecious flowers, they are very valuable plants, eſpecially among ſhrubs, and in large ornamental plantations, properly mixed with Golden-rods, and other perennial autumnal hardy plants. The ſorts moſt cultivated are the *grandiflorus, linifolius, linarifolius, tenuifolius, ericoides, dumoſus, ſerotinus, alpinus, novæ angliæ* and *puniceus* β or *altiſſimus*.] Some of the ſpecies (n. 6, 41, 42.) prefer a ſhady ſituation, and moiſt ſoil. They are apt to ſpread very much at the roots, ſo as to be troubleſome; and the ſeeds of ſome few are blown about, and come up like weeds.

9. The Italian Starwort has not been ſo much cultivated in England, ſince the great variety of American ſpecies has been introduced, though it is by no means inferior to the beſt of them, and in ſome reſpects preferable to moſt; for it is not ſo ſubject to creep by the root, as many of the American ſorts; nor do the ſtalks require ſupporting as they do, for theſe ſeldom grow more than two feet high, and are generally ſo ſtrong as to be in little danger of being broken by the wind. This is alſo propagated by parting the roots, ſoon after the plant is out of flower; for thoſe which are removed in the ſpring will not flower ſo ſtrong the ſucceeding autumn. The roots ſhould not be removed oftener than every third year, where they are expected to produce many flowers.

22. Cateſby's Starwort, not multiplying faſt by its roots, may be propagated in plenty, by cuttings made from the young ſhoots in may; which, if planted in a bed of light earth and ſhaded from the ſun, will take root and flower the ſame year.

25. When the annual Starwort is once introduced into a garden, the ſeeds will ſcatter, and the plants come up without care.

35. The China After being an annual plant, is propagated by ſeeds, which muſt be ſown in the ſpring on a warm border, or rather upon a gentle hotbed, juſt to bring up the plants; for they ſhould be inured to the open air as ſoon as poſſible, to prevent their being drawn up very weak; when the plants are big enough to remove, (three inches high), they ſhould be carefully taken up and planted in a bed of rich earth, at ſix inches diſtance every way, obſerving to ſhade them from the ſun till they have taken new root; and if the ſeaſon proves dry, they muſt be often refreſhed with water. In this bed they may remain a month or five weeks, by which time they will be ſtrong enough to tranſplant into the borders of the flower-garden, where they are deſigned to remain; or into pots to adorn court-yards &c. the plants ſhould be taken up carefully, with large balls of earth to their roots, and the ground dug up, and well broken with the ſpade, where the holes are made to receive the plants; after they are planted, and the earth cloſed about their roots, there ſhould be ſome water given them to ſettle the earth. This work ſhould, if poſſible, be done when there is rain, for then the plants will ſoon take new root, after which time they will require no other care but to keep them clear from weeds.

In auguſt theſe plants will flower, by which time, if the ground be rich, they will be two feet high, and furniſhed with many ſide branches, each terminated by a large radiated flower, forming one of the greateſt ornaments of the flower-garden in autumn. The ſeeds ripen the beginning of october, and ſhould be gathered when they are perfectly dry. In order to preſerve the varieties with double flowers, thoſe which grow upon the ſide branches, being commonly fuller of leaves than the flowers on the main ſtem, ſhould always be preſerved for ſeeds.

48. Procumbent Starwort being a native of a warm climate, will not live in the open air in England. The ſeeds muſt be ſown in a hot-bed; and the plants will require a ſtove to maintain them through the winter.

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[s] Hort. kew.
[t] Dillenius.
[u] Hort. kew.
[x] Dillenius.
[y] Hort. kew.

Aster. See *Arctotis, Arnica, Buphthalmum, Carpeſium, Chryſanthemum, Chryſocoma, Cineraria, Conyza, Erigeron, Gorteria; Inula, Senecio, Solidago, Tuſſilago.*

Asterias. See *Gentiana.*

Asteriscoides. See *Oſmites.*

Asteriscus. See *Anthemis, Buphthalmum, Silphium.*

Asteri similis. See *Erigeron.*

Asterocephalus. See *Scabioſa.*

Asteroides. *Baſtard Starwort.* See *Inula, Buphthalmum, Conyza.*

Asteroplatycarpos. See *Othonna.*

Asteropterus. See *Inula, Leyſera.*

Astragaloides. See *Aſtragalus, Phaca.*

ASTRAGALUS (ἀστράλαλος, vertebra or *talus*, the ſeed being ſqueezed in the legume into a ſquariſh form in ſome ſpecies. It is the name of a ſhrub in the Greek writers.)

Lin. gen. 892. *Reich.* 965. *Schreb.* 1208. *Tournef.* 233. *Juſſ.* 358. *Gærtn. t.* 154. Tragacantha. *Tournef.* 234.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ* or *Leguminoſæ.*

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, five-toothed, acute; lower toothlets gradually leſs.

Cor. Papilionaceous. *Banner* longer than the other petals, reflex on the ſides, emarginate, obtuſe, ſtraight: *wings* oblong, ſhorter than the banner: *keel* length of the wings, emarginate.

Stam. *Filaments* diadelphous, ſimple and novemfid, almoſt ſtraight: *anthers* roundiſh.

Pist. *Germ* nearly columnar: *ſtyle* ſubulate, aſcending: *ſtigma* obtuſe.

Per. *Legume* two-celled (or geminate *G.*): the cells bent to one ſide; (with a longitudinal bifid ſeptum, parallel to the valves. *G.*)

Seeds kidney-ſhaped.

Obs. Tragacantha T. *is a ſhrubby plant with the petioles becoming thorns.*

Aſtragalus *Riv. has an oblong many-ſeeded ſilique.*

Glaux *Riv. has a heart-ſhaped ſilicle.*

ESSENTIAL CHARACTER.

Legume two-celled, gibbous.

SPECIES.

* *Stems leafy erect; not proſtrate.*

1. Aſtragalus alopecuroides. *Fox-tail Milk Vetch.*
Lin. ſpec. 1064. *Reich.* 3. 525. *hort. cliff.* 361. *amæn.* 2. 359. *Mill. dict. n.* 3. *fig. t.* 58. *Gærtn. fruct.* 2. 339.
Cauleſcent, ſpikes cylindric ſubſeſſile, calyxes and legumes woolly.

2. Aſtragalus chriſtianus.
Lin. ſpec. 1064. *Reich.* 3. 526. *Tourn. cor.* 29. *itin.* 2. *t.* 254. *Mill. dict. n.* 10.
A. Dioſcor. vulgo Chriſtiana radix. *Dalech. app.* 26.
Cauleſcent erect, flowers glomerate ſubſeſſile from all the leafy axillas.

3. Aſtragalus capitatus.
Lin. ſpec. 1065. *Reich.* 3. 526. *Mill. dict. n.* 20. *Tourn. cor.* 29. 1?
Cauleſcent, heads globular, peduncles very long, leaflets emarginate.

4. Aſtragalus piloſus. *Pale-flowered Milk Vetch.*
Lin. ſpec. 1065. *Reich.* 3. 526. *hort. upſ.* 226. *Mill. dict. n.* 17. *Hall. helv. n.* 411. *Comm. gott.* 1. 340. *t.* 12. *Amm. ruth.* 166. & *n.* 171. *Gmel. ſib.* 4. 39. *t.* 16. *Crantz. auſtr.* 418. *n.* 5. *Jacqu. auſtr.* 1. *t.* 51. *Bauh. pin.* 347. *n.* 4. *prodr.* 148. *n.* 2. *Raii hiſt.* 918, *n.* 3.
Cauleſcent erect hairy, flowers in ſpikes, legumes ſubulate hairy.

[5. Aſtragalus ſulcatus. *Furrowed Milk Vetch.*
Lin. ſpec. 1065. *ſyſt.* 681. *Reich.* 3. 527. *n.* 5. β, *Jacq. hort.* 3. 23. *t.* 40. *Zinn. gott.* 342.
A. auſtriacus. *Lin. ſyſt. edit.* 13. 566. ſee *n.* 22.
Cauleſcent, erect ſmooth ſtriated ſtiff, leaflets linear-lanceolate acute, legumes three-ſided.]

6. Aſtragalus galegiformis. *Goat's-rue-leaved Milk Vetch.*
Lin. ſpec. 1066. *Reich.* 3. 527. *hort. cliff.* 362. *Mill. dict. n.* 13. *Amm. ruth.* 162. *Gærtn. fruct.* 2. 340.
A. orient. altiſſimus, Galegæ fol. anguſtioribus, fl. minimo, e viridi flaveſcente. *Tourn. cor.* 29.
Cauleſcent ſtiff ſmooth, flowers in racemes pendulous, legumes three-ſided, mucronate at both ends.

[7. Aſtragalus chinenſis.
Lin. ſpec. 1066. *Reich.* 3. 527. *fil. dec.* 1. *t.* 3.
Cauleſcent ſtiff ſmooth, flowers in racemes pendulous, legumes ovate inflated, mucronate at both ends.

8. Aſtragalus Onobrychis. *Purple-ſpiked Milk Vetch.*
Lin. ſpec. 1070. *ſyſt.* 681. *Reich.* 3. 527. *Hall. helv. n.* 412. *Gmel. ſib.* 4. 43. *n.* 57. *t.* 21. *Scop. carn. n.* 920. *Crantz. auſtr.* 415. *Jacqu. auſtr.* 1. *t.* 38. *Willich. obſ.* 115. *Retz. obſ.* 2. *n.* 72. *Cluſ. hiſt.* 1. 238. *f.* 2. *Ger.* 1062. *f.* 2. *emac.* 1244. 3. *Park. theat.* 1082. *n.* 2. *Raii hiſt.* 937. 9.
Cauleſcent procumbent diffuſed, ſpikes peduncled, banner twice as long as the wings; leaflets linear.

9. Aſtragalus uliginoſus. *Violet-coloured Milk Vetch.*
Lin. ſpec. 1066. *ſyſt.* 681. *Reich.* 3. 528. *hort. upſ.* 226. *Gmel. ſib.* 4. 40. *t.* 17, 18.
Cauleſcent almoſt upright, flowers in ſpikes, legumes almoſt upright naked tumid, round-flatted, point reflex.]

10. Aſtragalus carolinianus. *Carolina Milk Vetch.*
Lin. ſpec. 1066. *ſyſt.* 681. *Reich.* 3. 528. *Mill. dict. n.* 15. *Dill. elth.* 45. *t.* 39. *f.* 45.
Cauleſcent upright even, peduncles in ſpikes, legumes ovate-cylindric, acuminated by the ſtyle.

[11. Aſtragalus aſper. *Rough Milk Vetch.*
Lin. ſyſt. 681. *Jacqu. miſc.* 2. 335. *icon. rar. t.* 33.
Cauleſcent ſtiff even roughiſh, flowers in ſpikes on elongated peduncles, legumes oblong.]

** *Stems leafy, diffuſe.*

12. Aſtragalus canadenſis. *Woolly Milk Vetch.*
Lin. ſpec. 1066. *Reich.* 3. 528. *mant.* 449. *Mill. dict. n.* 16. *Dodart. mem. t.* 65. *Gron. virg.* 107. *Dill. elth.* 46. *t.* 39. *f.* 45.
Cauleſcent diffuſe, legumes ſubcylindric mucronate, leaflets almoſt naked.

13. Aſtragalus Cicer. *Bladdered Milk Vetch.*
Lin. ſpec. 1067. *Reich.* 3. 529. *hort. cliff.* 362. *upſ.* 220. *Mill. dict. n.* 4. *Hall. helv. n.* 409. *Crantz. auſtr.* 413. *Jacqu. auſtr.* 3. *t.* 251. *Allion. pedem. n.* 1266. *t.* 41. *f.* 2.
Cicer ſylveſtre. *Cam. epit.* 205. *Ger.* 1048. *f.* 1. *emac.* 1223. 1. *Raii hiſt.* 935. *n.* 2.
Glaux. *Riv. tetr. t.* 108.
Cauleſcent proſtrate, legumes ſubglobular inflated mucronate hairy.

[14. Aſtragalus microphyllus. *Small round-podded Milk Vetch.*
Lin. ſpec. 1067. *Reich.* 3. 529. *Gmel. ſib.* 4. 41. *t.* 19.
Cauleſcent erect-expanding, leaflets oval, calyxes rather tumid, legumes roundiſh.]

15. Aſtragalus glycyphyllus. *Wild Liquorice,* or *Liquorice Vetch.*
Lin. ſpec. 1067. *Reich.* 3. 529. *hort. cliff.* 362. *ſuec.* 658. *Mill. dict. n.* 1. *Hudſ. angl.* 322. *With.* 787. *Lightf. ſcot.* 399. *Hall. helv. n.* 413. *Neck. gallobr.* 312. *Crantz. auſtr.* 414. *Scop. carn. n.* 919. *Pollich pal. n.* 695. *Riv. tetr. t.* 103. *Mor. hiſt.* 107. *ſ.* 2. *t.* 9. *f.* 8. *Ger. emac.* 1233. 2. *Park.* 1098. *Bauh. hiſt.* 2. 330. *Raii hiſt.* 935. 1.
Cauleſcent proſtrate, legumes ſubtriquetrous bowed, leaves oval, longer than the peduncle.

16. Aſtragalus hamoſus. *Dwarf yellow-flowered Milk Vetch.*
Lin. ſpec. 1067. *ſyſt.* 682. *Reich.* 3. 530. *hort. cliff.* 362. *upſ.* 226. *Mill. dict. n.* 2. *Gærtn. fruct.* 2. 339. *Sauv. monſp.* 237. *Gron. orient.* 223. *Riv. tetr. t.* 107. *Cluſ. hiſt.* 2. 234. *Bauh. pin.* 349. *n.* 2. (Securidaca.) *Mor.* 2. 108. *ſ.* 2. *t.* 9. *f.* 10. *Raii hiſt.* 936. *n.* 7. *Park. theat.* 1088. *f.* 2.
Cauleſcent procumbent, legumes ſubulate recurved ſmooth, leaflets obcordate villoſe underneath.

[17. Aſtragalus

[17. Aſtragalus contortuplicatus. *Wave-podded Milk Vetch.*

Lin. ſpec. 1068. *Reich.* 3. 530. *hort. upſ.* 227. *Buxb. cent.* 3. 22. *t.* 39. *Act. gott.* 2. 339. *t.* 11. *Amm. ruth.* 164.

Cauleſcent procumbent, legumes writhed channelled villoſe.]

18. Aſtragalus boeticus. *Triangular-podded Milk Vetch.*

Lin. ſpec. 1068. *Reich.* 3. 531. *hort. upſ.* 225. *Mill. dict. n.* 7. *Gærtn. fruct.* 2. 339. *Rivin. tetr. t.* 105. *Mor.* 2. 108. *ſ.* 2. *t.* 9. *f.* 11.

Securidaca. *Bocc. ſic. t.* 4. H. *Raii hiſt.* 935. *n.* 3.

Cauleſcent procumbent, ſpikes peduncled, legumes priſmatic ſtraight three-ſided hooked at top.

[19. Aſtragalus Laxmanni.

Lin. ſyſt. 682. *ſuppl.* 337. *Jacq. hort.* 3. 22. *t.* 37.

Cauleſcent procumbent, ſpikes elongated, legumes oblong three-cornered, marked with a furrow, mucronate, villoſe.

20. Aſtragalus Stella.

Lin. ſyſt. 682. *Reich.* 3. 531. *Gouan. illuſtr.* 50. *Pluk. phyt.* 79. *f.* 4. *Bauh. prodr.* 150. c. xi. *Bauh. hiſt.* 2. 350. *Tabern. ic.* 512. *Raii hiſt.* 938.

Cauleſcent diffuſe, heads peduncled lateral, legumes ſtraight ſubulate mucronate.]

21. Aſtragalus ſeſameus. *Starry Milk Vetch.*

Lin. ſpec. 1068. *ſyſt.* 682. *Reich.* 3. 531. *hort. cliff.* 361. *Retz. obſ.* 2. *n.* 71. *Mill. dict. n.* 12. *Garid. aix.* 50. *t.* 12. *Pluk. alm.* 60. *t.* 79. *f.* 3. *Col. ecphr.* 1. 303. *t.* 301. *Raii hiſt.* 936. 4. *Ger. emac.* 1627. *n.* 7.

Cauleſcent diffuſe, heads ſubſeſſile lateral, legumes ſubulate reflected at the point.

[22. Aſtragalus auſtriacus. *Auſtrian Milk Vetch.*

Lin. ſyſt. 683. *Jacq. vind.* 263. *auſtr.* 2. 56. *t.* 195.

Cauleſcent proſtrate ſmooth ſtriated weak, leaflets ſublinear emarginate, legumes round.

23. Aſtragalus leontinus.

Lin. ſyſt. 683. *Jacqu. miſc.* 2. 59. *icon. rar. t.* 37.

Cauleſcent proſtrate, legumes ovate villoſe, flowers ſpiked erect.]

24. Aſtragalus pentaglottis.

Lin. ſyſt. 683. *Reich.* 3. 532. *mant.* 274. *Gærtn. fruct.* 2. 340.

A. procumbens. *Mill. dict. n.* 18.

A. echinatus. *Murr. prodr.* 222.

A. criſtatus. *Gouan. illuſtr.* 50.

A. hiſpanicus, &c. *Herm. lugdb.* 74. *t.* 75.

Glaux hiſpanica. *Riv. tetr.* 109. *f.* 2.

Cauleſcent procumbent, legumes headed, folded back, compreſſed, converging, creſted, with a reflected point.

25. Aſtragalus epiglottis. *Heart-podded Milk Vetch.*

Lin. ſpec. 1069. *ſyſt.* 683. *Reich.* 3. 532. *mant.* 274. *hort. cliff.* 362. *Mill. dict. n.* 5. *Murr. prodr.* 173. *Herm. lugdb.* 76. *t.* 77. *Riv. tetr.* 109. *f.* 1.

Cauleſcent procumbent, legumes headed, ſeſſile, nodding, cordate, mucronate, folded back, naked.

26. Aſtragalus hypoglottis. *Purple mountain Milk Vetch.*

Lin. ſyſt. 683. *Reich.* 3. 533. *mant.* 274.

A. arenarius. *Hudſ. angl.* 323. *Lightf. ſcot.* 400. *Relh. cant. n.* 534. *Mill. dict. n.* 8.

A. danicus. *Retz. obſ.* 3. *n.* 86. *Fl. dan. t.* 614. *Wither. arr.* 787.

Glaux montana purpurea. *Raii hiſt.* 939. *ſyn.* 326. *t.* 12. *f.* 3.

Cauleſcent proſtrate, legumes headed ovate folded back compreſſed hairy, with a reflex point.

[27. Aſtragalus ſyriacus. *Syrian Milk Vetch.*

Lin. ſpec. 1069. *ſyſt.* 683. *Reich.* 3. 533.

Cauleſcent procumbent, heads peduncled, flowers reflected, legumes tomentoſe ovate-oblong.

28. Aſtragalus arenarius.

Lin. ſpec. 1069. *Reich.* 3. 533. *ſuec. n.* 659. *Retz. obſ.* 2. 73. & 3. *n.* 87. *t.* 3.

Subcauleſcent, procumbent, flowers ſubracemed, erect, leaves tomentoſe.

29. Aſtragalus Glaux. *Small Milk Vetch.*

Lin. ſpec. 1069. *Reich.* 3. 534. *Bauh. pin.* 347. *n.* 3. *Cluſ. hiſt.* 2. 240. *t.* 241. *Raii hiſt.* 940. *n.* 18.

Cauleſcent diffuſe, heads peduncled imbricate ovate, flowers erect, legumes ovate callous inflated.]

30. Aſtralagus ſinicus.

Lin. ſyſt. 683. *Reich.* 3. 534. *mant.* 103. *Mill. dict. n.* 21. *Philoſ. tranſ.* 1764. *p.* 138. *n.* 2059. *Thunb. jap.* 290.

Cauleſcent proſtrate, umbels peduncled, legumes priſmatic three-ſided erect ſubulate at top.

[31. Aſtragalus alpinus. *Alpine Milk Vetch.*

Lin. ſpec. 1070. *Reich.* 3. 534. *lapp.* 267. *t.* 9. *f.* 1. *ſuec.* 661. *hort. cliff.* 362. *n.* 6. *Hall. helv. n.* 404. *Gmel. ſib.* 4. 45. *Fl. dan. t.* 51. *Scheuch. alp.* 509. *f.* 7.

Cauleſcent procumbent, flowers pendulous racemed, legumes acute at both ends, hairy.

32. Aſtragalus Ammodytes.

Lin. ſyſt. 684. *ſuppl.* 338. *Pallas it.* 2. 742. *t.* 10.

Medicago proſtrata. *Jacq. hort.* 1. 39. *t.* 89. *Lin. ſuppl.* 340. ſec. Murray.

Cauleſcent underſhrubby, flowers twin, legumes ovate twin woolly.

33. Aſtragalus trimeſtris. *Egyptian Milk Vetch.*

Lin. ſpec. 1073. *ſyſt.* 684. *Reich.* 3. 535. *Jacqu. hort.* 2. *t.* 174. *Mill. dict. n.* 11.

Subcauleſcent, ſcapes moſtly two-flowered, legumes hooked ſubulate two-keeled.

*** *Scape naked, without a leafy ſtem.*

34. Aſtragalus verticillaris.

Lin. ſyſt. 684. *Reich.* 3. 535. *mant.* 275. *Gmel. ſib.* 4. 63. *Amm. ruth.* 149. *t.* 19. *f.* 1. & 150. *t.* 19. *f.* 2.

Leaflets aggregate-ſemiverticilled.]

35. Aſtragalus montanus.

Lin. ſpec. 1070. *Reich.* 3. 535. *Mill. dict. n.* 6. *Hall. helv. n.* 408. *Scop. carn. n.* 922. *t.* 45. *Jacq. vind.* 264. *auſtr.* 2. *t.* 167. *Bauh. hiſt.* 2. 339. *f.* 1. *Villars dauph.* 3. 465. *Raii hiſt.* 937. 11.

Phaca montana. *Crantz. auſtr.* 422.

Aſtragaloides alpina. *Till. piſ.* 19. *t.* 14. *f.* 3.

Onobrychis 11. *Bauh. pin.* 351.—4. *Cluſ. hiſt.* 2. 240.

Nearly ſtemleſs, ſcapes longer than the leaf, flowers looſely ſpiked erect, legumes ovate with an inflected point.

[36. Aſtragalus veſicarius.

Lin. ſpec. 1071. *Reich.* 3. 536. *Magn. hort.* 27. *Raii ſuppl.* 454. *n.* 13. *Allion. pedem. n.* 1269. *t.* 80. *f.* 1. *Vill. proſp.* 42. *t.* 28. *dauph.* 3. 463. *t.* 42. *f.* 1.

Scapes longer than the leaves, flowers looſely ſpiked, calyxes and legumes inflated hirſute.]

37. Aſtragalus phyſodes.

Lin. ſpec. 1071. *ſyſt.* 684. *Reich.* 3. 536. *amæn.* 2. 359. *Mill. dict. n.* 9.

Scapes equal to the leaves, legumes inflated ſubglobular naked.

[38. Aſtragalus caprinus.

Lin. ſpec. 1071. *Reich.* 3. 536.

A. africanus, &c. *Breyn. cent.* 72. *Raii hiſt.* 936. *n.* 6. *Magn. monſp.* 26. *Raii hiſt.* 936. 6.

A. perennis, &c. *Mor. hiſt.* 2. 203. *ſ.* 2. *t.* 24. *f.* 3. *Raii hiſt.* 940. *n.* 20.

Scape erect, leaflets ciliate, legumes ovate tumid villoſe.]

39. Aſtragalus uralenſis. *Silky Milk Vetch.*

Lin. ſpec. 1071. *Reich.* 3. 536. *hort. upſ.* 226. *Mill. dict. n.* 14. *Hudſ. angl.* 323. *With.* 789. *Lightf. ſcot.* 401. *t.* 17. *Hall. helv. n.* 410. *t.* 14. *Gouan. illuſtr.* 50. *Jacqu. ic.* 1. *t.* 155. *miſc.* 1. 150. *Villars dauph.* 3. 467.

Scape erect longer than the leaves, legumes ſubulate inflated villoſe erect.

[40. Aſtragalus monſpeſſulanus. *Montpellier Milk Vetch.*

Lin. ſpec. 1072. *ſyſt.* 684. *Reich.* 3. 537. *mant.* 450.

hort. upſ. 427. *Hall. helv. n.* 414. *Scop. carn. n.* 921. *t.* 45. *Villars dauph.* 3. 453. *Sauv. monſp.* 238. *Bauh. hiſt.* 3. 338. *Mor.* 2. 106. *n.* 3. *Park. theat.* 1085. *Raii hiſt.* 920.
Scapes declining, the length of the leaves, legumes ſubulate, round, rather bowed, ſmooth.]

41. Aſtragalus incanus.
Lin. ſpec. 1072. *ſyſt.* 684. *Reich.* 3. 537. *mant.* 450. *Mill. dict. n.* 19. *Gerard. prov.* 522. *Magn. monſp.* 33. *Villars dauph.* 3. 454. *Bauh. pin.* 350. 6. *prodr.* 149. 3. *Raii hiſt.* 928. 2. 938. 13.
Scapes declining, leaflets tomentoſe, legumes ſubulate, rather bowed, hoary, incurved at top.

[42. Aſtragalus campeſtris. *Field Milk Vetch.*
Lin. ſpec. 1072. *Reich.* 3. 537. *ſuec. n.* 662. *Hall. helv. n.* 406. *t.* 13. *Villars dauph.* 3. 466.
Calyxes and legumes villoſe, leaflets lanceolate acute, ſcape decumbent.

43. Aſtragalus depreſſus. *Dwarf white-flowered Milk Vetch.*
Lin. ſpec. 1073. *Reich.* 3. 538. *amæn.* 4. 327. *Allion. pedem. n.* 1277. *t.* 19. *f.* 3. *Villars dauph.* 3. 455.
β. A. helminthocarpos. *Vill. proſp.* 42. *t.* 25. *f.* 2. *dauph.* 3. 456. *t.* 42. *f.* 2.
Scapes ſhorter than the leaf, legumes nodding, leaflets ſubemarginate naked.]

44. Aſtragalus uncatus.
Lin. ſpec. 1072. *ſyſt.* 685. *Reich.* 3. 538. *Mill. dict. n.* 22.
Scapeleſs, legumes ſubulate, hooked, longer than the leaf, leaflets obcordate.

[45. Aſtragalus exſcapus. *Hairy-podded Milk Vetch.*
Lin. ſyſt. 685. *Reich.* 3. 538. *mant.* 275. *Buxb. hal.* 32. *cent.* 3. 21. *t.* 38. *f.* 2? *Rupp. jen.* 2. 270. *Jacq. ic. vol.* 2.
Cicer. *Bauh. pin.* 347. *n.* 5. *prodr.* 147.
Scapeleſs, legumes woolly, leaves villoſe.

**** *Stem woody.*

46. Aſtragalus tragoides.
Lin. ſpec. 1073. *n.* 38. *Reich.* 3. 539. *Hall. helv. n.* 415. *Gmel. ſib.* 4. 52. *n.* 67. *Buxb. cent.* 3. 21. *t.* 38. *f.* 2. *Amm. ruth.* 170. *Retz. obſ.* 3. *n.* 84.
Nearly ſtemleſs, flowers radical numerous ſubſeſſile.

47. Aſtragalus Tragacantha. *Goat's-thorn.*
Lin. ſpec. 1073. *Reich.* 3. 539. *mat. med.* 174. *Gærtn. fruct.* 2. 340. *Hall. helv. n.* 405. *Villars dauph.* 3. 470. *Pluk. alm.* 60. *Woodv. med. bot.* 267. *t.* 98.
Tragacantha. *Lin. hort. cliff.* 361. *Mill. dict. Gouan. monſp.* 386. *Ger. prov.* 523. *Duham. arb.* 2. 344. *t.* 100. *Garid. aix.* 469. *t.* 104. *Ruſſ. alepp. t.* 5. *Blackw. t.* 264. *Cam. epit.* 446. *Ger. emac.* 1328. *Park. theat.* 996. *f.* 1. *Bauh. hiſt.* 1. 407. *Raii hiſt.* 933.
β. Tragacanthæ affinis lanuginoſa, ſ. Poterium. *Bauh. pin.* 388. *Gron. orient.* 226. *Duham. arb.* 2. *t.* 101.
Trunk arboreſcent, petioles becoming ſpineſcent.

Other ſpecies.

48. Aſtragalus fœtidus.
Allion. pedem. n. 1275. *Vill. proſp.* 42. *t.* 27. *dauph.* 3. 468. *t.* 43. *f.* 1.
Stemleſs, leaves proſtrate viſcid ſharply linear, ſcapes erect with few flowers.

49. Aſtragalus Halleri.
Hall. helv. n. 407. *Allion. pedem. n.* 1276.
Scapes leafleſs, leaves ovate-lanceolate, ſmooth, legumes inflated hirſute erect.

50. Aſtragalus vulnerarioides.
Allion. pedem. n. 1278. *t.* 19. *f.* 2.
Stemleſs, hirſute, ſcapes longer than the leaves, legumes inflated ovate in heads.]

51. Aſtragalus tenuifolius. *Upright Milk Vetch.*
Lin. ſpec. 1065. *Ait. hort. kew.* 3. 73.
A. Onobrychis β. *Lin. ſyſt.* 681.
Cauleſcent erect; ſpikes peduncled; banner twice as long as the wings; leaflets linear.

52. Aſtragalus vireſcens. *Green-flowered Milk Vetch.*
Ait. hort. kew. 3. 73.
Cauleſcent erect; legumes bent back; peduncles many-flowered longer than the leaf; leaflets lanceolate acute.

53. Aſtragalus Garbancillo.
Cavan. hiſp. n. 93. *t.* 85.
Stem ſhrubby upright; pinnules ovate-oblong, ſomewhat tomentoſe: peduncles naked, elongated.

54. Aſtragalus hiſpidus.
Billardiere ic. ſyr. 1. 18.
Cauleſcent, procumbent, leaflets and legumes ovate-oblong hiſpid, corollas ſhorter than the calyx.

55. Aſtragalus emarginatus.
Billard. ic. ſyr. 19.
Almoſt ſtemleſs, ſcapes very long, heads globoſe, legumes woolly.

56. Aſtragalus lanatus.
Billard. ic. ſyr. 21.
Stemleſs with a naked ſcape, the length of the leaves; legumes in cloſe ſpikes, woolly, half-cordute, three-ſided, ſubulate; leaves villoſe.

57. Aſtragalus leucophæus.
Tranſ. linn. ſoc. 1. 252.
Cauleſcent procumbent, legumes ſubcylindric ſtraight ſmooth, leaflets obcordate villoſe underneath.

58. Aſtragalus deflexus.
Pallas act. petrop. 1779. *p.* 268. *t.* 15. *L'Herit. ſt. nov.* 6. 167.
A. hians. *Jacqu. ic. t.* 153.
Subcauleſcent proſtrate, ſcapes twice as long as the leaf, legumes gaping, leaves pectinate right-angled.

59. Aſtragalus unifultus.
L'Herit. ſtirp. nov. 6. 168.
Suffruticoſe procumbent, ſtipules ſolitary ſtem-claſping oppoſite to the leaves bifid.

60. Aſtragalus varius.
Gmel. it. 1. 116. *t.* 17. *L'Herit. ſtirp. nov.* 6. 169.
Cauleſcent fruticuloſe upright, flowers in looſe ſpikes, legumes linear, ſtipules fuliginoſe downwards.

61. Aſtragalus ariſtatus.
L'Herit. ſtirp. nov. 6. 170. *Hall. helv. n.* 405.
Tragacantha alpina ſempervirens, flor. purpuraſcentibus. *Tournef. inſt.* 417. *Garid. gallopr.* 469. *t.* 104.
Suffruticoſe proſtrate, leaves hairy, petioles ſpineſcent, calyxes awned.

62. Aſtragalus pugniformis.
L'Herit. ſtirp. nov. 6. 170.
Tragacantha orientalis latifolia, fl. purpureo magno. *Tournef. cor.* 30.
T. orientalis. *Pocock it.* 3. 188. *t.* 88.
Shrubby procumbent, heads ſtem-claſping tomentoſe, petioles and leaves pungent and ſmooth.

63. Aſtragalus echinoides.
L'Herit. ſtirp. nov. 6. 170.
Tragacantha altera. *Alp. exot.* 55. *t.* 54.
T. cretica, fol. minimis incanis, fl. majore albo. *Tournef. cor.* 29.]

DESCRIPTIONS, *&c.*

1. This riſes with an upright hairy ſtem about two feet high, having long pinnate leaves with eighteen or twenty pairs of ovate leaflets. The flowers are produced in large cloſe obtuſe ſpikes from the axillas; their colour is yellow. The legumes are ſhut up in the woolly calyxes, and have two cells, containing three or four ſquare ſeeds in each. It flowers in june or july, and the ſeeds ripen in ſeptember.

This plant ſeldom continues longer than two or three years. The firſt year it rarely flowers; but when the plants come up in the ſpring, they will get ſtrength before winter, and will flower ſtronger the following ſummer. It was diſcovered by Tournefort on the Alps, and ſince his time has been found growing naturally in Siberia, from whence I have received the ſeeds. [Linneus ſays it is from Siberia and Spain. It was cultivated in 1739, by Mr. Miller[a].]

2. This ſends up ſtalks near three feet high, which are large at bottom, and gradually diminiſh

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[a] Hort. kew.

to the top; the leaves alſo at bottom are very long, and diminiſh upward, ſo as to form a ſort of pyramid; theſe are winged, and compoſed of many large oval pairs of lobes, which are placed thinly on the midrib, and terminated by an odd one; the flowers come out in cluſters from the wings of each leaf, beginning near the root where the foot-ſtalks are the longeſt, and continuing upward, diminiſhing in their number. Theſe are large, of a bright yellow colour, and are ſucceeded by cylindrical pods opening in two cells, filled with ſquare yellow ſeeds. It flowers in july, and in very favourable ſeaſons will perfect ſeeds in England.

It was diſcovered in the Levant by Tournefort, who ſent the ſeeds to the royal garden at Paris, where they ſucceeded, from whence I was furniſhed with them.

3. This has a perennial root which ſends up ſeveral erect ſtalks. From the axils come out long peduncles ſupporting a head of purple flowers, which are rarely ſucceeded by pods in England. It flowers the end of july; and was diſcovered by Tournefort in the Levant, whence he ſent the ſeeds to the royal garden at Paris.

4. [Root woody, perennial. Stem a foot or eighteen inches high, round, hard, branching. Stipules broad, lanceolate. Leaflets elliptic-lanceolate, hirſute, ten or twelve pairs. Peduncles from the axils, long, ſtout, erect; flowers to fifteen, in an erect, cloſe ſpike: calyx white, hirſute, the upper teeth converging, the lower much longer and very acute: corolla light yellow. Legume almoſt cylindric, whitiſh, ſilky, erect[b]. Native of the Valais, by the baths of Leuk, Siberia, Thuringia, and Auſtria. It flowers from june to auguſt, and was cultivated in 1732, by Mr. Miller[c].

5. Root perennial woody. Stems erect, three feet high, leafy round ſmooth fiſtulous green, a little branching, ſtreaked towards the upper part. Stipules lanceolate, quite entire, ſharp, minute on the upper part of the ſtem. Leaflets about nine pairs with an odd one, ſmooth oblong, quite entire, bluntiſh, on very ſhort petioles. Peduncles racemed, axillary, ſtiff, ſuberect, finally longer than the leaves, many-flowered. Bractes ſetaceous, theſe and the proper peduncles are ſhort. Flowers erect; without ſmell. Calyxes hairy ſmall green two-lipped, toothlets awl-ſhaped, the upper more diſtant and ſhorter. Corollas pale violet, banner obovate margined erect with the ſides often a little reflex: wings ſhorter oblong obtuſe erect with a very ſhort claw: keel very ſhort obtuſe white with a browniſh tip. Legumes ſmooth, acuminate with the ſtyle, one-celled, triangular with the back thruſt inwards and furrowed on one ſide. Seeds many brown ſhining round-kidney-ſhaped. It flowers in the open air in june and july: ripens ſeeds in auguſt. Differs from *auſtriacus* in ſtems ſtiffly erect; in a border to the calyx; the banner not reflex at a right angle, wings not two-lobed, legume quite ſmooth. Native of Siberia[d]. Introduced in 1785, by Dr. William Pitcairn[e].]

6. Root perennial. Stems many upright more than five feet in height (Linneus ſays two feet). The leaves have about fourteen pairs (twelve to fifteen. Lin.) of oval leaflets, terminated by an odd one. Peduncles axillary, on which are ſmall yellow flowers (whitiſh yellow. Lin.) in looſe ſpikes, extending beyond the leaves. [Petiole ſwelling at the baſe. Legumes ſmooth, ſhort, pedicelled within the calyx, with two ſeeds on each ſide[f]. It is a native of Siberia.] Tournefort diſcovered it in the Levant, and ſent the ſeeds to the royal garden at Paris, whence many of the European gardens were ſupplied with it. In june or july it flowers, and the ſeeds ripen in autumn. [Mr. Miller cultivated it in 1739[g].

7. This ſpecies reſembles the foregoing in its ſtature and all its parts, differing from it chiefly in its legumes. The colour of the calyx is greeniſh yellow, of the banner pale yellow ſtreaked with green at the baſe, of the wings and keel white with yellow tips: the flowers finally become white. It is perennial, flowering and ripening ſeeds the ſecond year in autumn. The ſeeds were ſent from China to Sweden in the year 1760[h].

8. Stems procumbent at the baſe, but aſcending ſo as to be upright towards the top; they are ſtreaked and branching. Leaves lanceolate, ſpreading, with twelve pairs of lobes. Peduncles longer than the leaves, furrowed, ſtiff. Bractes lanceolate. Calyxes ſubſeſſile. Corollas red. The capſules and whole plant are ſprinkled with white and black villoſe hairs[i].

According to Haller, the ſtems are hard, ſilky, a foot or a foot and half high. Stipules ſhort, dry, triangular. Lower leaves ovate-lanceolate; upper ones ſlender, almoſt linear, ſharp, covered with a ſilky pile. The ſtem and branches are terminated by a ſhort cloſe ſpike, in which are near twenty flowers. Calyx long, tubular, villoſe, whitiſh, with very ſhort teeth. Corolla an inch long, very ſtiff, blue purple. Legume erect, ſhort, hard, rough, ſwelling: in each cell are uſually three ſhining, kidney-ſhaped ſeeds.

Retzius obſerves that the pinnules are frequently changed into ternate leaves.

This ſpecies ought regularly to ſtand in the ſecond diviſion of the genus after *A. Glaux*. n. 29.

Native of Auſtria. Cultivated here in 1640. It flowers in june and july[k].

9. This reſembles *A. Cicer*. (n. 13.) except in the legumes. The top of the keel is violet-coloured. It was found by Gmelin in the moiſt meadows of Siberia[l]; was introduced in 1775, by Monſ. Thouin; and flowers from june to auguſt[m].]

10. Root perennial. Stems annual, upright, three feet high. Leaves compoſed of eighteen or twenty pairs of oval ſmooth leaflets, terminated by an odd one. Peduncles axillary, terminated by ſpikes of greeniſh yellow flowers. [The root is not creeping; and the leaflets are a little tomentoſe underneath[n].] It flowers in july and auguſt, but unleſs the ſeaſon be warm the plants ſeldom ripen their ſeeds in England. It grows naturally in Carolina, whence Mr. Miller received the ſeeds. [But it had been cultivated before in the Eltham garden.

11. Root perennial branched. Stems annual, two feet high, round, ſtreaked, leafy, with upright branches. Leaves alternate, pinnate, with about ten leaflets on each ſide, and an odd one at the end; they are lanceolate-linear, acute, quite entire, an inch long, and flat. Peduncles elongated, upright. Spikes long; flowers upright, each ſupported by a lanceolate, acuminate, ſtiff, whitiſh little bracte. Calyx cloathed with ſtiff, dark, ſcattered briſtles, preſſed cloſe; toothlets nearly equal, lanceolate-ſubulate, upright. The whole corolla pale: banner oblong, firm at the back; keel very blunt. Legume thickening above, acuminate, upright, ſcarcely grooved, ſmall, ſubbilocular, roughiſh. Seeds few, reniform-oblong, ſomewhat compreſſed, ſhining, aſh-coloured. The ſtems, the leaves on both ſides, and the peduncles are rough and ſomewhat hoary. It flowers in june and the beginning of july; at the end of the ſame month the pods ripen.

Cultivated at Vienna from ſeeds ſent from Aſtracan[o].

12. This reſembles the tenth ſpecies very much. Root perennial, creeping. Stems round, about two feet high. Leaflets ten pairs, ſmooth on both ſides, rather glaucous underneath. Peduncles axillary, ſtreaked. Calyx ſmooth, green, in no part brown. Corollas all yellow. Anthers ſaffron-coloured. Legume concave along the lower ſide, oblong, flatted[p].

Native of Virginia and Canada;] according to Mr. Miller of moſt parts of North America. It flowers here in july, and the ſeeds ripen the beginning of october. [Cultivated in 1732 by James Sherard, M. D.[q]

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[b] Haller.
[c] Hort. kew.
[d] Jacquin.
[e] Hort. kew.
[f] Linn.
[g] Hort. kew.

[h] Linn. fil. dec.
[i] Scopoli.
[k] Hort. kew.
[l] Linn.
[m] Hort. kew.
[n] Linn.
[o] Jacquin.
[p] Linn.
[q] Hort. kew.

13. Root thick, ſweet. Stems eighteen inches long and very branching. Stipules ſmall, lanceolate. Leaflets from twelve to fifteen pairs, oval, obtuſe, hirſute; according to Linneus oblong, ſublanceolate. Peduncles axillary, ſupporting erect ſpikes of twenty to thirty flowers. Calyx hirſute, blackiſh. Corollas pale yellow. Legumes completely two-celled with many ſeeds [r].]

According to Mr. Miller, the ſtems are ſtriated, and near three feet long; the leaves are placed alternately at two inches diſtance; the peduncles are two inches long, and the flowers in ſmall looſe ſpikes; each cell of the legume contains two or three hard reddiſh ſeeds. It flowers in july, and the ſeeds ripen in autumn.

[This ſpecies is recommended to be cultivated for the food of cattle. It is a native of Italy, Auſtria, Switzerland and Germany. Mr. Ray obſerved it between Geneva and Gex. Cultivated in 1739, by Mr. Miller [s].

14. This has the air of the laſt, but is only one fourth of it in ſize. Stem flexuoſe, a foot high, not ſmooth. Branches ſpreading, ſhorter. Leaflets thirteen or fifteen, blunt, ſometimes emarginate. Stipules awl-ſhaped, very ſmall. Peduncles ſolitary, longer than the leaves, with horizontal flowers at top. Calyx ſmooth, roundiſh, with ſcattered hairs ſcarcely viſible. Corollas yellow, twice as long as the calyx. Legumes inflated, villoſe [t]. Native of Siberia and Germany; flowering in june and july. Introduced in 1773, by Joſ. Nich. de Jacquin, M. D. [u]

15. Our wild Liquorice Vetch has the ſtem two feet high and more, ſmooth and branched. Leaves alternate; leaflets from four to ſix pairs, moſtly oppoſite, ſeſſile or on very ſhort petiolules, ſmooth above, a little villoſe underneath, very entire or ſlightly emarginate, pointed. Petioles grooved above. Peduncles axillary. Flowers from ten to twenty, in a cloſe raceme, on ſhort pedicels. Bractes ſubulate, very ſlender, as long as the calyx, one at the baſe of each pedicel. Calyx pale, ſegments ſubulate, the two upper ſhorteſt, the lower one longeſt. Corolla greeniſh yellow. Germ ſlightly villoſe. Stigma pimpled. Pollen orange-coloured. Legumes ſwelling, two-celled; the partition however only approaches near to the lower ſuture, without joining to it. Seeds ſometimes ten [x].

The leaves are ſweet with a mixture of bitterneſs, and do not ſeem to be agreeable to cattle; at leaſt the plant in its wild ſtate is left untouched; otherwiſe, this being the largeſt of the European ſpecies, it might have been deſirable to cultivate it.

Native of moſt parts of Europe, in woods, hedges and paſtures, eſpecially in a calcareous ſoil.] It flowers in june, and the ſeeds ripen in ſeptember. In gardens it is apt to ſpread much at the root.

16. Root annual. Branches ſtriated, and trailing on the ground. Leaves compoſed of about eight pairs of leaflets, terminated by an odd one. Peduncles axillary, about three inches long, with a few pale yellow flowers towards the top, riſing one above another. Legumes oblong, bending in form of a ſickle, being round on their outer ſide, but flatted on the oppoſite, ending in a point, opening in two cells, each having a row of ſquare ſeeds. It flowers in june, and the ſeeds ripen in ſeptember.

[Linneus obſerves that the ſtem is ſeldom erect; that the peduncles are equal to the leaves or longer; that the ſpikes have four or five flowers only; that the corollas are duſky and remote; and that the legumes are declining, hooked and very ſharp at the end.

Native of Meſſina and Montpellier. It was cultivated here in 1640 [y].

17. This is annual, and varies wonderfully in ſize and height in different ſoils. It is a native of Siberia [z]; and was introduced here in 1783, by Monſ. Thouin [a].]

18. This alſo is annual, and ſends out ſeveral trailing branches near two feet long: the leaves are compoſed of about ten pairs of blunt leaflets, ſet thinly on the midrib, and terminated by an odd one: at each axil comes out a peduncle near two inches long, ſuſtaining four or five yellow flowers at the top; which are ſucceeded by brown pods, ſhaped like a priſm, growing erect, and opening in two cells filled with greeniſh ſquare ſeeds. It flowers in july, and the ſeeds ripen in autumn.

[Native of Spain, Portugal and Sicily. Cultivated in 1759, by Mr. Miller [b].

19. Root perennial branching. Stems branching ſubangular, proſtrate, a foot long, produced as are the branches into long riſing peduncles, ſtreaked and ending in a cloſe ſpike. Leaves compoſed of about twelve pairs of leaflets with an odd one, oblong, ſeſſile, quite entire. Stipules membranous quite entire acuminate. Spike, flowers, and legumes erect. Bractes ſetaceous. Calyx tubulous with black decumbent hairs, and five unequal, awl-ſhaped toothlets. Corolla pale blue: banner oblong, emarginate: wings oblong, obtuſe, ſhorter than the banner, longer than the keel, with a long capillary claw: keel oblong, obtuſe, deeper-coloured at the top, with long capillary claws. Anthers yellow. Legume villoſe, oblong, triangular, depreſſed before into a furrow, acute at the back, pointed, almoſt two-celled. Seeds many, ſmall, kidney-ſhaped, ſhining. It flowers in june and july; and is a native of Siberia [c].

20. This is diſtinct from the following in having elongated peduncles, and many legumes [d]. Gouan at firſt ſuppoſed it to be no more than a variety, but having cultivated them, he found them to be really different. He deſcribes this to have ſeveral ſpreading ſtems a foot long, hiſpid with white crowded hairs, and ſtriated. Branches numerous, a palm in length. Leaflets on each ſide the midrib nine, hairy, quite entire, ovate, obtuſe, ſometimes emarginate. Stipules ovate, acute. Peduncles ſtriated, hairy, three inches long, that is, about the ſame length with the leaves, with about fifteen flowers at the top. Corollas blueiſh purple. Legumes in heads, very hairy, grooved on one ſide, with a reflex point. In gardens the plant is leſs hoary, laxer, more branched, and has larger leaflets. Native of Montpellier.]

21. This is an annual plant, which ſends out ſeveral weak ſtems without any order; the leaves are compoſed of ten or twelve pairs of hairy leaflets, and are ſometimes terminated by an odd one; the flowers are of a copper colour, and are ſucceeded by awl-ſhaped pointed legumes, growing erect, and reflex at their points.

[The flowers are minute and blueiſh, axillary, ſeſſile, not longer than the calyx, according to Linneus. Retzius ſays that they are violet and white, ſix or ſeven together. Gouan juſtifies Bauhin and Columna for ſetting them down as yellow.

The ſtems are proſtrate, with hairs preſſed cloſe to them. The calyxes are awned [e]. Legumes about three together, bent in, hiſpid, ſpreading at top [f].

Native of France and Italy; flowering in june and july. Cultivated in 1616, by Parkinſon [g].

22. Root perennial woody. Stems many, ſpread round on the ground, from ſeven inches to a foot high, ſometimes longer, leafy, not branching, ſlender, ſomewhat ſtreaked and angular. Stipules ſemiovate and acute or roundiſh, ſmooth quite entire. Leaves numerous, an inch long; leaflets at moſt ſeven or eight pairs, oppoſite, on very ſhort petioles, ſublinear, emarginate: on the lower leaves broader ſubovate, or obcordate. Peduncles ſtreaked, longer than the leaves, axillary, above racemed. Flowers ſmall without ſmell. Calyxes green with blackiſh preſſed hairs, tubulous compreſſed, toothlets almoſt equal, the two upper ones much more diſtant. Banner pale blue obcordate ending in a greeniſh

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[r] Haller. [s] Hort. kew. [t] Linn. [u] Hort. kew.
[x] Haller, Scop. St. and Woodw. in With.
[y] Hort. kew, from Park theat. [z] Linn. [a] Hort. kew.

[b] Hort. kew. [c] Jacquin. [d] Linn. [e] Retz. [f] Linn.
[g] Hort. kew.

claw, from which it is reflected at a right angle: wings concolor ſpreading flat bifid and obtuſe at the top: keel much ſhorter, entire, round compreſſed erect pale, with a brown ſpot towards the end. Legume round oblong ſubhirſute ſharp ſubpendulous, with a longitudinal furrow, almoſt two-celled. Seed kidney-ſhaped compreſſed black ſhining. The whole plant, except the calyx and legume, ſmoothiſh. It flowers in may and june[h].

23. Stem procumbent, branching at bottom, round, ſtreaked, at firſt covered with proſtrate hairs, which at length diſappear. Stipules ſhort ovate-lanceolate, half-ſtem-claſping. Leaflets ten pairs or more, ſubſeſſile oblong-oval, quite entire, flat, pubeſcent moſt underneath. Branches longer than the leaves, leafleſs, with a ſpike of flowers at the end. Flowers on very ſhort pedicels, erect, with a linear-lanceolate bracte the length of the pedicel. Calyx tubulous bell-ſhaped, five-toothed black-villoſe, toothlets almoſt equal, linear-awl-ſhaped. Banner longer, obcordate, ſides plaited upwards, from white pale blue: wings ſomething ſhorter than the keel, entire, oblong-ſubovate, with an obtuſe ſide tooth, and a longiſh claw, converging towards the keel, whitiſh with a tinge of blue. Keel obtuſe riſing, deep blue towards the end. Anthers yellow. Legumes ovate with the back ſlightly impreſſed, villoſe erect hooked at top with the permanent ſtyle. It has no ſmell, but the colour of Galega officinalis[i].

24. Leaflets fifteen, oblong, emarginate, pubeſcent underneath: petioles hairy. Stipules ovate-lanceolate. Peduncles axillary, decumbent, ſhorter than the leaves, with white hairs; at the end are about five flowers in a head. Corollas purpliſh. Calyxes ſubinflated, with teeth the length of the tube. Legumes five, ovate, bent in, warted and rough with ſcales, hooked backwards at the top and converging[k]. According to Linneus it is an annual plant;] but Mr. Miller ſays that it flowers and perfects its ſeeds the ſecond year only, ſeldom continuing after that. He makes the flowers to be white, and adds that the ſtems are ſeveral and trailing, divided into many ſmaller branches; that the peduncles are about the ſame length with the leaves; that the pods are ſhort and triangular, and that the whole plant is covered with a ſilvery down.

[According to Murray, it has the air of the twenty-firſt ſpecies, but the ſtems are not ſo long, nor are the heads ſeſſile but peduncled; the wings of the corolla are not ſhorter than the banner, but of the ſame length: there are from ſix to eight flowers in a head, with a ſubulate bracte to each. It flowers the beginning of auguſt, and bears ſeed at the end of the ſame month. Native of Spain, whence the ſeeds were ſent to Mr. Miller.]

25. This is annual. It ſends out from the root two or three hairy trailing branches, with winged leaves, compoſed of ten or twelve pairs of blunt leaflets, terminated by an odd one; peduncles axillary, naked, four or five inches long, terminated by a round head of flowers; theſe are pretty large, of a deep purple colour, and are ſucceeded by ſhort pods, rough on their outſides, and when opened ſhaped like a heart, ending in a ſharp point, and containing three or four ſeeds.

[Stem, according to Chevalier Murray, undivided, with hairs preſſed cloſe to it. Leaflets from four to ſix pairs, lanceolate, hirſute, or rather longer than the petiole, ſpreading. Stipules briſtle-ſhaped. Flowers on ſhort peduncles. Calyx with dark hairs, diviſions briſtle-ſhaped. Corolla longer than the calyx, ſcarcely opening, purple. Linneus ſays that the corolla is white. Native of Provence, Spain, Portugal, and the Levant, in mountainous woods.] It flowers in july, and the ſeeds ripen in autumn. [It was cultivated in 1768, by Mr. Miller[l].

26. Root perennial. The whole plant hairy. Stems weak, as many as ſix or upwards, toward the baſe cloſe to the ground, the heads of flowers riſing up ſome diſtance from the root, as if without any leaves or ſtems. From ſix to twelve pairs of leaflets, elliptical or lanceolate. Petioles furrowed. Stipules ovate-lanceolate, ſeſſile, in pairs, ciliate. Peduncles moſtly from near the ends of the branches, aſcending, larger than the petioles, about as long as the leaves; flowers five to ſeven, in a cloſe head, on ſhort pedicels. Bractes oval-lanceolate, one to each pedicel. Calyx covered with black hairs; teeth ſhort, nearly equal. Corolla blueiſh purple, large and handſome: banner longeſt, ſtraight, emarginate; keel ſhorter than the wings, ſimple emarginate[m]. It varies with naked leaves, and white flowers[n].

According to Linneus, it reſembles the twenty-fourth, but is more cauleſcent. The heads of flowers are peduncled, and the peduncle is elongated in like manner as in that. Flowers as many as eight or ten in a round head like the Trefoils, blue or purpliſh. Legumes (when ripe) have a double point, awl-ſhaped and recurved; they are covered with hairs (not ſcurfy ſcales) long, white and ſoft; but not ſpreading in a circle, as in *A. Stella*, nor awl-ſhaped, as in *A. ſeſameus*.

It is thus deſcribed by Retzius, under the name of *A. danicus*.—Height three or four inches, the whole hairy, green not white with down. Root a little branching. Stem decumbent, angular, hairy. Stipules oppoſite to the leaves, ſolitary, ſtem-claſping, bifid, membranous at the baſe, whitiſh with green tips. Leaves alternate; leaflets generally twenty-one, ovate or lanceolate, flat. Peduncle long, uſually one upon a plant. Flowers erect, ſubpedicelled, from ſeven to twelve in a head. Bracte under each flower, lanceolate, black, hairy. Calyx greeniſh, black, hairy, with five ſharp teeth, much longer than in *A. arenarius*. Banner ſubfalcate, blue at the edge: wings and keel with a blue tip only, ſhorter than the banner. Piſtil longer than the keel, with a little headed ſtigma. Legumes hairy, broad-ovate, ſhort, turgid, a little depreſſed, with a ſhort ſtraight tip, quite two-celled, with from one to three ſeeds in each cell. He obſerves that the legumes in Ray's figure are acute and too long.

This ſpecies was for ſome time ſuppoſed by our Engliſh botaniſts to be the *A. arenarius* of Linneus, which appears by the Linnean herbarium to be a very different plant.

It is found in ſandy and chalky paſtures, flowering from may to july.

27. This is a perennial plant, in appearance approaching to the next ſpecies, from which however it differs in being three times as large, and leſs hoary; in having numerous flowers head-ſpiked, not racemed, three times as large as in that, and more reflex. The leaves alſo are linear-lanceolate. The legumes oblong, hairy and erect[o]. Native of Siberia.

28. Root perennial, filiform. Stem almoſt erect, ſix inches high, often branching, with a white nap on it. Leaves alternate, pinnate, hoary; leaflets nine or eleven, linear-lanceolate, quite entire, complicate. Stipules oppoſite to the leaves, bifid, ſcarioſe, tomentoſe. Peduncles axillary, longer than the leaf, having at the end about four flowers, not cloſely crowded, pedicelled, with minute bractes in form of ſtipules. Calyx bell-ſhaped, obliquely truncate with five toothlets, the upper ſo ſhort that it may be ſaid to be almoſt wanting; it is dark green and hirſute. Corolla blue without blue ſtreaks. Legumes within the calyx, pedicelled, ſickle-ſhaped, a little ſwelling, tomentoſe, acuminate, channelled at the back, two-celled, many-ſeeded. This is really cauleſcent. It is a native of Scania, in looſe ſand[p].

Linneus, ſuppoſing this to be our purple mountain Milkwort (n. 26.), found fault with the figure in the third edition of Ray's ſynopſis, which is a tolerable repreſentation of our plant.

29. Root woody. Stems ſeven inches long, many, rather more villoſe towards the top. Leaflets twenty-

[h] Jacquin.

[i] Ibid.

[k] Linn.

[l] Hort. kew.

[m] Woodw. & Relh.

[n] Hudſ.

[o] Linn.

[p] Retz.

one or twenty-three, very ſmall, oval-oblong, with white hairs ſcattered underneath. Peduncles from the upper axils, generally ſhorter than the leaves, hairy. The head of flowers is like that of the Trefoils, ovate, with the calyxes black at the tips. Corollas pointed, near twice as long as the banner[q]. Native of Spain. Cultivated in 1658, in the botanic garden at Oxford[r].]

30. Root annual. Stems ſpreading on the ground. Leaves compoſed of eight or ten pairs of oval ſmooth ſeſſile leaflets, ſlightly emarginate. Peduncles axillary, generally two together, equal to the leaves in length, ſupporting a globular head of purple flowers, which are ſucceeded by three-cornered pods growing erect in a compact head, opening in two cells, filled with ſmall triangular ſeeds.

[According to Linneus, the ſtems are ſeven inches long, and round. Leaflets ſeven or nine, ſuborbiculate, ſmooth and thin. Peduncles aſcending, ſomewhat angular, ſhorter than the leaves. Flowers in umbels, ſubſeſſile, nine or ten together: banner emarginate, obcordate, reflex on the ſides, purpliſh; wings white; keel purple. Legume flattiſh underneath, with the ſtyle hooked at the end.] It grows naturally in China; flowers in july and auguſt, and the ſeeds ripen in autumn.

31. Stems a foot high or rather more, looſely leafed. Leaflets ſubhirſute, as far as ten pairs, ovate, not pointed. Peduncles axillary, bearing a ſhort umbel of twelve to fifteen flowers. Stipules two, ovate-lanceolate, very ſhort, white. Calyx rough with black hairs. Flowers ſpecious, looſe: banner the length of the keel, blue with deeper coloured lines, white at the baſe; wings ſtiff, ſhort, narrow, hooked, white; keel white, with a broad obtuſe blue beak. Legume rough, black, pendulous, inflated, crooked, one-celled, without any veſtige of a ſeptum. The figure in the Flora Danica has a mixture of purple in the corolla, which the alpine plant has not[s]. Native of the mountains of Switzerland and Lapland. Introduced here about 1771[t].

32. The root is annual, but runs very deep. Stems very branching, woolly. Leaves on very long petioles, with from five to eleven leaflets, rather oblong, hoary. Flowers lateral; calyx hoary; corolla white. Legume ſwelling, lanuginoſe, pointed. Seeds kidney-ſhaped, yellow[u].

Murray does not think the *Medicago proſtrata* of Jacquin to be different from this. Native of the ſandy hills of ſouthern Siberia.

33. Root annual. Before any ſtem puſhes up, there often comes out a ſcape or two, ſo that it may in that ſtate be regarded as ſtemleſs, and perhaps in a dry ſoil, it continues ſo: but in a garden a ſtem grows up ſix or ſeven inches high, erect round reddiſh, hirſute with white ſtiff preſſed hairs, and a little branching at bottom. Leaflets ten or eleven at moſt on each ſide with an odd one, oblong emarginate ſubhirſute entire oppoſite very ſhortly petioled an inch in length. Stipules ſetaceous hairy. Common peduncles erect axillary ſolitary round villoſe, ſhorter than the leaves, with three or four ſpreading flowers in a raceme. Calyx green with brown hairs, and awl-ſhaped toothlets. Petals pale yellow: banner twice the length of the calyx; wings obtuſe, keel concave arched, Anthers orange. Legume awl-ſhaped ſmoothiſh two inches long, keeled behind, round before. Seeds pale yellow. Native of Egypt; flowering in june and july, and ripening its ſeeds in auguſt[x].

Introduced in 1777, by Ant. Gouan, M. D.[y]] Mr. Miller however had received ſeeds of it before from Juſſieu. He deſcribes the ſtems as upright, and a foot and half high.

[34. Leaves pinnate, but the leaflets not, as in the other ſpecies ſolitary, but four or five at each inſertion; whence the erect leaves reſemble whorled ſtems[z]. Native of eaſtern Siberia, beyond Baikal.

35. The whole plant is ſlightly villoſe. Stipules oblong, imbricate, covering the ſtems. Leaflets not more than fourteen, lanceolate, pointed, rounded at the baſe, on very ſhort petioles, rather ſpreading, the lower ones ſhorter and bent down. Calyx three times the length of the bracte[a].

Haller ſays it has from twelve to ſixteen pairs of leaflets; and from eight to twelve ſhort flowers of a deep blue colour.

According to Linneus, this differs from *A. alpinus* in having the ſtem not at all or ſcarcely branching at the baſe; the flowers red and erect, not pendulous. Native of the ſouth of France, Switzerland, the Valais, Auſtria, Carniola, and Siberia.] Mr. Miller ſays, that it grows naturally upon the mountains in Spain, whence he received it. He deſcribes it as a low plant, ſeldom more than three inches high; the flowers large, purple, erect, in a looſe ſpike, on long peduncles riſing above the leaves; the pods oblong, crooked, opening in two cells, and filled with ſquare ſeeds.

[36. Root perennial. This is not ſtemleſs but cauleſcent, half a foot in height and branching. Leaflets ſix or ſeven pairs, oval, hoary, entire or ſlightly emarginate. Peduncles firm, furrowed, higher than the whole plant beſides, terminated with a head of from five to eight erect flowers. Calyxes inflated, tubulous, whitiſh, hairy, tranſparent, contracted a little at the orifice, with ſhort green teeth. Banner of the corolla purple, wings yellow, keel white except at the end which is yellow; as the flower advances the banner becomes blue, and the keel all yellow. Germ hirſute. Legume oblong, half-two-celled, opening at top, the valves ending in a recurved ſpine[b].

Gouan unites this with *A. uralenſis*, thinking them to be one ſpecies.

Native of Dauphiné and Siberia.]

37. Root perennial, creeping. Peduncles as long as the leaves, ſupporting a cylindrical ſpike of yellow flowers, ſucceeded by ſwollen pods, opening in two cells, containing ſeveral greeniſh ſeeds. [Bractes villoſe. Flowers purple. Legumes like thoſe of *Colutea*, but rounder[c].]

Native of Siberia; flowering in june.

[38. Root perennial, long, and thick. Leaves compoſed of fifteen to twenty pairs of leaflets, hairy on the edge, as is the rachis or midrib. Peduncles a foot long, hairy, ſuſtaining ſpikes three inches long, of many pale yellow flowers of great fragrancy. Legumes an inch long, very thick, three-ſided, mucronate, two-celled; with two or three ſeeds in each cell, having the ſhape of the ſeſamoid bones[d]. Native of Barbary, and Ruſſia. Ray obſerved it in the botanic garden at Montpellier, when he made ſome ſtay there in the year 1665.

39. Root long, woody. Stem five or ſix inches high, deſtitute of leaves, ſoft and downy. Leaves all radical[e], conſiſting of ten or twelve pairs of oval or ovate-lanceolate, acute leaflets, covered with a very ſhining ſilky pile. Bractes awl-ſhaped, ſhorter than the calyx. Flowers pale violet colour, ſtiff, growing eight or ten together in a ſhort thick ſpike, at the end of a ſcape or long peduncle covered with a very ſoft pile. Calyx has the ſame ſort of pile. Banner longer than the other petals, oval; wings narrow, with a ſhort blunt hook; keel ſhorter, blunt, ſcarcely reflex, cut at the end and terminating in an awn. Legume villoſe, not black or bladdery, but hard and turgid, marked with a groove, whence proceeds a perfect *ſeptum* or partition; it is ſhort, thick, and contains ſeveral ſeeds[f].

Haller doubts whether the Siberian be the ſame with the Swiſs plant. Gouan affirms that the ſpecimens ſent from Dauphiné under the name of *A. veſicarius* are the ſame with this. Villars ſays that it reſembles *A. campeſtris*, but that they are really different. Native of Dauphiné, Carinthia, the Pyrenees, and Siberia; alſo of mountainous paſtures in Scotland.

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[q] Linn.
[r] Hort. kew.
[s] Haller.
[t] Hort. kew.
[u] Linn. ſuppl.
[x] Jacquin.
[y] Hort. kew.
[z] Linn.

[a] Scopoli.
[b] Allioni.
[c] Linn.
[d] Moriſon & Magnol.
[e] Lightf.
[f] Haller.

40. Root very large, woody, ſweet, producing a vaſt tuft of procumbent ſcapes and leaves, the former near twice as long as the latter. Leaflets ovate, acute, pubeſcent, in pairs from ten to twenty. Scape ſimple, bearing a raceme of flowers amounting ſometimes to thirty. Bractes looſe, coloured, lanceolate. Calyx ſmooth, green mixed with roſe-colour. Corolla an inch long, ſtiff: banner very long, purple; wings hooked, pale; keel ſhorter, blunt, ſcarcely bending, deep purple. Legumes long, ſlender, really two-celled. Seeds in each cell five or ſix, kidney-ſhaped [g]. Native of the ſouth of France, the Government of Aigle, the Lower Valais, and the Griſons.—It was introduced in 1776, by Dr. Pitcairn [h].

Scopoli has a plant with this title, n. 921. which he figures in t. 45. with the *montanus*. He thinks that n. 407. of Haller is the ſame plant; and deſcribes it to be ſtemleſs, the petioles winged at the baſe with a two-horned ſtipule, leaflets ovate, as far as fifteen pairs, on very ſhort petioles, directed one way, very blunt, thickiſh, rather villoſe, mucronate, ſcapes procumbent at the baſe, longer than the leaves, racemes an inch or more in length, peduncles only half the length of the bractes, calyxes almoſt upright, ſmooth, banner eight lines long, blueiſh red at the end, keel blunt.

41. Root perennial. Scapes rough, often with twenty flowers. The flowering calyx not ſwelling. Banner folded back, twice as long as the wings. Leaves hoary. Legumes a little bent, turgid. It differs from the foregoing, in having the leaves rounder and hoary, the legumes almoſt ſtraight and more turgid [i]. Native of the ſouth of France.

Mr. Miller ſays, that he has received it from the hills near Verona, but his deſcription by no means agrees with that of Linneus.

42. Root long, ſlender, perennial. Stem none, but procumbent runners half an inch long. Leaflets fourteen pairs, hairy, ſhining. Scape naked, radical, bearing ten or twelve flowers in a looſe raceme. Bractes lanceolate, ſhorter than the calyx; which is oblong, not ſtreaked, five-toothed, with brown tips. Corollas pale yellow, not ſtreaked, the keel purple at the baſe, and acuminate [k].

Haller ſays, that the leaflets are from ten to fifteen pairs, the ſcapes ſix inches and more in length, the calyx very rough with blackiſh hairs, the corolla long and ſtiff, the banner plaited and notched, much longer than the other petals, the wings truncate, ſlightly notched, with large hooks, the keel blunt, but putting forth an awn, on the ſides of it two ſpots, commonly violet-coloured, but ſometimes green, the legumes rough with black hairs, upright, with an imperfect partition dividing them to the middle, the ſeeds are eight or ten. Native of Switzerland and Germany. Introduced in 1778, by Monſ. Thouin [l].

43. Branches very ſhort, preſſed cloſe to the ground. Scapes ſhorteſt of all, with many flowers, often ſeven. Calyxes with few brown preſſed hairs. Corollas ſmall white, keel purple at the tip. Legumes cylindric acuminate the length of the ſcape ſmooth two-celled reflex with very ſhort ſtiffiſh pedicels: leaflets fifteen or ſeventeen oval, ſcarcely emarginate ſmooth, with white hoary hairs underneath [m]. It was cultivated in the Oxford botanic garden in 1772 [n].

β. Villars deſcribes this as having no ſcape, the leaflets hoary, cut at the top, the legumes of an oblong elliptic form and thickening.

44. Leaflets nineteen, obcordate with a briſtle. No ſcapes. Flowers next the root, few, minute and white. Legumes ſtrong, longer than the whole leaf, pointed. It is ſcarcely a different ſpecies from *A. trimeſtris* [o].]

This plant is annual, ſending out a few branching ſtalks which trail upon the ground; the leaflets are broader at their end than at their baſe, and are indented ſo as to become almoſt heart-ſhaped; the flowers are axillary in ſhort looſe ſpikes, they are almoſt white, and are ſucceeded by ſickle-ſhaped pods, having two cells filled with ſquare brown ſeeds. It flowers in july and auguſt, and the ſeeds ripen in autumn. It grows naturally about Aleppo, whence the ſeeds were brought by Dr. Ruſſel.

[45. Leaflets twenty-one to thirty-three, ovate, obtuſe, ſeſſile. Flowers numerous, radical, ſubſeſſile, firſt pale and afterwards full yellow. Calyx ovate, ſwelling, white with down, having white teeth. Native of Hungary [p]. Introduced in 1787, by Joſ. Nic. de Jacquin, M. D. [q]

46. This has no ſtem or ſcape, but has branches from the root ſpreading cloſe upon the ground, cloathed with ſmall villoſe pinnate leaves. Calyxes hirſute, with blackiſh teeth. Corollas yellow. Legumes roundiſh, ſmooth [r]. Native of Switzerland, Siberia, and Armenia.

The Siberian plant agrees with Linneus's, except in the blackneſs of the teeth of the calyx. Haller's n. 415. is different from Linneus's, in the flowers being much larger, the leaves ovate, retuſe, and villoſe only beneath. In the Siberian plant they are narrow-lanceolate, and very hirſute on both ſides, as is the whole plant, except the corollas [s].

47. Root large, woody and branching. Stems a foot long, leafy, branching, hard. Leaves ſubhirſute, with from ſeven to ten pairs of leaflets, and no odd one. Bractes large, yellow, ovate-lanceolate. Flowers upright, at the lower part of the ſtem, on peduncles, from five to eight, ſhorter than the leaves. Calyx ſoft and villoſe, cylindrical, with long, capillary teeth. Corollas long, ſtiff, of a pale violet colour: banner long, plaited, notched, with veins of deep purple; wings on a capillary peduncle, with a ſhort blunt hook; keel ſhorter, with ſhort hooks, and a bent pointed purple beak. Legume one-celled, with four ſeeds [t].

Native of the ſea ſhore near Marſeilles, of Switzerland, mount Etna, Olympus, &c. Cultivated here in 1640 [u].

Mr. Miller treats of this ſpecies ſeparately, under its old name of *Tragacantha*. He makes four ſorts of it:]

1. T. maſſilienſis; *with longer ſpineſcent petioles, and oval obtuſe leaflets.*

2. T. hiſpanica; *with lanceolate leaflets, ſolitary axillary flowers, and ovate inflated legumes.*

3. T. argentea; *with lanceolate acuminate tomentoſe leaflets, and flowers both axillary and terminating.*

4. T. glabra; *with linear ſmooth leaflets, and axillary flowers in cluſters.*

He thus deſcribes them:

1. This has a thick, ſhort, ligneous ſtalk, which branches out greatly on every ſide. The young branches are woolly; they are cloſely garniſhed with winged leaves, whoſe foot-ſtalks end in acute thorns. The leaflets are ſmall, oval, obtuſe, and ſilvery. The flowers are large, and white, they are produced in cluſters at the end of the branches; theſe appear in june and july, and are ſucceeded by ſhort pods having two longitudinal cells, containing two or three kidney-ſhaped ſeeds, which ſeldom ripen in England. It grows naturally on the ſea-ſhore about Marſeilles, and in Italy.

2. This has a thick woody ſtalk which riſes about two feet high, ſending out many ligneous branches, which are cloſely garniſhed with ſpear-ſhaped ſmall leaves; they are hoary and are ranged by pairs along a very ſtrong footſtalk, ending with a ſharp point. The flowers are produced ſingly from the ſides of the branches; they are large and white, and are ſucceeded by oval bladder pods, containing four kidney-ſhaped ſeeds: it flowers in july, but the ſeeds do not ripen in England. It grows naturally in the iſlands of Majorca and Minorca.

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[g] Haller and Linn. [h] Hort. kew. [i] Linn. [k] Ibid. [l] Hort. kew. [m] Linn. amæn. [n] Hort. kew. [o] Linn.

[p] Linn. [q] Hort. kew. [r] Linn. [s] Retz. [t] Haller. [u] Park. theat.

3. This has a very low ſhrubby ſtalk, which divides into many downy branches, garniſhed with winged leaves, compoſed of nine or ten pairs of ſpear-ſhaped woolly leaflets, ending in acute points; theſe are extended to the end of the footſtalk, ſo that there is not any part of it bare, as in the others. The flowers are produced from the ſide and at the top of the branches; they are white, and ſmaller than in the others, appear at the ſame time and are not ſucceeded by pods in England. It grows naturally in the iſlands of the Archipelago.

4. The laſt is a very low plant: the ſtalks are pretty thick and woody, but ſeldom riſe to more than five or ſix inches high, dividing into ſeveral branches, cloſely garniſhed with ſmall winged leaves, compoſed of ſeveral pairs of ſmall, linear, ſmooth leaflets, of a bright green colour. The foot-ſtalks end in very ſharp thorns, which ſtand out beyond the leaflets; the flowers grow in cluſters from the ſide of the ſtalks; they are ſmaller than thoſe of the others, and of a dirty white colour; they appear in july, but are not followed by ſeeds in England. It grows naturally in Spain.

[From the A. Tragacantha or Goat's Thorn is gathered the Gum called Gum Tragacanth, ſo much uſed in various preparations in different trades, as well as in the Materia Medica. It differs from all other known Gums in giving a thick conſiſtence to a much larger quantity of water, and in being ſoluble with much more difficulty, or rather diſſolving only imperfectly. When put into water it ſlowly imbibes a great quantity of the fluid, ſwells into a large volume, and forms a ſoft but not fluid mucilage. The demulcent qualities of this Gum are to be conſidered as ſimilar to thoſe of Gum Arabic. It is ſeldom given alone, but frequently in combination with more powerful medicines, eſpecially in the form of troches, for which it is peculiarly well adapted. It gives name to an officinal powder.

48. The leaves have no ſilkineſs about them, as in the *campeſtris* n. 42.; the leaflets are much leſs, greeniſh yellow, ſubhirſute and viſcid, ſcarcely erect, twenty pairs and upwards. Flowers pale yellow, four or five, as in *campeſtris* but ſmaller. Legumes leſs ſtraight, and more inflated; two or three only ripening. It agrees with n. 42. in root and habit, but the leaves are ſhorter, and have leaflets nearer to the baſe; the root alſo puts forth a greater number of heads. Native of Dauphiné; alſo of Mont Cenis and other high alps[x].

49. This alſo has the habit, flower and legume of the *campeſtris*, but the leaves have more pairs of leaflets, as far as twenty-one, they are leſs, pulpy and thickiſh, ſmooth, and the edges contracted; they are apt to turn of a browniſh red, and are often imbricate. The ſcapes are much lower, being not ſix inches high, and there are ſcarcely ten flowers in a raceme. The bractes are coloured, and much longer than in the *campeſtris*. The calyx and corolla are larger; the latter is white and upright; the banner very long, plaited, and a little turned back; the wings long, ſlender, hooked, longer than the keel, which is very blunt. Legume rough with black hairs, furrowed, round, a little flatted on one ſide and convex on the other, divided half way by an imperfect partition, and containing ten ſeeds. It approaches to *campeſtris*, but differs in the bractes, in the ſmoothneſs of the leaves, in having a longer flower, white and the keel not violet-coloured. Native of the mountains of the Valais, and of Piedmont bordering on it[y].

50. This has the habit of *Anthyllis Vulneraria*. The corolla is but little extended beyond the calyx; the keel and wings are of a duſky colour, the banner is pale yellow, emarginate, ſcarcely turned back. Legumes ſhort, two-celled, rather hiſpid, of a duſky colour, terminated by the crooked ſtyle. Native of Mont Cenis[z].

51. Stems ſhorter. Leaflets eleven to thirteen, linear, very narrow. Peduncles long, ſtraight, obtuſely three-cornered. Flowers in ſpikes. It reſembles *A. Onobrychis*, inſomuch that it has been ſuppoſed to be only a variety of it, but the leaflets are ſomewhat tomentoſe, the flowers larger, the ſtipule ſolitary.

This and the following are natives of Siberia. Introduced in 1780, by Peter Simon Pallas, M. D. The former flowers in july and auguſt, the latter in june[a].

53. Stem ſhrubby, upright, a foot and half high, branched, covered with a very ſhort whitiſh nap. Leaves alternate, unequally pinnate; leaflets about thirty-one, ovate-oblong, one-nerved, ſubtomentoſe. Stipule ſtem-claſping, cowled, bifid at the tip. Flowers in ſpikes, with one bracte to each, on an elongated, naked, axillary common peduncle. Calyx tubuloſe, with five, nearly equal, acute ſegments. Corolla pale violet-coloured: banner ovate, emarginate, concave, with a reflex border and channelled claw; wings ſhorter than the banner, and covered with it, ovate, ſickle-ſhaped at the baſe and near the claw; keel ſhorter, bifid at the baſe. Anthers ſulphur-coloured, ovate. Germ ſhort, ovate, tomentoſe; ſtyle ſtraight, reflex at the tip; ſtigma ſimple. Native of Peru. It flowered in the royal garden at Madrid, before 1791, in october and november. It is reported to be very injurious to cattle[b].

54. Root perennial, ſimple. Stem herbaceous, procumbent, hairy, ſcarcely half a foot high. Leaves pinnate, with entire, ovate-oblong, hiſpid ſtipules: leaflets nine to eleven, ovate-oblong, hiſpid with appreſſed, rigid hairs, tubercled at the baſe. Flowers in ſpikes, yellow, with lanceolate, hiſpid bractes. Calyx hiſpid, five-parted beyond the middle, with long, filiform, unequal ſegments. Banner of the corolla a little longer than the wings and keel, ſtraight, flatted a little at the ſides; wings ſemicordate, with an oblong ſubfiliform claw; keel ſhorter than the other parts, with a two-parted claw, and a compreſſed, ſharp body. Filaments curved in a little; anthers roundiſh. Germ ovate-oblong, hiſpid; ſtyle the length of the ſtamens, aſcending; ſtigma globoſe. Legume half-two-celled, ovate-oblong, compreſſed a little, hiſpid. Seeds very few, kidney-ſhaped.

55. Stem ſcarcely any, herbaceous. Leaves unequally pinnate, a ſpan long, petioled: leaflets forty-three to fifty-one, ovate-oblong, emarginate, tomentoſe. Stipules ovate-lanceolate, ſhrivelling. Scape very long, pubeſcent, ſlightly ſtreaked. Flowers in a globoſe head, purpliſh, with lanceolate, hairy bractes. Calyx hairy, more deeply cloven at top, the upper toothlets ſmaller. Banner longer than the wings, ſubovate, oblong, emarginate, obtuſe, reflex on the ſides; wings longer than the keel, lanceolate, with a ſubfiliform claw; keel cloven towards the baſe, the body compreſſed, acute, emarginate on the ſides. Filaments curved in a little; anthers ovate. Germ ovate-oblong, woolly; ſtyle ſubulate, curved inwards; ſtigma blunt. Legume half-two-celled, ſubovate, acute, depreſſed at top, wrapped in a ſubrufous wool. Seeds very few, nearly kidney-ſhaped.

56. Root ſimple, horizontal, ſomewhat woody, perennial. Leaves radical, two inches long, unequally pinnate; leaflets from eleven to twenty-three, ovate, tomentoſe, ſeſſile. Stipules lanceolate, hairy on the outſide. Scape aſcending, round, hairy, the length of the leaves. Flowers in a cloſe ſpike, with filiform, hairy bractes. Calyx hairy, with the upper toothlets ſmaller, in the ripe fruit ſwelling, cloven above. Corolla yellow: banner longer than the wings and keel, ovate-lanceolate, ſtraight; wings ſcarcely longer than the keel, half-cordate, with a ſubfiliform oblong claw; body of the keel compreſſed, acute, claw cloven at the baſe. Filaments ſomewhat curved inwards; anthers roundiſh. Germ ovate-oblong, woolly; ſtyle ſubulate, aſcending; ſtigma globoſe. Legume half-cordate, three-ſided,

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[x] Allioni.

[y] Haller.

[z] Allioni.

[a] Hort kew.

[b] Cavanilles.

ſubulate, compreſſed above, woolly, half-two-celled, two-valved. Seeds few, kidney-ſhaped.

Theſe three ſpecies are natives of mount Libanus[c].

57. Allied to *A. hamoſus*, but differs in having rounder leaves, more flowers in a ſpike, and eſpecially in having ſtraight, not recurved pods, only half the length of thoſe of *A. hamoſus*. The native country is unknown. It appears to be an old inhabitant of Chelſea garden, and was marked with the name of Aſtragalus piloſus in Miller's herbarium. It has however no affinity to the *A. piloſus* of Linneus, nor does it even agree with the deſcription of that plant in Miller's dictionary. Communicated by Mr. Fairbairn from Chelſea garden, in 1788[d].

58. Stems proſtrate, branched near the ground, ſhort, round: twigs villoſe. Leaves alternate, on long petioles, unequally pinnate, both radical and cauline, villoſe, ſix or ſeven inches long including the petiole. Leaflets fifteen to twenty pairs, oppoſite, ſeſſile, the upper ones gradually ſmaller, lanceolate, acute, entire, one-nerved, the nerve ſcarcely viſible, concave, villoſe, hirſute beneath, pale green on both ſides, nine lines long and three broad. Petioles round, two or three inches long, with two linear, long, acute, hirſute, upright ſtipules at the baſe. Scapes radical and axillary, ſolitary, leafleſs, very long, twice as high as the plant, upright, round, villoſe. Spikes terminating, ſhort, cloſe, villoſe. Flowers crowded, ſeſſile, ſpreading very much, afterwards nodding, purple, three lines in length. Bracte under each flower, linear, acute, ſhorter than the calyx; which is half-five-cleft and villoſe, the ſegments nearly equal, ſubulate, the two upper ones remote; it is permanent, and two lines long. Banner of the corolla oblong, emarginate with a minute point, and a broad channelled claw; wings linear-lanceolate, ſtraight, lax, almoſt the length of the banner, with a capillary claw: keel two-petalled, ovate, ſubulate-acuminate, ſmaller than the other petals, with linear claws. Legume oblong, turgid, having one groove on each ſide, villoſe, one-celled, one-valved, five lines long and two broad. Seeds ſeveral, kidney-ſhaped, pedicelled, browniſh. Native of Siberia, on the loftieſt mountains; and ſent thence to the Paris garden by Demidow[e].

59. The oppoſite-leaved ſtipule is not unuſual in this genus, but in this ſpecies it is very large like a ſheath. Native of Peru, where it was found by Dombey[f].

60. This is a hoary little ſhrub, about a cubit in height. Stem upright, round, branched from the baſe, aſh-coloured at bottom, pubeſcent at top, whitiſh, retaining its ſtipules: branches alternate, ſtiffiſh, like the ſtem. Leaves alternate, ſpreading, unequally pinnate, eighteen lines in length. Leaflets ſix or ſeven pairs, oppoſite, ſeſſile, linear or narrow-lanceolate, ſharp at both ends, but ſometimes bluntiſh, quite entire, nerveleſs above, ſcarcely one-nerved beneath, pubeſcent, whitiſh on both ſides, ſpreading, from four to ſix lines in length, and twelves lines in breadth. Petioles round on one ſide, having one ſtreak on the other. Stipule half-ſtem-claſping, two-parted, acute, ſpreading and rolled back, green above, brown beneath. Spikes axillary, ſolitary, on long peduncles, upright, round, pubeſcent, three inches long. Peduncles round, longer than the leaves. Flowers ſubſeſſile, purple, nine lines in length. Bractes linear, acute, villoſe, ſpreading, one under each flower. Calyx præmorſe at top, hirſute, duſky purple; mouth oblique, five-toothed, acute, erect, nearly equal: the lower tooth ſcarcely more produced than the reſt; it is permanent, and five lines in length. Banner of the corolla obovate, obtuſe, ſeſſile, attenuated at the baſe, half-reflex, larger than the other petals; wings oblong, ſtraight; keel two-petalled, ſhorter than the wings, with the claw double towards the baſe. Legume linear, round, villoſe, two-celled with a double partition, ſix lines in length and one in breadth; containing few (ſometimes only one) oblong, kidney-ſhaped ſeeds. It flowers in ſummer and ſoon ripens the ſeeds: though ſhrubby, it continues not many years. Native of Siberia, whence the ſeeds were ſent to the Paris garden by Demidow[g].

61. Manner of flowering as in *A. montanus*. It differs from *A. Tragacantha* in being ſmaller, with green not white leaves; the petioles ſcarcely ſpineſcent and not very firm; the flowers purple not white; the calyxes very hirſute, not merely villoſe, as in that; and the calycine teeth not ſimple but having very long awns. Native of Switzerland and Provence[h].

62. This is remarkable for the largeneſs of the heads or balls of flowers, almoſt the ſize of the firſt. Native of the Levant[i].

63. The leaves are minute. The flowers ſmall, white with a purple line on the banner. Peduncles axillary, ſhort, two-flowered. Native of Crete or Candia[k].]

PROPAGATION AND CULTURE.

All the ſpecies may be raiſed from ſeeds: theſe ſhould be ſown in april, on an open border of light earth; the annual ſorts where they are to remain, the perennials to be tranſplanted to the places for which they are deſtined. They are in general hardy, and require no other care but to draw the plants out where they come up too thick, leaving them a foot and half, or two feet aſunder, and to keep them clean from weeds. Obſerve only that ſome, (as n. 26, 35, 37.) require a ſhady ſituation and ſtrong ſoil; others (as n. 6, 39.) an open ſituation and dry ſoil. N. 2 and 33. muſt be planted in a warm border. The ſecond ſort ſeldom flowers till the third year from ſeed, and will continue many years in a proper ſoil.

3, 7, 10, 12, 30. muſt be raiſed on a moderate hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be each put into a ſmall pot filled with light earth, and plunged again into the hotbed, ſhading them from the ſun till they have taken root; after which they ſhould have free air admitted to them daily, in proportion to the warmth of the ſeaſon; and ſhould be frequently, but gently watered. In may they ſhould be removed to a ſheltered ſituation, where they may remain till october, when they ſhould be placed under a common frame. In the ſpring they may be turned out of the pots, and planted in a warm border, where they will flower, and ſometimes produce ſeeds. If the winter prove very ſevere, a little old tan ſhould be laid over the roots, which will effectually preſerve them.

47. The Tragacanth may be propagated by ſeeds, if they can be procured from abroad, in the ſame manner with the others. When they are large enough to tranſplant, they ſhould be carefully taken up, and ſome of them planted in ſmall pots filled with freſh earth, placing them in the ſhade until they have taken root; after which they may be removed into an open ſituation, where they may remain to the end of october, when they ſhould be placed under a common frame, where they may be ſheltered from ſevere froſt, but have free air in mild weather. The remainder of the plants may be ſet on a warm dry border.

The plants in pots may be preſerved a year or two under frames in winter, and then being ſhaken out of the pots may be planted in a lean dry ſoil, and warm ſituation: but as they are ſometimes deſtroyed by hard winters, it will be proper to keep a few plants in pots, to be ſheltered in winter, in order to preſerve the ſpecies.

Theſe plants may alſo be increaſed by ſlips, and as they rarely produce ſeeds in this country, the latter method is generally uſed here. The beſt time for this work is in april, juſt as the plants begin to ſhoot, at which time the tender branches ſhould be ſlipped off, and their lower parts diveſted of the decayed leaves; then they ſhould be planted on a very moderate hot-bed, which muſt be covered with

[c] Billardiere. [d] Tranſ. Linn. ſoc. [e] L'Heritier. [f] Ibid.

[g] L'Heritier. [h] Ibid. [i] Ibid. [k] Ibid.

mats, to ſcreen them from the heat of the ſun by day, and the cold by night. Theſe ſlips ſhould be frequently, but gently watered, until they have taken root; after which they may be expoſed to the open air, and in very dry weather they muſt be refreſhed with water. On this bed they may remain until the following ſpring, being covered with mats in very ſevere weather. In april they may be tranſplanted, either into pots filled with light ſandy earth; or into warm borders, where, if the ſoil be dry, gravelly, and poor, they will endure almoſt the ſevereſt cold of our climate; but if they are planted in a very rich ſoil, they often decay in winter.

Astragalus. See *Anthyllis*, *Biſerrula*, *Crotalaria*, *Glycine*, *Hedyſarum*, *Indigofera*, *Orobus*, *Phaca*.

ASTRANTĬA. (*From* ἄστρον *aſtrum* and ἀντίος *obvium. Lin.*)

Lin. gen. 327. *Reich.* 357. *Schreb.* 459. *Tournef.* 166. *Gærtn.* 20.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ*.

GENERIC CHARACTER.

Cal. *Umbel univerſal* with very few rays (often three); *partial* with very numerous ones. *Involucre univerſal* with leaflets doubled to the ray—*partial* with leaflets about twenty lanceolate, ſpreading, equal, coloured, longer than the umbellule. *Perianth proper* five-toothed, acute, erect, permanent.

Cor. *univerſal* uniform: *floſcules* of the ray abortive. *Proper* with petals five, erect, inflex, bifid.

Stam. *Filaments* five, ſimple, the length of the corollule. *Anthers* ſimple.

Pist. *Germ* oblong, inferior. *Styles* two, erect, filiform. *Stigmas* ſimple, ſpreading.

Per. *Fruit* ovate, obtuſe, crowned, ſtriated, bipartile.

Seeds two, ovate-oblong, covered with the cruſt of the pericarp, wrinkled.

ESSENTIAL CHARACTER.

Partial Involucres lanceolate, ſpreading, equal, longer, coloured. *Flowers* very many, abortive.

SPECIES.

1. Aſtrantia major. *Great Maſterwort.*
Lin. ſpec. 339. *Reich.* 653. *hort. cliff.* 88. *Gærtn. fruct.* 1. 78. *Hall. helv. n.* 790. *Crantz. auſtr.* 218. *Rivin. t.* 68. *Plenck, ic. t.* 225. *Sabb. hort.* 4. *t.* 87.
A. nigra. *Scop. carn. n.* 306. *Blackw. t.* 470. *Mor. umb. t.* 1. *f.* 85, 86. & R. r. *hiſt. ſ.* 9. *t.* 4. *f.* 1. *Raii hiſt.* 475. *Ger.* 828. *emac.* 978. *Park. theat.* 213. *f.* 2.
A. candida. *Mill. dict. n.* 2.—et major, *n.* 1.
[β. A. nigra minor. *Mor. umb. n.* 11. *hiſt.* 3. 279. *ſ.* 9. *t.* 4. *f.* 2. *Raii hiſt.* 475. *n.* 2.
A. alpina. *Munt. phyt. t.* 111. minor. *Scheuch. alp.* 4. 331.
Leaves five-lobed; lobes trifid.

2. Aſtrantia carniolica.
Lin. ſyſt. 272. *Jacqu. auſtr.* 5. 31. *app. t.* 10.
A. minor. *Scop. carn.* 1. 187. *t.* 7. 2. *n.* 305. *t.* 7.
Leaves five or ſeven-lobed, ſimple or bifid.]

3. Aſtrantia minor. *Little* or *alpine Maſterwort.*
Lin. ſpec. 340. *Reich.* 654. *Mill. dict. n.* 3. *Hall. helv. n.* 791. *Willich. illuſtr. n.* 41. *Scheuch. alp.* 6. 453.
A. nigra alpina minima. *Raii hiſt.* 475. *n.* 3.
Helleborus. *Bauh. pin.* 186. *n.* 6. *prodr.* 97. 9. *Bocc. ſic.* 10. *t.* 6.—*rar. t.* 5. *f.* 3. 11.
Leaves digitate ſerrate.

[4. Aſtrantia ciliaris.
Lin. ſyſt. 273. *ſuppl.* 177.
Jaſione capenſis. *Berg. act. nov. upſ.* 3. 187. *t.* 10.
Leaves lanceolate ſerrate-ciliate.

5. Aſtrantia Epipactis.
Lin. ſyſt. 273. *ſuppl.* 177. *Scop. carn. n.* 303. *t.* 6. *Jacqu. auſtr.* 5. 32. *app. t.* 11. *Bauh. pin.* 186. *n.* 7. *Lob. ic. p.* 664. Elleborine.
Leaves five-parted obtuſe ſerrate.

DESCRIPTIONS, *&c.*

1. Stem eighteen inches high, little branched. Leaves ſhining, petioled, very deeply five-cleft; the lobes trifid, and ſharply ſerrate: ſometimes they are ſeven-cleft. There are ſometimes as many leaves in the involucre, and they are veined. All the flowers are peduncled; and the peduncles are ſhorter than the involucre. The umbels are large, and the calyxes awned[a].

The involucre is either purple or white: hence Miller, following Tournefort, has made of this two ſpecies.]

The firſt, which he calls *Aſtrantia major*, has many ſpreading leaves riſing from the root, compoſed of five large lobes, pretty deeply ſerrate; between theſe the ſtalks ariſe near two feet high, having at each joint one leaf deeply cut into three ſharp-pointed lobes; at the top is produced the umbel of flowers, at the baſe of which is the general involucre, compoſed of two long trifid leaves, and two entire ones of the ſame length. The partial umbels ſtand upon long peduncles, under which is the involucre, compoſed of many, ſpear-ſhaped, pointed leaves, which extend beyond the rays, and are of a purpliſh colour.

The other (*A. candida*) has much the appearance of the foregoing, but differs in having five lobes to the ſtem-leaves, which are much ſhorter, and rounder at the point than thoſe of the foregoing. The general involucre is compoſed of ſhort narrow leaves, and thoſe of the partial umbels are ſhorter and white.

[Great Maſterwort is a native of the mountains of Switzerland, where I found it abundantly on mount Scheidegg, *&c.* flowering in auguſt, 1779; Ray obſerved it on mount Jura, and mount Saleve in Savoy, near Geneva; native alſo of Tuſcany, Bohemia, Bavaria, Auſtria, Carniola, the Pyrenees, *&c.*

It was cultivated here in 1596, by Gerard[b].

β. Differs only in ſize, probably from its ſituation, being a native of the Alps[c].

2. Root nearly the thickneſs of the little finger, about an inch long, præmorſe, dark brown, having an aromatic balſamic ſmell, with a taſte at firſt ſlightly aromatic but nauſeous, and afterwards acrid. The whole plant is ſmooth. Stem round, erect, ſlender, from ſix inches to a foot in height, with only one leaf on it, reſembling the bottom leaves, ſometimes only three-lobed, or even ſimple: it is divided at top umbel-wiſe into ſtriated branches, which are often ſubdivided: there is alſo frequently a middle branch which is undivided. The number of umbels varies from ſix to twenty-eight. Bractes ſmall, ovate, concave, blunt, pale. Leaflets of the univerſal involucre from two to five, ſeſſile, acute, with few ſerratures, entire or elſe divided half way into two or three lobes. Leaflets of the partial involucres from ſix to twelve, oblong-lanceolate, quite entire, acute, ſpreading very much, white with a green line running along the middle. Male florets ſeveral, on longer peduncles: females irregularly mixed with them, on ſhorter ones. Petals white, appearing heart-ſhaped on account of their being bent in very much at the tip, nearly upright, permanent and ſhrivelling. Leaflets of the perianth ovate, concave, whitiſh, almoſt as long as the corolla. Stamens of the ſame length with the corolla. Germ hirſute, pale with a tinge of green. Seeds oval, crowned with a part of the ſhrivelled calyx; ſmooth, flattiſh and aſh-coloured on one ſide; convex, muricate, and white on the other.

Native of Carniola; flowering in july and auguſt[d].]

3. This ſeldom riſes a foot high. Petioles four inches long. Leaves divided into eight ſegments, deeply ſerrate. Univerſal involucre compoſed of ſeveral very narrow leaflets. Peduncles of the partial umbels very large and ſlender, towards the top often dividing into three, each having a ſmall umbel. Involucres of theſe ſmall umbels ſhort and white.

[Haller ſays, that it is of much lower growth than the firſt ſpecies, with the leaves not confluent but diſtinct, ſix to nine from one petiole, long, narrow, more acutely ſerrate, not three-lobed; the firſt are quinate, ſometimes broader, always ſimple. Umbel much ſmaller, ever white, with the rays of the involucre entire, not three-toothed.

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[a] Scopoli. [b] Hort, kew. [c] Ray. [d] Jacquin.

Native of the Alps and alpine vallies of Switzerland, but not of the lower mountains. I found it about Bex, flowering in auguſt 1779. With us it flowers in may and june.—It was cultivated in 1759, by Mr. Miller[e].

Scopoli ſuppoſes his plant to be the ſame with Haller's, and if ſo the ſecond and third ſpecies are one; but Willich is of a different opinion.

4. Stem ſimple, a foot high, ruſhy, erect, a little ſtreaked, divided at the top into a few flowering branches. Radical leaves petioled: ſtem-leaves four to ſix, ſeſſile, half-ſtem-claſping. Umbel elongated, three-rayed; umbellules many-rayed, very ſhort. Involucre two or three-leaved, like the leaves but ſmaller. Involucels ten-leaved, broad-lanceolate acute, twice as long as the florets, coloured. Native of the Cape of Good Hope[f].

5. Root black on the outſide, producing one leaf and one ſcape. Leaf ſhorter than the ſcape, three-parted, the middle lobe trifid, the ſide ones generally bifid, all ſerrate, the ſerratures ending in a little ſoft ſpine. Petiole triangular, ſmooth. Scape ſmooth, angular, naked, one-flowered. Involucre five-leaved; leaves ovate, ſerrate above the middle, with ſhort awns to the teeth. Flowers in a head, yellow[g].

Native of Idria and Gorizia, flowering in march; alſo of Hungary.]

PROPAGATION AND CULTURE.

Theſe plants, except the fourth are very hardy; they may be propagated either by ſowing their ſeeds, or by parting their roots. If from ſeeds, they ſhould be ſown in autumn, ſoon after they are ripe, on a ſhady border; and, when the plants are come up, they ſhould be carefully weeded, and where they are too cloſe, ſome of the plants ſhould be drawn out, to allow room for others to grow, until michaelmas, when they ſhould be tranſplanted where they are to remain; which ſhould always be in a moiſt ſoil and a ſhady ſituation. The diſtance theſe plants ſhould be placed, is three feet, for their roots will ſpread to a conſiderable width, if they are permitted to remain long in the ſame place. They require no other culture but to keep them clear from weeds, and every third or fourth year to be taken up at michaelmas, and their roots parted and planted again. Theſe plants are ſeldom preſerved but in botanic gardens, there being no great beauty in the flowers.

The fourth ſort only, being a native of the Cape, will, whenever it is introduced, require the protection of a dry ſtove in winter.

[**ASTRONIUM.** (*απο του αστρου, from a ſtar, on account of the radiated form of the calyx.*)

Jacqu. amer. 261. *Lin. gen.* 1111. *Reich.* 1214. *Schreb.* 1515. *Juſſ.* 427.

Claſſ. 22. 5. Dioecia Pentandria.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* five-leaved, coloured, ſmall: *leaflets* ovate, concave, obtuſe, ſpreading.

Cor. *Petals* five, ovate, very obtuſe, flat, ſpreading very much. *Nectary* five, roundiſh, very ſmall glands in the diſk of the flower.

Stam. *Filaments* five, ſubulate, ſpreading, the length of the corolla. *Anthers* oblong, incumbent.

* *Female.*

Cal. *Perianth* five-leaved, coloured: *leaflets* oblong, concave, obtuſe, converging.

Cor. *Petals* five, ſubovate, obtuſe, concave, erect, leſs than the calyx, permanent.

Pist. *Germ* ovate, obtuſe. *Styles* three, ſhort, reflex. *Stigmas* ſubcapitate.

Per. none. *Calyx* increaſed, coloured; its leaflets at firſt expanded into a pendulous ſtar, at length dropping the ſeed.

Seed one, oval, the length of the calyx, lacteſcent.

ESSENTIAL CHARACTER.

Male. *Cal.* five-leaved. *Cor.* five-petalled.

Fem. *Cal.* five-leaved. *Cor.* five-petalled. *Styles* three. *Seed* one.

SPECIES.

1. Aſtronium graveolens.

Lin. ſpec. 1456. *ſyſt.* 885. *Reich.* 4. 248. *Jacqu. amer.* 261. *t.* 181. *f.* 96. *pict.* 127. *t.* 262. *f.* 65. (calyx and leaf.)

DESCRIPTION, *&c.*

This is an upright tree, from twelve to thirty feet in height, abounding every where in a ſlightly glutinous terebinthine juice, which has a diſagreeable ſmell. After the fruits in the female, and the flowers in the male plant have fallen off, new branches are put forth, having unequally pinnate leaves on them, with three pairs of leaflets, which are oblong-ovate, acuminate, quite entire or ſerrulate, ſmooth, veined, three inches in length. Panicles lax, half a foot long in the males, but a foot and half long in the females, ſcattered on the outmoſt twigs. Flowers ſmall, red. The calyxes are expanded into ſtars nine lines in diameter. Native of the woods about Carthagena in New Spain; flowering in may and june, and fruiting in july.]

Atamaram. See *Annona.*

Atamasco Lily. See *Amaryllis.*

ATHAMANTA. (*From Athamas, a city or mountain of Theſſaly.*)

Lin. gen. 338. *Reich.* 369. *Schreb.* 471. *Juſſ.* 223. Oreoſelinum. *Tournef.* 169.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ*, or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel univerſal* manifold, ſpreading; *Partial* has fewer rays.—*Involucre univerſal* many-leaved, linear, a little ſhorter than the rays: *Partial* linear, equal with the rays. *Perianth proper* obſcure.

Cor. *univerſal* uniform: *floſcules* all fertile. *Proper* with five petals, inflex-emarginate, a little unequal.

Stam. *Filaments* five, capillary, the length of the corolla: *anthers* roundiſh.

Pist. *Germ* inferior. *Styles* two diſtant. *Stigmas* obtuſe.

Per. none. *Fruit* ovate-oblong, ſtriated, bipartile.

Seeds two, ovate, convex on one ſide, ſtriated; on the other flat.

ESSENTIAL CHARACTER.

Fruit ovate-oblong, ſtriated. *Pet.* inflex emarginate.

SPECIES.

[1. Athamanta Libanotis. *Mountain Spignel* or *Stone-Parſley.*

Lin. ſpec. 351. *ſyſt.* 279. *ſuec.* 240. *With.* 283. *Relh. cantabr.* 113. *fig. Sowerby engl. bot.* 138. *Gouan. illuſtr.* 12. *Jacq. auſtr.* 4. 48. *t.* 392. *Fl. dan. t.* 754. *Krock. ſileſ. n.* 412. *Villars dauph.* 2. 649.

A. Oreoſelinum. *Hudſ. angl.* 115.

Libanotis. *Hall. helv. n.* 744.

L. riviniana. *Scop. carn. n.* 316.

Apium petræum, &c. *Bauh. hiſt.* 3. 105. *fig. Raii hiſt.* 463. *ſyn.* 218.

Daucus montanus, apii folio, minor. *Bauh. pin.* 150. *prodr.* 77. *fig.*

D. mont. pimp. ſaxifr. hirc. folio. *Pluk. alm. t.* 173. *f.* 1.

α. Libanotis minor, apii folio. *Bauh. pin.* 157.

β. Athamanta pyrenaica. *Jacqu. hort.* 2. 93. *t.* 197.

Leaves bipinnate flat, umbel hemiſphærical, ſeeds hirſute.]

2. Athamanta Cervaria. *Broad-leaved Spignel*, or *Black Hart-root.*

Lin. ſpec. 352. *Reich.* 676. *hort. cliff.* 92. 1. *upſ.* 59. *Krock. ſileſ. n.* 413. *Jacqu. auſtr.* 1. *t.* 69. *Pollich pal. n.* 278. *Plenck. ic. t.* 185.

Selinum. *Hall. helv. n.* 804.——Cervaria. *Scop. carn. n.* 331. *Crantz. auſtr.* 167. *t.* 3. *f.* 1.

Cervaria. *Riv. pent. t.* 12.

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[e] Hort. kew.

[f] Linn. ſuppl.

[g] Scopoli.

Libanotis. *Bauh. hiſt.* 3. 165. *f.* 3. *Raii hiſt.* 413. 2. *Tabern.* 108. *Ger.* 858. *f.* 2. *emac.* 1010. *f.* 2.
Leaves pinnate decuſſated gaſh-angled, ſeeds naked.

[3. Athamanta ſibirica. *Siberian Spignel.*
Lin. ſyſt. 279. *Reich.* 676. *mant.* 56, 353. *hort. upſ.* 60. (Cervaria.) *Gouan. illuſtr.* 12. *Gmel. ſib.* 1. 186. *n.* 3. *t.* 40. *f.* 1, 2.
Libanotis. *Riv. pent. t.* 37.—montana. *Crantz. auſtr.* 222.—daucoides. *Scop. carn. n.* 317.
Leaves pinnate, gaſh-angled.

4. Athamanta condenſata. *Cloſe-headed Spignel.*
Lin. ſpec. 351. *ſyſt.* 279. *Reich.* 676.
Leaves ſubbipinnate; leaflets imbricate downwards: umbel lens-form.]

5. Athamanta Oreoſelinum. *Divaricated Spignel,* or *Mountain Parſley.*
Lin. ſpec. 352. *Reich.* 677. *ſuec.* 241. *Jacqu. auſtr.* 1. *t.* 68. *Pollich pal. n.* 279. *Plenck, ic. t.* 186. *Krock. ſileſ. n.* 414.
Selinum. *Lin. hort. cliff.* 92. 2. *Hall. helv. n.* 803.
S. Oreoſelinum. *Scop. carn. n.* 330. *Crantz. auſtr.* 169.
Oreoſelinum. *Cluſ. hiſt.* 2. 195. *Riv. pent.* 8. *Ger. emac.* 1015.
Apium montanum, &c. *Bauh. pin.* 153. *n.* 6 & 8. & *Daucus n.* 6. *p.* 150. according to *Bauh. hiſt.* 3. 104. *Raii hiſt.* 413. *Park. theat.* 927. *n.* 3.
Leaflets divaricate.

6. Athamanta ſicula. *Flix-weed-leaved Spignel.*
Lin. ſpec. 352. *Reich.* 677. *hort. upſ.* 60. *cliff.* 93. 3. *Gouan. illuſtr.* 12.
Daucus 2. ſiculus, ſophiæ folio. *Zan. iſt.* 70. *hiſt.* 80. *t.* 48. *Raii hiſt.* 464.
Lower leaves ſhining, primordial umbels ſubſeſſile, ſeeds hairy.

7. Athamanta cretenſis. *Cretan Spignel,* or *Candy Carrot.*
Lin. ſpec. 352. *ſyſt.* 279. *Reich.* 678. *mat. med.* 78. *hort. cliff.* 93. 2. *Jacq. vind.* 218. *auſtr.* 1. *t.* 62. *Plenck, ic. t.* 184. *Krock. ſileſ. n.* 416. *Villars dauph.* 2. 648.
Libanotis. *Hall. helv. n.* 745. *Scop. carn. n.* 314. *Allion. pedem. n.* 1379.
Daucus. *Bauh. pin.* 150. *n.* 1, 2. *Scheuch. alp.* 1. 34.
D. creticus. *Camer. epit.* 536. *Bauh. hiſt.* 3. 56. *Raii hiſt.* 463. *Blackw. t.* 471. *Ger.* 874. *emac.* 1029. *Park. theat.* 896. 1.
Leaflets linear flat hirſute, petals two-parted, ſeeds oblong, hirſute.

[8. Athamanta annua. *Annual Spignel.*
Lin. ſpec. 353. *Reich.* 678.
Myrrhis. *Mor. umb.* 67. *ult. hiſt.* 3. 302. *n.* 9.
Leaves many-parted, diviſions linear roundiſh acuminate.

9. Athamanta chinenſis.
Lin. ſpec. 353. *Reich.* 678. *Lour. cochinch.* 178.
Seeds membranaceous-ſtriated; leaves ſuperdecompound, poliſhed, multifid.

10. Athamanta rupeſtris.
Villars dauph. 2. 648.
Libanotis rupeſtris. *Scop. carn. n.* 315. *t.* 9.
Leaflets briſtle-ſhaped, recurved, ſmooth; all the flowers fertile.

DESCRIPTIONS, *&c.*

1. Root perennial, deſcending, bearded at the top with the fibrous remains of old leaf-ſtalks. Stem from one to two feet in height, erect, a little flexuoſe towards the top, unequally grooved, not much branched[a]. Leaves bipinnate: leaflets ſeſſile, pinnatifid, with pointed, entire lobes, firm, veiny, paler beneath, ſmooth except a little hairineſs on the veins and margin[b]. The firſt pair of pinnas, in the lower leaves, next the petiole, placed croſſwiſe. The lower leaves ſubtripinnate, the pinnas being deeply pinnatifid[c]. Petioles ſomewhat compreſſed, channelled between the leaflets, dilated at the baſe with a membranous border. Umbel terminating, ſitting on a grooved peduncle, erect, all white, as is the involucre alſo: this is many-leaved, ſubulate, half the length of the umbel, and the edges of the leaflets are membranous. The involucels alſo are many-leaved, the length of the umbellule. Umbels lateral, the upper ones oppoſite, ſhorter, ſpringing from the membrane of the petiole, which ſwells out, as in the other petioles, at the baſe, but here without a leaf[d]. The terminating umbel is ſometimes proliferous; the umbellules on peduncles two inches long[e]. The flower-ſtalks, calyx, germ and fruit are all hairy[f].

This ſpecies bears much reſemblance to the *Cervaria* and *ſibirica.* The firſt of theſe differs in having the receptacles of the florets, and the anthers white, not purple; the germs hirſute, not villoſe; the leaflets remote, not imbricate. The *ſibirica* is twice as big as the *Libanotis,* and the germs are not villoſe[g].

Native of Sweden, Denmark, Germany, Switzerland, Auſtria, Carniola, and the ſouth of France. Obſerved by Mr. Ray on the banks of the Danube, and on mount Jura abroad, alſo on Gogmagog hills near Cambridge, at home. In this latter ſituation it was not remarked by ſucceeding botaniſts, till Mr. Relhan found it in 1783. It flowers with us in auguſt and ſeptember.

2. Root perennial, thick, very long, annulated, full of reſinous juice, ſweet-ſmelling, with a briſtle-ſhaped crown. Stem riſing to five feet in height, firm, branching. Leaves glaucous, ſmooth, with black veins underneath, very large, with ſix pairs of pinnas; pinnules broad, ſimple, two or three-lobed[h]. Moſt of the leaves are ſeſſile, elliptic, acuminate, toothed; the terminal ones three-lobed, and decurrent; they are firm and hard like thoſe of the pear[i]. Each involucre conſiſts of about ten reflex leaflets. Corolla white, with a purpliſh outſide[k].

This plant is recommended in the gout: and in Stiria they uſe it in intermittent fevers.

Native of the mountains of France, Switzerland, Germany, Auſtria, and Carniola. Ray obſerved it on the banks of the Rhine, in vineyards, and on the hills near Geneva. It flowers in july and auguſt. Gerard had it growing in his garden, in 1597[l].

3. Linneus, in his *ſpecies plantarum,* had made this a variety of *A. Cervaria,* which it much reſembles; but on a more ſcrupulous examination he diſcerned that they were different ſpecies. He deſcribes the ſtem as two feet high, round and ſcarcely ſtreaked; the univerſal involucre as conſiſting of one or two narrow leaflets only; and the corollas red underneath. Reichard thinks, that perhaps the *Libanotis* of Rivinus and Crantz may be the firſt ſpecies.

Gouan ſays, that the ſtem is from two cubits to the height of a man nearly, very much grooved ſo as to be angular. Stem-leaves towards the top two, three, or four together, with as many branches from their axils. The univerſal involucre conſiſts of about twelve hoary, very ſlender leaflets. The fruits are not ovate or ſuborbiculate as in *A. libanotis, Cervaria,* and *condenſata,* but almoſt cylindric, hoary, and very ſmall in proportion to the ſize of the plant.

Scopoli deſcribes his *Libanotis daucoides* to be only eighteen inches high: the leaves three or four inches long, with pinnatifid pinnas ſcarcely more than an inch in length, the ſegments moſtly trifid; the firſt pinnas of the firſt branches ſit cloſe to the rib, are cruciform and in whorls: umbels very cloſe, with rays up to forty in number, ſomewhat villoſe. Involucres linear; involucels longer than the peduncles and erect. Petals white, almoſt equal: ſtyles white, not bent down: germs a little hirſute.

Theſe plants, thus differently deſcribed, cannot poſſibly be the ſame.

It was introduced in 1771, by Monſ. Richard[m].

4. Root perennial. Stem ſimple, a foot high,

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[a] Linn.
[b] Engl. bot.
[c] Woodw. in With.
[d] Linn.
[e] Relhan.
[f] Engl. bot.
[g] Linn.
[h] Haller.
[i] Scopoli.
[k] Haller.
[l] Hort. kew.
[m] Ibid.

ſmooth, angular near the bottom, furrowed towards the top, eſpecially the peduncle. There are two or three flowering-branches from the upper axils. Petioles channelled; membranous at the baſe, angular underneath. Leaves ſubbipinnate, the leaflets alternately pinnatifid, the lower lobe largeſt; whence they are as it were croſs-ſhaped at the baſe, and the lower diviſion extends itſelf above the lower leaf; the under ſurface is ſhining. Umbel very cloſe, convex on both ſides, reddiſh before it flowers; the flowers however are white, except that the anthers are brown. There are frequently only rudiments of the univerſal involucre; the partial involucre is of the ſame length with the partial umbel. Germs villoſe, not rough with hairs. Anthers and receptacles of the florets purple. Native of Siberia[n]. Introduced in 1773, by John earl of Bute[o].

5. Root perennial, thick, aromatic, reſinous, crowned with briſtles. Leaves firm, ſmooth, veined underneath, very large, triply pinnate, divided at right and even obtuſe angles, whereas in moſt umbellate plants they are acute: diviſions broadiſh, not toothed, but two or three-lobed, the lobes broad, ovate-lanceolate, awned. Stem firm, branching, two feet and upwards in height. The univerſal involucre has from ſix to twenty leaves; the partial involucre up to ſixteen. Petals white with a bluſh of roſe colour. It is gratefully aromatic, and deſerves to be better known[p].

Native of Sweden, Germany, France, Switzerland, Carniola, Auſtria, but not of England.

Linneus obſerves, that the partial petioles are divaricated, as in *Phellandrium*, and arched.]

6. This is a perennial plant, ſending up from the root ſeveral upright ſtems, near three feet high. The umbels at their firſt appearance are very cloſe and compact, but afterwards ſpread open, and divide into ſeveral ſmaller umbels; the rays are ſhort and hairy. The flowers are white, and are ſucceeded by oblong, woolly fruit.

[Linneus obſerves, that the ſtem is pubeſcent; that the lower leaves are ſhining, and the upper ones ſubvilloſe.

Native of Sicily. Cultivated in England in 1713[q].

7. The whole plant is villoſe, in a wild ſtate; when cultivated in a garden, the leaves become ſucculent, brittle and very ſhining. Stem ſtreaked. Leaves tripinnate, the pinnas very narrow, the pinnules very deeply two-parted, or three-parted. Involucres very large; the univerſal conſiſts of five leaflets, with a membranous edge, the partial has from four to ſeven leaflets, the length of the peduncles: ſometimes the univerſal involucre has only one or two ſhort leaflets, or even none. Petals white. Seeds oblong, hirſute[r].

Native of the ſouth of Europe. Ray gathered it on the higher parts of Jura. It flowers in june.

The ſeeds have been occaſionally employed as carminatives, and were ſuppoſed likewiſe to be diuretic and emmenagogue: lately they have been little uſed except as ingredients in Theriaca and Mithridate[s]. Now that theſe ancient compounds are in a manner diſcarded, the plant no longer appears in the London pharmacopœia. Haller however judges it to be much ſuperior to the common *Daucus* or wild Carrot in medicinal efficacy. It was celebrated anciently as a ſpecific in the ſtone: and it will ſcarcely be believed that Van Helmont affirms ſeriouſly, that it has even cured the water in a well of this diſorder.

8. This is an annual plant, whereas the other ſpecies are perennial. It is ſuppoſed however by ſome authors to be only a variety of the foregoing. It is a native of Candia or Crete, and was introduced in 1770, by Monſ. Richard[t].

9. Stem angular, ſmooth, erect, a little flexuoſe. Leaves like thoſe of *Chærophyllum* and ſmooth. Umbel not much expanded, white. Bartram, who ſent the ſeeds from Virginia, ſaid that it came originally from China[u].

10. Stem eighteen inches high, branching, ſubvilloſe, finely ſtreaked. Sheaths an inch long, producing three grooved petioles. Leaves bipinnate; leaflets pedicelled, marked with a line above, and convex underneath. Univerſal involucre two-leaved; partial many-leaved. Rays ſixteen or more, two inches long and villoſe; in the umbellule as far as thirty. Petals white, equal. Seeds pubeſcent with a white pile[x]. Native of Carniola and Dauphiné.

Villars ſuppoſes this to be no more than a variety of the ſeventh ſpecies; and ſays that the root is very long and deep; the leaves ſmooth, the leaflets much longer and more diſtinct, and the ſtems ſomewhat higher.]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, which ſhould be ſown in autumn, on an open bed of light dry ground; and when the plants come up in the ſpring, they ſhould be kept clean from weeds, and thinned where they are too cloſe, ſo that they may have room to grow till the following autumn, when they ſhould be carefully taken up, and planted at about a foot diſtance, in a bed of light ſandy earth, where the roots will continue ſeveral years; except the eighth ſpecies, which is annual, and the ninth, which probably requires ſome ſhelter, but has not yet been cultivated with us.

ATHAMANTA MEUM. See *Æthuſa Meum*.

ATHANASIA. (Gr. Ἀθανασία, immortality.)
Lin. gen. n. 943. *Reich.* 1023. *Schreb.* 1279. Baccharis *Vaill. act. gall.* 1719. *Juſſ.* 185. *Gærtn. t.* 165.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.
Nat. order of compound flowers; in the diviſion of *Diſcoideæ*.

GENERIC CHARACTER.

CAL. *Common* imbricate, ovate: *ſcales* lanceolate, preſſed cloſe.

COR. *Compound* uniform, longer than the calyx. *Corollules* hermaphrodite equal, numerous. *Proper* funnel-form; border five-cleft, acute, erectiſh.

STAM. *Filaments* five, capillary, ſhort. *Anther* cylindric, tubular.

PIST. *Germ* oblongiſh. *Style* filiform, a little longer than the ſtamen. *Stigma* bifid, obtuſe.

PER. none. *Calyx* unchanged.

SEEDS ſolitary, oblong. *Down* chaffy, of very ſhort briſtles.

REC. chaffy; chaffs lanceolate, longer than the ſeed.

ESSENTIAL CHARACTER.

Cal. imbricate. *Down* chaffy, very ſhort. *Recept.* chaffy.

SPECIES.

[1. Athanaſia ſquarroſa. *Croſs-leaved Athanaſia.*
Lin. ſpec. 1180. *Reich.* 3. 730. *amæn.* 4. 329. & 6. 98. *afr.* 52.
Relhania ſquarroſa. *L'Herit. ſert. angl. n.* 1. *t.* 29.
Peduncles one-flowered lateral, leaves ovate recurved.

2. Athanaſia ſeſſiliflora. *Seſſile-flowered Athanaſia.*
Lin. ſyſt. 741. *ſuppl.* 362.
Relhania lateriflora. *L'Herit. ſert. angl. n.* 8.
Peduncles one-flowered ſhorter than the leaf, leaves linear hairy.

3. Athanaſia pumila. *Dwarf Athanaſia.*
Lin. ſyſt. 741. *ſuppl.* 362.
Relhania pedunculata. *L'Herit. ſert. angl. n.* 7.
Peduncles one-flowered, longer than the leaf, leaves linear hairy.

4. Athanaſia crenata. *Notch-leaved Athanaſia.*
Lin. ſpec. 1180. *Reich.* 3. 730. *hort. cliff.* 398. (Santolina).—*ſpec. edit.* 1. 840. (Stæhelina.)
Flowers ſolitary terminal; leaves linear.

5. Athanaſia uniflora. *One-flowered Athanaſia.*
Lin. ſyſt. 741. *ſuppl.* 362.
Relhania cuneata. *L'Herit. ſert. angl. n.* 9.
Flowers ſolitary terminal ſeſſile, leaves obovate imbricate ſmooth.

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[n] Linneus. [o] Hort. kew. [p] Haller. [q] Hort. kew. [r] Linn. Hall. Scop. [s] Lewis. [t] Hort. kew.

[u] Linn. [x] Scopoli.

6. Athanaſia capitata. *Hairy Athanaſia.*
Lin. ſpec. 1181. *ſyſt.* 741. *Reich.* 3. 731. *Amæn.* 6. *afr.* 50. *Berg. cap.* 237.
A. lanuginoſa. *Cavan. hiſp.* 2. *t.* 3.
Chryſanthemum. *Breyn. cent. t.* 78. *Mor. hiſt.* 3. 21. *n.* 49. *ſ.* 6. *t.* 3. *f.* 48.
Tanacetum. *Pet. gaz.* 442. *t.* 81. *f.* 6.
Flowers terminal ſubſeſſile, leaves lanceolate hirſute.]

7. Athanaſia maritima. *Sea Athanaſia Cudweed* or *Cottonweed.*
Lin. ſpec. 1182. *ſyſt.* 741. *Reich.* 3. 731. *mant.* 464. *hort. cliff.* 398. (Santolina.)
Filago maritima. *Lin. ſpec. edit.* 1. 927. *Mill. fig. t.* 135.
Santolina maritima. *Hudſ. angl.* 356. *With.* 886. *Sowerby engl. bot.* 141.
Gnaphalium maritimum. *Bauh. pin.* 263. *Bauh. hiſt.* 3. 157. 2. *Raii hiſt.* 294. *ſyn.* 180. *Ger.* 516. *emac.* 640. 3. *Park.* 687.
Chryſanthemum. *Mor.* 3. 81. *ſ.* 6. *t.* 4. *f.* 47.
Peduncles two-flowered, leaves lanceolate crenate obtuſe tomentoſe.

[8. Athanaſia geniſtifolia. *Broom-leaved Athanaſia.*
Lin. ſyſt. 741. *Reich.* 3. 732. *mant.* 464.
Relhania geniſtifolia. *L'Herit. ſert. angl. n.* 2.
Corymbs ſimple, leaves lanceolate undivided naked crowded.]

9. Athanaſia pubeſcens. *Villoſe-leaved Athanaſia.*
Lin. ſpec. 1182. *Reich.* 3. 732. *amæn.* 4. 329.
Coma aurea afr. &c. *Comm. hort.* 2. 93. *t.* 47.
Corymbs ſimple, leaves lanceolate undivided villoſe.

10. Athanaſia annua. *Annual Athanaſia.*
Lin. ſpec. 1182. *ſyſt.* 741. *Reich.* 3. 732. *Willich illuſtr. n.* 67.
Elichryſum inodorum, &c. *Magn. monſp.* 307. *Herm. lugdb.* 228. *t.* 227.
Chryſanthemum corymbiferum. *Triumf. obſ.* 85. *t.* 86.
Bellis polyclonos, &c. *Mor. hiſt.* 3. 30.
β. Achillea inodora. *Lin. ſpec.* 1265. *Murr. prod.* 182.
Ageratum, &c. *Herm. flor.* 55. *Boerh. lugdb.* 1. 125.
Corymbs ſimple contracted, leaves pinnatifid toothed.

11. Athanaſia trifurcata. *Trifid-leaved Athanaſia.*
Lin. ſpec. 1181. *Reich.* 3. 733. *hort. cliff.* 397.
Coma aurea afr. &c. *Comm. hort.* 2. 97. *t.* 49.
Corymbs ſimple, leaves three-lobed cuneiform.

12. Athanaſia crithmifolia. *Sampire-leaved Athanaſia.*
Lin. ſpec. 1181. *ſyſt.* 741. *Reich.* 3. 733. *Gærtn. fruct.* 2. 398.
Santolina. *hort. upſ.* 252. *Mill. fig. t.* 227. *f.* 2.
Coma aurea. *Burm. afr.* 186. *t.* 69. *f.* 1. *Comm. hort.* 2. 99. *t.* 50. (good.)
Jacobæa. *Pluk. alm.* 194. *t.* 302. *f.* 7.
Corymbs ſimple, leaves ſemitrifid linear.

[13. Athanaſia linifolia. *Flax-leaved Athanaſia.*
Lin. ſyſt. 741. *ſuppl.* 361.
Corymb ſimple, leaves linear.]

14. Athanaſia dentata. *Tooth-leaved Athanaſia.*
Lin. ſpec. 1181. *ſyſt.* 742. *Reich.* 3. 732.
Santolina. *Lin. hort. cliff.* 398.
Coma aurea. *Comm. rar. t.* 41.
β. A. lævigata. *Lin. ſpec.* 1181. *amæn.* 6. *afr.* 51.
Corymbs compound; leaves recurved, the lower linear toothed, the upper ovate ſerrate.

15. Athanaſia parviflora. *Small-flowered Athanaſia.*
Lin. ſyſt. 742. *Reich.* 3. 734. *mant.* 464.
Tanacetum crithmifolium. *Lin. ſpec.* 1182. *Mill. dict. n.* 6. *Berg. cap.* 239.
Santolina. *Lin. hort. cliff.* 397.
Coma aurea. *Burm. afr.* 185. *t.* 68. *f.* 4.
Elichryſum. *Comm. hort.* 2. 113. *t.* 57. *Pluk. alm.* 134. *t.* 325. *f.* 3.
Ageratum. *Pet. gaz. t.* 34. *f.* 1.
Corymbs compound, leaves pinnate linear.

[16. Athanaſia pinnata.
Lin. ſyſt. 742. *ſuppl.* 361.
Corymbs denſe compound, leaves pinnate linear tomentoſe.

17. Athanaſia pectinata.
Lin. ſyſt. 742. *ſuppl.* 361.
Corymb compound, leaves pinnate ſmooth.

18. Athanaſia dentata.
Lin. ſyſt. 742. *ſuppl.* 361.
Corymb compound, leaves lanceolate toothed ſerrate.

19. Athanaſia filiformis. *Fine-leaved Athanaſia.*
Lin. ſyſt. 742. *ſuppl.* 361.
Corymb compound, leaves linear ſmooth ſpreading.

20. Athanaſia cinerea. *Lavender-leaved Athanaſia.*
Lin. ſyſt. 742. *ſuppl.* 361.
Corymb compound, leaves linear tomentoſe entire.

DESCRIPTIONS, *&c.*

1. This is an underſhrub, branching determinately but unequally. Leaves alternate, ſeſſile, pointed, ſmooth. Peduncles axillary, longer than the leaves. Calyxes oblong, imbricate, ſmooth, with the inner ſcales linear, membranous and ſpreading. Florets equal hermaphrodite. Chaffs linear, the length of the florets. There is a very ſhort down to the ſeeds [a]. Introduced in 1774, by Mr. Francis Maſſon [b].

2. A very ſmall plant, found at the Cape by Thunberg [c].

3. Another ſmall plant, very much like the foregoing, found alſo at the Cape by Thunberg [d].

4. Stem ſhrubby. Leaves alternate, linear, obſcurely three-cornered. There is one terminating flower. Calyx ovate, imbricate with ovate-oblong ſcales, rounded at the tip, the inner ones large, membranous at the edge, crenate and forming a little ſpreading border. Florets equal, the length of the calyx, ſcarcely any crown to the ſeed [e].

5. Native of the Cape, where it was diſcovered by Thunberg [f].

6. This has the air of *Buphthalmum capenſe*, but the leaves are alternate: the flowers are diſcoid and floſculoſe [g]. It is a native of the Cape; and was introduced in 1774, by Maſſon [h].]

7. Root perennial, woody, putting out many fibres, which ſpread near the ſurface. Stems ſeveral, hard, trailing, and ſending out on every ſide many ſmall branches, the whole ſeldom growing more than ſeven or eight inches in length: they are cloſely ſet with ſeſſile leaves, extremely white with a cottony down. The flowers are produced toward the end of the branches, upon ſhort peduncles, of a bright yellow colour. The ſeeds are oval, ſmooth, and compreſſed, without any down, but covered with a kind of hood. The whiteneſs of the leaves and branches makes a pretty appearance.

[Linneus obſerves, that the ſeeds being incipital, and without any down, this may poſſibly be a ſpecies of *Santolina*, or rather a connecting link between the two genera. The whole plant is tomentoſe, and the chaffs are of the ſame length with the calyx.

The long perennial roots run very deep into the ſand, and throw up ſeveral branched buſhy ſtems about a foot high, extremely brittle, round, covered with numerous, alternate, oblong, almoſt ſpatulate, crenate leaves. A corymb of bright yellow flowers terminates the ſtem and ſide branches. Scales of the calyx numerous, concave, ſomewhat membranous: the hemiſpherical receptacle is ſet with ſimilar ſcales, woolly at their tip. Florets numerous, regular, fertile. Seeds curved, ſharp and membranous at the edge. Every part, eſpecially the flower, has a ſtrong aromatic ſcent [i].

Native of the ſouth of Europe, on the ſea coaſt. With us in Angleſea, Cornwall, Pool in Dorſetſhire, iſle of Shepey, near Landguard fort, *&c.*

8. Stem underſhrubby, branching determinately, round, rough with the ſcars of fallen leaves. Leaves ſeſſile, marked with very ſhort lines, ſmooth, ſomewhat keeled, bluntiſh. Corymbs ſmall, with three or four ſubſeſſile flowers. Calyx obovate, ſmooth, imbricate, ſcarcely larger than a grain of wheat, many-flowered [k].]

9. This riſes with a ſhrubby ſtem ſix or ſeven feet high; the flowers are yellow, and the ſeeds do not ripen in England.

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[a] Burman.
[b] Hort. kew.
[c] Linn. ſuppl.
[d] Ibid.
[e] Linn. cliff.
[f] Linn. ſuppl.
[g] Linn.
[h] Hort. kew.
[i] Engl. bot.
[k] Linn.

10. Root annual. Stem herbaceous, about nine inches high, dividing toward the top into three or four branches, having ſmooth leaves on them, divided into ſegments reſembling thoſe of Buck's-horn Plantain. Flowers large, bright yellow: they appear in july and auguſt, but are rarely ſucceeded by ripe ſeeds in this country.

[According to the obſervation of Linneus, the leaves are dilated towards the baſe ſo as to be almoſt palmate, with briſtle-ſhaped tips. Chaffs yellow at the top, the length of the florets. It varies with ſolitary flowers, double the ſize of the others. This was cultivated in 1768, by Mr. Miller[l].

β. The variety, which is the *Achillea inodora* of Linneus's *ſpecies plantarum*, is a tender plant, with a ſingle grooved ſtem. Leaves alternate, ſeſſile, laciniate, three-parted at top; the diviſions ſubulate. Flowers terminating in cylindric aggregate peduncled faſtigiate heads[m].]

11. Stem ſhrubby, five or ſix feet high, dividing into many irregular branches, with flat glaucous leaves, cut at their extremity into three ſegments, and having an agreeable odour when bruiſed. The flowers are of a bright yellow colour, and appear in auguſt, but are ſeldom ſucceeded by ripe ſeeds in England.

[It was cultivated here in 1714[n].]

12. Stem ſhrubby, branching like the foregoing. Leaves linear, divided more than half their length, ſome into three, others into five narrow ſegments. The flowers are like thoſe of the former in ſhape and colour, and there is a ſucceſſion on the ſame plant great part of the ſummer; but unleſs the ſeaſon is warm, they are rarely ſucceeded by ripe ſeeds in England.

[Linneus obſerves, that the young leaves are as it were glued together; and that the florets are many. The receptacle is flat, and the chaffs ſhorter than the calyx. Seeds ſmall, columnar, angular, ſtreaked, ferruginous. Down ſhorter than the ſeed, many-leaved; leaflets linear, membranous and chaffy, white[o]. It was cultivated in 1726, by Mr. Miller[p].

13. Stem ſimple, round, ſmooth, like that of flax. Leaves alternate, quite ſimple, linear or ſubulate. Flowers in a terminating corymb, ovate and ſmooth. It varies in the length of the leaves[q].

Found at the Cape by Maſſon, and introduced in 1774.[r]]

14. Stem low, ſhrubby, branching, ſeldom riſing three feet high. Flowers pale yellow, they appear early in ſummer, and if the ſeaſon prove favourable, will be ſucceeded by ripe ſeeds in autumn. [It was introduced in 1780, by the Counteſs of Strathmore[s].

β. The variety, which is the *A. lævigata* of the *ſpecies plantarum*, reſembles the firſt ſort; but the corymbs are compound and terminating; the flowers larger, and the leaves broader at the baſe.]

15. This has a thick ſhrubby ſtem, covered with a gray bark, and riſes ſeven or eight feet high, ſending out many branches on every ſide; the leaves ſit cloſe to them, and they are terminated by cloſe, large, roundiſh bunches of bright yellow flowers: ſome of the peduncles ſuſtain but one, others two, three or four flowers upon each; they appear the beginning of july, and continue in ſucceſſion till late in autumn; thoſe which come early in the ſeaſon will ripen their ſeeds in winter.

[Linneus obſerves, that the calyxes are generally three-flowered, the ſize of a grain of rye: in which it differs from the twelfth ſort, wherein the calyxes are many-flowered, and the ſize of a pea. The ſeeds are crowned with chaffy ſcales, and the receptacle has minute chaffs on it.

It was introduced in 1774, by Mr. Maſſon[t].

16. Stem proliferous, ſhrubby, tomentoſe. Leaves crowded, with five or ſeven pinnas. Calyxes villoſe[u].

17, 18, 19. Found at the Cape by Thunberg.

The ſecond of theſe is different from n. 14, though it has the ſame name. The laſt was introduced by Maſſon, in 1787[x].

20. Found at the Cape by Thunberg and Maſſon, and introduced in 1774[y].

All the ſpecies are natives of the Cape of Good Hope except the ſeventh, which is an European. They are all perennial, except the tenth, which is annual.

Monſ. L'Heritier has ſeparated many of the ſpecies from this genus, and has given them the name of *Relhania*, from the Rev. Richard Relhan, author of *Flora Cantabrigienſis*. He allows that theſe may be aſſociated with *Athanaſia*, in a diſtinct ſection, in the ſame manner as in the genus *Senecio* and others. They all appertain to the ſame natural genus; but theſe having a radiate corolla, belong to a different ſection of the claſs *Syngeneſia*, namely the order *Polygamia Superflua*. Monſ. L'Heritier farther obſerves, that his genus *Relhania* is diſtinguiſhed from *Leyſera* by its membranaceous down, not plumoſe: from *Oſmites* by its fertile female flowers, and ſcarioſe calyx.]

PROPAGATION AND CULTURE.

The perennial Cape ſorts of Athanaſia are eaſily propagated by cuttings during the ſummer months. If theſe are planted either in pots or upon an old hot-bed, and cloſely covered with glaſſes, ſhading them in the heat of the day, and refreſhing them with water when they require it, they will put out roots in five or ſix weeks; and in two months they may be taken up and planted in pots filled with light earth, and placed in a ſhady ſituation until they have taken new root; after which they ſhould be removed to a ſheltered ſituation, mixing them with other exotic plants, where they may remain till the middle or end of october, according as the ſeaſon proves favourable; then they ſhould be removed into a dry ſtove or glaſs-caſe, where they may enjoy as much free air as poſſible, but ſecured from froſt, with which management they will thrive and produce plenty of flowers; but where they are drawn weak in winter, they will not appear ſightly.

The annual Cape ſort is propagated by ſeeds when they can be obtained good: they ſhould be ſown on a moderate hot-bed the latter end of march; when the plants are come up they ſhould have air, in proportion to the warmth of the ſeaſon, admitted to them, to prevent their drawing up weak; and ſo ſoon as they are big enough to remove, they ſhould be tranſplanted on another gentle hot-bed, at three inches diſtance, obſerving to ſhade them until they have got freſh root; after which they muſt have air and water, and by the end of may, the plants will have acquired ſtrength enough to be tranſplanted into the open air; when ſome may be planted in pots to place among other exotic plants in ſummer, and the others into warm borders, where they will flower all the autumn, but unleſs the ſeaſon is very warm, they will not ripen ſeeds.

The European ſpecies may be propagated by planting ſlips or cuttings during the ſummer months, in the ſame way as the African ſorts; ſome of the plants ſhould be put into pots to be placed under a hot-bed frame in winter, the others may be planted in a warm border, where if the winter proves favourable they will live, but they rarely ſurvive cold winters.

[ATHENÆA. (*Probably ſo named from Athenæus the deipnoſophiſt.*)

Lin. gen. Schreb. n. 661. Iroucana. *Aubl. guian.* 127.

Claſſ. 8. 1. Octandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, coloured, five-parted; *parts* oblong, acute, erect, ſpreading at top.

COR. none.

STAM. *Filaments* eight, filiform, erect; of which five are of the length of the calyx, the three alternate ones a little ſhorter. *Anthers* ſagittate: eight plumoſe *Briſtles*, ſhorter than the filaments, growing together with the filaments, to a gland ſurrounding the germ.

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[l] Hort. kew.

[m] Murray.

[n] Hort. kew.

[o] Gærtner.

[p] Hort. kew.

[q] Linn. ſuppl.

[r] Hort. kew.

[s] Ibid.

[t] Ibid.

[u] Linn.

[x] Hort. kew.

[y] Ibid.

Pist. *Germ* ſuperior, ovate, ſurrounded at the baſe by an annular gland. *Style* ſetaceous, longer than the ſtamens. *Stigma* depreſſed, five-parted.

Per. *Capſule* globoſe, one-celled, three-valved: *valves* ſomewhat fleſhy.

Seeds three to five, rounded, covered with a pulpy coloured membrane, affixed to the *receptacle* in the bottom of the capſule.

ESSENTIAL CHARACTER.

Cal. coloured, five-parted. *Cor.* none. *Briſtles* eight, feathered, between the filaments. *Stigma* five-parted. *Capſ.* globoſe, one-celled, three-valved. *Seeds* three to five.

SPECIES.

1. Athenæa guianenſis.
Iroucana guianenſis. *Aubl. guian.* 329. *t.* 12

DESCRIPTION, *&c.*

This is a branching ſhrub. Stem four or five inches in diameter, covered with a wrinkled, gray bark. Leaves alternate, ovate, ſmooth, toothed, deciduous, four inches long, and about two broad. Petioles very ſhort, having a ſmall, ſharp ſtipule on each ſide of the baſe. The flowers come out in bundles from the axils, and upon the tubercles of the ſtem and branches, each on a ſmall peduncle: their calyx is white, and there is no corolla. Capſule green with a tinge of violet. The ſeeds are covered with a pulpy viſcid membrane, of a ſcarlet colour.

The bark, leaves and fruits are ſharp and aromatic. The laſt are called *Caffé diable* by the Creoles.

Native of the iſland of Cayenne and the neighbouring continent of Guiana, a quarter of a league from the ſea ſhore, in a ſandy ſoil, flowering and bearing fruit in ſeptember[*].]

ATRACTYLIS. (From ἄτρακτος, fuſus, a ſpindle.) *Diſtaff-thiſtle.*

Lin. gen. n. 930. *Reich.* 1009. *Schreb.* 1259.
Crocodiloides. *Vaill. act. gall.* 1718. *f.* 9.
Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.
Natural order of compound flowers.

GENERIC CHARACTER.

Cal. *outer* many-leaved, linear, larger, roughened, permanent, impriſoning the common one. *Common* ovate, imbricate; the *ſcales* oblong, very many, lanceolate, converging, unarmed.

Cor. *Compound* radiate: *corollules* hermaphrodite numerous, tubular in the diſk: herm. ligulate in the ray. *Proper*—of the diſk funnel-form, five-cleft—of the ray ligulate, flat, five-toothed.

Stam. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

Pist. of the *Diſk.* *Germ* very ſhort. *Style* filiform, the length of the ſtamens. *Stigma* bifid:—of the *Ray* very like that of the diſk, but obſcure and withered.

Per. none. *Calyx* converging.

Seeds turbinate, compreſſed. *Down* plumoſe.

Rec. villoſe, flat.

ESSENTIAL CHARACTER.

Cor. radiated. *Corollules* of the ray five-toothed.

SPECIES.

1. Atractylis gummifera. *Gummy-rooted Atractylis.*
Lin. ſpec. 1161. *Reich.* 3. 696.
Cnicus. *Tourn. cor.* 33.—Carlina. *Bauh. pin.* 380. *n.* 3.—Carduus. *Alp. exot.* 126. *t.* 124, 125.—Chameleon. *Col. ecphr.* 1. *t.* 12. *Raii hiſt.* 301. *n.* 6, 7.
Flower ſtemleſs.

2. Atractylis humilis. *Dwarf Atractylis.*
Lin. ſpec. 1162. *Reich.* 3. 696. *Cavan. hiſp.* 40. *t.* 54.
β. *Barr. rar.* 1127. *t.* 592.
Leaves tooth-ſinuated; flower radiated, fenced with an expanding involucre, ſtem herbaceous.

3. Atractylis cancellata. *Netted Atractylis.*
Lin. ſpec. 1162. *ſyſt.* 729. *Reich.* 3. 696. *hort. cliff.* 395. 1.
Acarna capitulis globoſis. *Bauh. pin.* 379.
Eryngium. *Mor.* 3. 166. *n.* 16. *ſ.* 7. *t.* 36. *f.* 16.
Carduus parvus. *Bauh. hiſt.* 3. 93. *Raii hiſt.* 316. *Park. theat.* 965. *n.* 4.
—— minimus. *Alp. exot.* 254.
Involucres latticed, bellying, linear, toothed; calyxes ovate; flowers floſculous.

[4. Atractylis lancea. *Lance-leaved Atractylis.*
Lin. ſyſt. 729. *Thunb. jap.* 306.
Involucres pinnate; leaves lanceolate, ciliate, ſmooth.

5. Atractylis ovata. *Ovate-leaved Atractylis.*
Lin. ſyſt. 730. *Thunb. jap.* 306.
Involucres pinnate; leaves ovate ciliate ſmooth.

6. Atractylis oppoſitifolia. *Oppoſite-leaved Atractylis.*
Lin. ſyſt. 730. *Reich.* 3. 696. *mant.* 477. *hort. cliff.* 395. 2.
Carthamus afr. fruteſcens, fol. ilicis, fl. aureo. *Walth. hort.* 13. *t.* 7.
Carlina? afr. &c. *Pluk. alm.* 86. *t.* 273. *f.* 5.
Leaves oppoſite.

7. Atractylis purpurata. *Purple-flowered Atractylis.*
Lin. ſyſt. 730. *ſuppl.* 349. *Smith ic. ined.* 3. 65.
Leaves haſtate, runcinate.

8. Atractylis mexicana. *Mexican Atractylis.*
Lin. ſyſt. 730. *ſuppl.* 350. *Smith ic. ined.* 66.
Leaves oblong, quite entire.]

DESCRIPTIONS, *&c.*

1. Root perennial, ſending out many narrow leaves which are deeply ſinuated, and armed with ſpines on their edges. Theſe lie cloſe on the ground, and between them the flower is ſituated. The florets on the border are white, but thoſe which compoſe the diſk are of a yellowiſh colour. It is a native of Italy, and the iſlands of the Archipelago. It flowers in july, but never perfects ſeeds in England.

[The roots, if wounded when freſh, yield a viſcous milky juice, which concretes into tenacious maſſes, whitiſh and reſembling wax. It was formerly chewed for the ſame purpoſes as maſtich[a].]

2. Stem near a foot high, with indented leaves, having ſmall ſpines on their edges; the upper part is divided into two or three ſlender branches, each ſupporting a head of purple flowers. The roots will live two or three years; it flowers in june, but unleſs the ſummer be warm and dry, it will not perfect ſeeds in England.

[According to the deſcription of Cavanilles the root is woody, branching and deſcending. Stems ſeveral, annual, half a foot or more in height, ſmooth, white, ſtreaked, one-flowered. Leaves ſcattered, ſeſſile, linear-lanceolate, one-nerved, tooth-ſpiny, ſpinules unequal, very ſharp: the uppermoſt diſpoſed in an involucral whorl, ſpreading, and fencing the flower. Flowers ſolitary, terminating, large. Receptacle flat, with long chaffs, trifid at the tip, the ſegments unequal, capillary. Seeds ovate, crowned with a plumoſe, reflex down, brown at the baſe, but afterwards white.

Linneus obſerves, that it has the air of the third ſpecies, but that the leaves are ſinuated, the flowers radiate, and the ſcales of the calyx pointed: the involucre is compoſed of genuine ſpreading leaves.

Native of France and Spain.] Mr. Miller ſays, that he received the ſeeds from the neighbourhood of Madrid.

[β. The variety differs, in the ſcales of the calyx being ovate, not retuſe, and the ſcales terminating in a little ſpine[b].]

3. This is an annual plant, which ſeldom riſes more than eight or nine inches high, with a ſlender ſtem, at the top of which are two or three ſlender branches, each terminated by a head of flowers, like thoſe of the thiſtle; with an involucre compoſed of ſeveral narrow leaves, armed with ſpines on their ſides, and longer than the head of

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[*] Aublet.

[a] Lewis.

[b] Linn.

flowers: it is curiouſly netted over, and is narrow at the top, but ſwelling below, containing many florets of a purpliſh colour.

[Linneus deſcribes the ſtem as ſimple, and webbed with white; the branches as proceeding from the two upper axils only; the leaves linear-lanceolate, ciliate, webbed; the flower terminating, ſurrounded by three ſpreading bractes, and incloſed in eight converging ones, forming a round inflated periphery; three of them diſpoſed alternately are bent back at the top: all the bractes are linear, pinnate-toothed with the teeth forked: corolla ſmall and blue, ſeldom having a ray: involucre netted, by a ſurpriſing artifice of nature, keeping off the flies.]

It grows naturally in Spain, Sicily, and other warm parts of Europe; flowers with us in july, and if the ſeaſon be warm and dry, will ripen its ſeeds in ſeptember. [It appears from Parkinſon, that it was cultivated among us in 1640.

4. Stem ſmooth, round, flexuoſe, erect, branching, a foot high. Branches alternate, leafy, erect, virgate like the ſtem. Leaves alternate, ſeſſile, acute, erect. Flowers on the branches, terminating, ſolitary, ſubſeſſile. It differs from the foregoing ſpecies in having ſmooth leaves and a leafy ſtem.

5. Stem ſimple, ſtreaked, flexuoſe, erect, ſcarcely a foot high. Leaves alternate, petioled, acute, nerved, pale underneath, the upper ones gradually leſſening: petioles edged, ciliate. Flower terminating, ſolitary. It differs from the foregoing in having a ſimple ſtem, and ovate, petioled leaves.

Theſe are both natives of Japan[c].

6. The leaves and even the calyx tomentoſe underneath. The ray of the corolla ligulate, with ſtamens as in the claſs Syngeneſia, but with effete anthers, and without either ſtyle or ſtigma. Receptacle with hair-like chaffs. It approaches therefore nearer to *Atractylis* than to *Gorteria*. Native of the Cape of Good Hope[d].

7. Stem round, cloſely woolly, ſeeming to be ſhrubby. Leaves crowded, a long ſpan in length, acute, irregularly toothed, veined, when they firſt break forth covered with white wool, but afterwards becoming very ſmooth, and green, they are however always white and cloſely tomentoſe underneath; the terminating lobe is very large. Stipules none. Peduncles longer than the leaves, branched, angular, rugged, woolly, covered at top with linear, acute ſcales. Flowers large, erect, ſpecious, purple. Leaflets of the calyx linear-lanceolate, acuminate, membranaceous at the edge, rugged on the outſide, the outer ones ſmaller. Florets in the ray about twenty, two-lipped; outer lip reflex at the tip, three-toothed, cloſely woolly on the outſide; inner very narrow, twiſted ſpirally; in the diſk ſmooth, equal, with acute, reflex ſegments. Germ hairy. Style ſomewhat club-ſhaped, ſhorter in the florets of the diſk. Stigma blunt, ſcarcely bifid. Seed oblong, gibbous on one ſide: down the length of the calyx, appearing rugged with a magnifier. Receptacle naked. Found by Mutis in New Granada.

8. Stem ſhrubby. Branches quite ſimple, ſlender, leafy, ſomewhat flexuoſe, round, ſtreaked, covered with a white cottony ſubſtance, without ſpines. Leaves alternate, lanceolate, acuminate, with netted veins; above naked, bright green, ſhining; beneath ſnow-white, tomentoſe, with ſcattered dots ſeeming to be glandular. Stipules none. Petioles thickiſh, keeled, tomentoſe. Flower terminating, nodding, ſupported by two or three bracte-ſhaped leaflets. Calyx involved in very white cotton: leaflets lanceolate, acute, ſomewhat prickly, the outer ones ſmaller. Corolla purple. Florets in the ray numerous, without any inner lip, three-toothed, ſmooth, ſeeming to be female; ſtyle club-ſhaped, ſhorter than the corolla, purple: in the diſk equal, with ſharp, ſpreading ſegments; ſtyle as in the florets of the ray, ſhorter than the anthers. Down ſhorter than the calyx, white, appearing rugged with a magnifier. The receptacle has very ſhort chaffs on it.

Found by Mutis in Mexico[e].]

PROPAGATION AND CULTURE.

1, 2, 3. Are propagated by ſeeds, which muſt be obtained from the countries where they grow naturally: theſe ſhould be ſown upon a border of light earth, in a warm ſituation, early in april, and when the plants come up, and are fit to tranſplant, they ſhould be thinned, and thoſe which are drawn out may be tranſplanted, leaving the others two feet aſunder; after which the only culture they require is, to keep them clean from weeds in ſummer, and in winter to cover the roots with ſome old tanners bark, to prevent the froſt from penetrating the ground.

[The other ſorts are yet ſtrangers to the European gardens; and whenever they are introduced will require the protection of a greenhouſe or ſtove.

ATRACTYLIS. See *Carthamus.*]

[ATRAGENE.

Lin. gen. n. 695. *Reich.* 753. *Schreb.* 949. *Gærtn.* 74. *Juſſ.* 232.

Claſſ. 13. 7. Polyandria Polygynia.

Nat. order of *Multiſiliquæ. Ranunculaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved: *leaflets* oval, ſpreading, obtuſe, deciduous.

COR. *Petals* twelve (in A. capenſis about twenty) linear, very narrow at the baſe, obtuſe, ſpreading.

STAM. *Filaments* very many, very ſhort, (outer petal-like, two-anthered. *G.*) *Anthers* oblong, acuminate, ſhorter than the calyx.

PIST. *Germs* very many, oblong. *Styles* villoſe, permanent. *Stigma* ſimple, the length of the anthers.

PER. none.

SEEDS very many, ending in a hairy tail. (Capſules ſeveral, feather-tailed. *G.*)

ESSENTIAL CHARACTER.

Cal. four-leaved. *Pet.* twelve. *Seeds* tailed.

SPECIES.

1. Atragene japonica. *Japoneſe Atragene.*
Lin. ſyſt. 511. *Thunb. jap.* 239.
Erect, leaves oppoſite triternate, leaflets ovate gaſhed.

2. Atragene alpina. *Alpine Atragene.*
Lin. ſpec. 764. *ſyſt.* 511. *Reich.* 2. 640. *Gærtn. fruct.* 1. 356. *Hall. helv. n.* 1145. *Gmel. ſib.* 4. 194. *Jacqu. auſtr.* 3. *t.* 241. *Scop. carn. n.* 666? *Villars dauph.* 710.]
Clematis ſibirica. *Mill. dict. n.* 12. *fig. t.* 284.—[alpina geranifolia. *Bauh. pin.* 300. *prodr.* 135. *Pluk. phyt. t.* 84. *f.* 7. *Mor. hiſt.* 3. *ſ.* 15. *t.* 2. *f. ult.*—cærulea ſerrato folio. *Bauh. hiſt.* 2. 129. *f.* 2.—cruciata alpina. *Cluſ. hiſt.* 335. *Park.* 383. *f.* 3. *Ger. emac.* 890. *Raii hiſt.* 622.
Leaves doubly-ternate ſerrate, outer petals four-fold.

3. Atragene capenſis. *Cape Atragene.*
Lin. ſpec. 764. *Reich.* 2. 640. *mant.* 406. *Berg. cap.* 148.
Pulſatilla. *Burm. afr.* 148. *t.* 52. *Herm. afr.* 18.
Leaves ternate, leaflets gaſhed toothed, outer petals five-fold.

4. Atragene tenuifolia. *Fine-leaved Atragene.*
Lin. ſyſt. 511. *ſuppl.* 270.
Leaves doubly-pinnate, pinnules linear entire.

5. Atragene zeylanica. *Ceyloneſe Atragene.*
Lin. ſpec. 764. *ſyſt.* 511. *Reich.* 2. 641. *fl. zeyl.* 226. *amæn.* 1. 105.
Clematis. *Herm. zeyl.* 35.
Tendrils two-leaved.

DESCRIPTIONS, &c.

This genus is allied to *Ranunculus*, but has a double row of petals, in the outer row four large ones, in the inner many ſmaller ones, which are properly nectaries. *Clematis* differs from *Atragene* only in the want of a nectary, as *Adonis* from *Helleborus*[d].

The ſpecies are either ſarmentoſe ſhrubs or creeping herbs. Leaves conjugate cirrhoſe, or elſe ternate or biternate. Flowers terminating on the twigs of the ſhrubs, or on the involucred ſcape, as in the Anemone, of the herbaceous ſorts[e].

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[c] Thunberg.

[d] Linn.

[e] Smith.

[d] Linn. prælect. in ord. nat.

Thunberg thus diſtinguiſhes the five ſpecies:

1. Erect, with oppoſite triternate leaves, leaflets ovate cut.

2. Scandent, with triternate leaves.

3. Erect, with alternate leaves ternate-ſuperdecompound.

4. Erect, with ternate ſuperdecompound leaves, leaflets linear-filiform.

5. Scandent, leaves conjugate undivided.

1. Stem angular and ſtreaked, ſubdichotomous, villoſe, two feet high. Leaves petioled, ſpreading: leaflets acute, toothed, very thinly villoſe, pale underneath; the petiole flat at the baſe and ſtem-claſping. Flowers from the diviſions of the ſtem, few, peduncled. Peduncles filiform, elongated, one-flowered. Petals more than twenty, nearly equal, or the inner ones a little ſhorter, ovate, bluntiſh, purple within, white-tomentoſe without. It has all the appearance of Anemone, but it is referred to this genus on account of the number of petals. Native of Japan.]

2. Stems ſlender, weak, the lower part woody; the bark brown and thin. Leaflets two inches long, and near one broad in the middle, of a deep green colour. Peduncles naked, three or four inches long, one-flowered. Leaflets of the calyx yellowiſh white within.

[Haller deſcribes the ſtem as very ſhort, two-leaved and one-flowered. Leaves as in umbellate plants, triangular, petioled; leaflets acute, ſharply ſerrate, all at right angles. One flower on a long ſcape ſprings from between the leaves. Calyx converging, very large, blue and white.

Linneus obſerves, that the leaves are radical and cut. Scapes one-flowered. The four outer petals large, the inner obovate and ſmall.

Jacquin (vind. 249.) affirms, that the Auſtrian plant is of a different ſpecies from the Alpine. He thus deſcribes it:

Stems many, branching, diffuſed long, angular, ſmooth, brown, proſtrate on the rocks or ſcandent. Leaves oppoſite ſubbiternate. Petioles hirſute, an inch and half long; leaflets lanceolate acute ſmooth unequal ſeſſile, obtuſely ſerrate-gaſhed; the ſide ones ternate, ſometimes confluent at the baſe; the old petioles change into ſtrong tendrils, trifid at the end, from the axillas come out buds, being future branches or leaves, which from their ſinus produce a peduncle ſuſtaining one very ſpreading round flower, a little hairy, longer than the petiole. Stipules four, obtuſe, and a little villoſe. Flower elegant, nodding, without ſmell. Leaflets of the calyx twice the length of the petals, blue on both ſides. Petals dirty white, uſually twelve.

Native of the high alps of Switzerland. Remarked on monte Baldo by Pona, on mont Cenis, *&c.* by Allioni, on the mountains of Auſtria by Jacquin, and in Siberia by Gmelin. According to Jacquin, it flowers in june, and the ſeeds ripen in auguſt.] Mr. Miller ſays, that the flowers appear in march and april with us. He informs us that Gmelin ſent the ſeeds to Peterſburgh, and that in 1753 he was favoured with ſome of them from thence; that they ſucceeded at Chelſea, and that the plants flowered many years there, but without perfecting their ſeeds.

[3. Scape ſimple, ſix or ſeven inches long. Involucre in the middle of the ſcape, compoſed of ſwelling, ovate, villoſe foliaceous ſtipules. Leaves wedge-ſhaped, trifid, acute, naked; the middle one on a long petiole. Petals about twenty, white; the ſix lower ones broader, villoſe underneath, purpliſh. Head of ſeeds ovate, hirſute. Native of the Cape of Good Hope[f].

4. Found at the Cape, by Thunberg[g].

5. This is cauleſcent and ſcandent. Leaves oppoſite, compound, petioled, conjugate as in *Lathyrus*: leaflets ovate, on very ſhort petiolules, quite entire, or very ſeldom marked with a ſingle tooth, three-nerved. Panicle terminating, compoſed of a twice-trifid peduncle, bearing commonly nine peduncled, diſtinct flowers. Leaflets of the calyx ovate, ſpreading, ſubtomentoſe underneath. Petals narrower, twice as long as the calyx, purpliſh. Stamens half the length of the calyx. Seeds oblong, ending in a long, feathered thread. Native of the iſland of Ceylon[h].

PROPAGATION AND CULTURE.

The ſecond ſort may be increaſed by cuttings or layers, in the ſame manner as *Clematis*.] In a ſtrong ſoil, and trained againſt a wall, it will riſe to the height of ſix or eight feet. The flowers appear early, and if the ſeaſon prove favourable, they make a handſome figure: but as this plant is apt to put out leaves very early in the ſpring, it is frequently nipped by the froſts, as are many plants and trees of Siberia and Tartary.

The others have not yet been cultivated in England.

ATRAPHAXIS. (Ἀτράφαξις or ἀτράφαξυς, ſometimes written ἀδράφαξις and ἀνδράφαξις. The name of an herb in Dioſcorides and Theophraſtus. παρὰ τὸ ἀθρόως αὐξεῖν, from its coming up quickly from ſeed, viz. on the 8th day.)

Lin. gen. n. 449. *Reich.* 484. *Schreb.* 612. *Juſſ.* 82. *Gærtn. t.* 119.

Claſſ. 6. 2. Hexandria Digynia.

Nat. order of *Holoraceæ.—Polygoneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* two-leaved: *leaflets* oppoſite, lanceolate, coloured, permanent.

Cor. *Petals* two, roundiſh, ſinuate, larger than the calyx, permanent.

Stam. *Filaments* ſix, capillary, the length of the calyx. *Anthers* roundiſh.

Pist. *Germ* compreſſed. *Style* none. *Stigmas* two capitate.

Per. none. *Calyx* cloſed, including the ſeed.

Seed one, roundiſh, compreſſed.

Obs. A. undulata *has a four-parted calyx, the diviſions ovate and concave; no corolla; lanceolate filaments; a bifid ſtyle; and a roundiſh ſeed.*

ESSENTIAL CHARACTER.

Cal. two-leaved. *Pet.* two ſinuate. *Stigmas* capitate. Seed one.

SPECIES.

1. Atraphaxis ſpinoſa. *Prickly-branched Atraphaxis.* *Lin. ſpec.* 475. *ſyſt.* 345. *Reich.* 2. 113. *hort. cliff.* 138. 3. *Gærtn. fruct.* 2. 181. *Gmel. ſib.* 3. 28. *L'Herit. ſtirp. nov.* 27. *t.* 14.
Atriplex orientalis, &c. *Tourn. cor.* 38. *Dill. elth.* 47. *t.* 40. *f.* 47. *Buxb. cent.* 1. 19. *t.* 30?
Branches ſpiny.

2. Atraphaxis undulata. *Waved-leaved Atraphaxis.* *Lin. ſpec.* 475. *ſyſt.* 345. *Reich.* 2. 114. *hort. cliff.* 137. 1.
Polygonum undulatum. *Berg. cap.* 135.
Arbuſcula africana, &c. *Boerh. ind.* 2. 263. *Dill. elth.* 36. *t.* 32. *f.* 36.
Without ſpines.

DESCRIPTIONS, *&c.*

1. This ſhrub riſes four or five feet high, ſending out many weak lateral branches, armed with ſpines, and garniſhed with ſmall, ſpear-ſhaped, ſmooth leaves, of an aſh-colour. The flowers come out at the ends of the ſhoots in cluſters, each conſiſting of two white petals tinged with purple, included in a two-leaved calyx, of a white herbaceous colour. They appear in auguſt.

[It is thus deſcribed more particularly by Monſ. L'Heritier,—an elegant, flowering underſhrub, with a woody, branching, rufous root, depoſiting its outer ſkin in irregular pieces. Stem woody, diffuſed, branching, round, two feet high, aſh-coloured, the outer ſkin coming off longitudinally in threads: branches alternate, erect, flexuoſe: ſuckers or ſhoots ſpreading, ſmooth, whitiſh, jointed as it were with the ſheaths of the leaves, ſubulate or ending in a harmleſs ſpine. Leaves alternate, ovate or lanceolate,

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[e] Juſſieu.
[f] Linn. mant.
[g] Linn. ſuppl.
[h] Linn.

late, acute, almoſt entire or ſcarcely crenulate, curved inwards, reflex on the ſides, revolute waved and curled about the edge, one-nerved, veinleſs, of the ſame colour on both ſides, glaucous, gradually ſmaller to the top: petioles very ſhort, flattiſh, widening at the baſe, where it is preſſed cloſe, and has a membranaceous two-awned ſheath reſembling ſtipules. Racemes terminating, erect, conſiſting of very ſhort, axillary racemules having in each from four to ſix flowers, which are cloſe, pedicelled, nodding, whitiſh, three lines long and two wide: pedicels capillary, double or three times the length of the bracte, from the boſom of which they ſpring: bractes linear, acute, deciduous, green, with very minute membranaceous bracteoles, terminating the racemule. Leaflets of the calyx ovate, obtuſe, concave, green with a whitiſh edge, ſpreading and afterwards hanging down. Petals connate, waved, ſpreading very much, white, when far advanced abſolutely reflex, and laſtly erect, converging, preſſed to each other, purpliſh. This flower may fairly be ſaid to have a four-leaved or four-parted calyx, and no corolla, as in the other ſpecies; from which it is eaſily diſtinguiſhed by its irregular flowers on longer peduncles. It is known with more difficulty from *Polygonum fruteſcens*, though of a different genus, their habit being perfectly the ſame: but to ſay nothing of the generic character, this has waved leaves, the upper half of which riſes, and at the ſame time the ſides are bent down; whereas in *Polygonum fruteſcens* the leaves are flat and ſpreading. That theſe two plants are really diſtinct, appears alſo from a long continued culture of them, ſo that the opinion of Pallas, Willich, and others, that they are the ſame plant, is not well founded.

Native of Armenia, Siberia, and Perſia. Cultivated by Mr. Miller, in 1759[a].]

2. The ſecond ſort ſends out many ſlender branches, trailing on the ground; leaves ſmall, oval, about the ſize of thoſe of Knot-graſs, waved and curled on their edges, embracing the ſtalk half round at their baſe, and placed alternate.

[Stems ſeveral, ſhrubby, ſcarcely a foot high, round, ſtreaked and angular, ſimple, rugged at bottom, then leafy, having ſhort, ſimple, alternate branches at top. Leaves ovate, obtuſe, petioled, ſmooth, with a waved edge, ſcattered, frequent, a little longer than the internodes, the lower ones ſmalleſt, and gradually larger higher up. Stipules ovate-oblong, acute, membranaceous, tender, almoſt the length of the internodes. Flowers in oblong ſpikes, ſomewhat leafy, at the ends of the ſtem and branches; having ovate, ſharpiſh, membranaceous, tender bractes between them, which are ſhorter than the flowers. Calyx yellow, involving the fruit. Seed very dark purple, ſhining. The flowers are commonly quadrifid, but ſometimes they are ſexfid with eight ſtamens[b].

Several authors make this to be a ſpecies of *Polygonum*, whilſt others would unite the two genera.

This is a native of the Cape of Good Hope, and was cultivated in 1732, by James Sherard, M.D. at Eltham[c].]

PROPAGATION AND CULTURE.

The ſeeds of theſe plants not ripening in England, they are propagated by cuttings, during any of the ſummer months. In winter they muſt be ſcreened from hard froſt, which commonly deſtroys ſuch as are planted in the open air.

ATRIPLEX. (Formed from Atraphaxis, or as others will have it, *ab atro colore*, from a livid colour which it occaſions to thoſe who eat it.)

Engl. *Orach* or *Arach*. Fr. *Arroche*.

Lin. gen. n. 1153. *Reich.* 1260. *Schreb.* 1577. *Tournef.* 286. *Gærtn.* 75. *Juſſ.* 85.

Claſſ. 23. 1. Polygamia Monoecia,

Nat. order of *Holoraceæ*. *Atriplices* Juſſ.

GENERIC CHARACTER.

* *Hermaphrodite flower.*

CAL. *Perianth* five-leaved, concave, permanent: *diviſions* ovate, concave, membranaceous at the edge.

COR. none.

STAM. *Filaments* five, ſubulate, oppoſite to the leaves of the calyx, and longer than them. *Anthers* roundiſh, twin.

PIST. *Germ* orbiculate. *Style* two-parted, ſhort. *Stigmas* reflex.

PER. none. *Calyx* cloſed, pentagon, with the angles compreſſed; deciduous.

SEED one, orbicular, depreſſed.

* *Female flower on the ſame plant.*

CAL. *Perianth* two-leaved; *leaflets* flat, erect, ovate, acute, large, compreſſed.

COR. none.

PIST. *Germ* compreſſed. *Style* two-parted. *Stigmas* reflex, acute.

PER. none. *Valves* of the calyx very large, cordate, including the ſeed between them.

SEED one, orbiculate compreſſed.

OBS. *Atriplex without a female flower would be* Chenopodium, *and Chenopodium with a female flower would be* Atriplex: *there is therefore a very great affinity between the two genera.*

ESSENTIAL CHARACTER.

HERMAPHR. *Cal.* five-leaved. *Cor.* none. *Stam.* five. *Style* two-parted. *Seed* one, depreſſed.

FEMALE. *Cal.* two-leaved. *Cor.* none. *Stam.* none. *Style* two-parted. *Seed* one, compreſſed.

SPECIES.

1. Atriplex Halimus. *Tall ſhrubby Orache*, or *Spaniſh Sea Purſlane.*

Lin. ſpec. 1492. *Reich.* 4. 322. *hort. cliff.* 469. 4. *Mill. dict. n.* 2. *Raii hiſt.* 194. *n.* 1.

Halimus latifolius. *Bauh. pin.* 120. *Bauh. hiſt.* 1. 227. *f.* 1. *Ger. emac.* 523. 1. *Park.* 724. *f.* 2. *Cluſ. hiſt.* 1. 53.

Stem ſhrubby; leaves deltoid entire.

2. Atriplex portulacoides. *Dwarf ſhrubby Orache*, or *Common Sea-Purſlane.*

Lin. ſpec. 1493. *Reich.* 4. 323. *ſuec.* 919. *Hudſ. angl.* 442. *With.* 1143. *Light. ſcot.* 635. *Mill. dict. n.* 3. *Scop. carn. n.* 1243.

Halimus ſ. Portulaca marina. *Bauh. pin.* 120. *Raii hiſt.* 195. *ſyn.* 153. 11. *Ger. emac.* 523. 3. *Park.* 724. *f.* 1. *Pet. herb. t.* 7. *f.* 7.

Stem ſhrubby; leaves obovate.

[3. Atriplex glauca.

Lin. ſpec. 1493. *Reich.* 4. 323. *amæn.* 4. 296. *Dill. elth.* 46. *t.* 40. *f.* 46.

Polygonum. *Barr. ic. t.* 733.

Stem underſhrubby procumbent; leaves ovate ſeſſile quite entire; the lower ones ſubdentate.

4. Atriplex roſea.

Lin. ſpec. 1493. *Reich.* 4. 323. *Hall. gott.* 19. *Villars dauph.* 2. 565. *Pollich pal. n.* 941. *Bauh. pin.* 119. *n.* 5. *prodr.* 58. *n.* 1. *Raii hiſt.* 192. *n.* 5. *Park. theat.* 747. *n.* 3.

Stem herbaceous; leaves hoary ſerrated; fruits quadrangular toothed.

5. Atriplex ſibirica. *Sibirian Orache.*

Lin. ſpec. 1493. *Reich.* 4. 323.

Stem herbaceous; leaves deltoid angular; the calyxes of the fruit muricated on the outſide.

6. Atriplex tatarica. *Tartarian Orache.*

Lin. ſpec. 1493. *ſyſt.* 909. *Reich.* 4. 324. *hort. upſ.* 303. *Gmel. it.* 2. *p.* 2. *Pluk. alm.* 60. 2. *Hudſ. angl.* 443. *n.* 2. β.

Stem herbaceous; leaves deltoid ſinuate-toothed waved alternate.]

7. Atriplex hortenſis. *Garden Orache.*

Lin. ſpec. 1493. *Reich.* 4. 324. *hort. cliff.* 469. 1. *upſ.* 303. *mat. med.* 220. *Mill. dict. n.* 1. *Gmel. ſib.* 3. 71. *Blackw. t.* 99. & 552. *Gærtn. fruct.* 1. 362.

α. A. hort. alba. *Bauh. pin.* 119. *n.* 1. *Bauh. hiſt.* 2. 970. *Raii hiſt.* 191. *Ger. emac.* 325. *n.* 1. 324. *f.* 1. *Park. parad.* 488. *t.* 487. *f.* 2.

β. A. hort. rubra. *Bauh. pin.* 119. *n.* 2. *Bauh. hiſt.* 2. 970. *Raii hiſt.* 191. *Ger. emac.* 325. *n.* 2. 324. *f.* 2.

Stem erect herbaceous: leaves triangular.

[8. Atriplex

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[a] Hort. kew.　[b] Bergius.　[c] Hort. kew.

[8. Atriplex laciniata. *Jagged Sea-Orache.*
Lin. ſpec. 1494. *Reich.* 4. 324. *ſuec.* 920. *hort. cliff.* 469. 3. *Hudſ. angl.* 442. *With.* 1143. *Lightf. ſcot.* 636. *Gron. virg.* 120. *Gmel. ſib.* 3. 68. *Neck. gallobr.* 416.
A. maritima laciniata. *Bauh. pin.* 120. *Bauh. hiſt.* 2. 974. 1. *Raii hiſt.* 193. *n.* 8. *ſyn.* 152. 8. *Mor. hiſt.* 2. 607. *ſ.* 5. *t.* 32. *f.* 17. *Ger. emac.* 325. *n.* 4. 324. *f.* 4. *Park.* 748. *f.* 4.
Stem herbaceous; leaves deltoid, toothed, ſilvered underneath.

9. Atriplex haſtata. *Broad-leaved wild Orache.* vulg. *Fat-hen.*
Lin. ſpec. 1494. *Reich.* 4. 324. *ſuec. n.* 921. *Hudſ. angl.* 443. *With.* 1144. *Curtis lond.* 2. 66. *Lightf. ſcot.* 636. *Hall. helv. n.* 1617. *Villars dauph.* 2. 566. *Neck. gallob.* 417. *Pollich pal. n.* 942. *Leers herb. n.* 776. *Raii hiſt.* 192. *n.* 3. *ſyn.* 151. 1. *Mor. hiſt.* 2. 607. *ſ.* 5. *t.* 32. *f.* 14. *Pet. herb. t.* 7. *f.* 1, 2.
Stem herbaceous; valves of the calyx in the female flowers large, deltoid, ſinuated.

10. Atriplex patula. *Narrow-leaved wild* or *ſpreading Orache.*
Lin. ſpec. 1494. *Reich.* 4. 325. *ſuec.* 922. *hort. cliff.* 469. 2. *Gærtn. fruct.* 1. 361. *Hudſ. angl.* 443. *With.* 1145. *Lightf. ſcot.* 637. *Hall. helv. n.* 1616. *Villars dauph.* 2. 566. *Scop. carn. n.* 1245. *Pollich pal. n.* 943. *Gmel. ſib.* 3. 67.
A. ſylveſtris anguſtifolia. *Ger. emac.* 326. 7. *Park.* 748. *f.* 7. *Mor. hiſt. ſ.* 5. *t.* 32. *f.* 15. *Pet. herb. t.* 7. *f.* 5. *Raii hiſt.* 192. *ſyn.* 151. 2. *Bauh. hiſt.* 2. 973. 3, 4.
Stem herbaceous expanding; leaves ſubdeltoid-lanceolate; calyxes of the ſeeds toothed in the diſk.

11. Atriplex littoralis. *Graſs-leaved Sea Orache.*
Lin. ſpec. 1494. *Reich.* 4. 325. *ſuec. n.* 923. *Hudſ. angl.* 444. *With.* 1145. *Lightf. ſcot.* 638. *Neck. gallob.* 416.
A. anguſtiſſimo & longiſſimo folio. *Herm. lugdb.* 79. *Raii ſyn.* 153. 12, 13.
Stem herbaceous erect; all the leaves linear, quite entire.

12. Atriplex pedunculata. *Peduncled Orache.*
Lin. ſpec. 1675. *ſyſt.* 910. *Reich.* 4. 326. *amæn.* 4. 296. *Hudſ. angl.* 444. *With.* 1146. *Fl. dan. t.* 304. *Pluk. phyt. t.* 36. *f.* 1. *Pet. herb. t.* 7. *f.* 8.
A. marina ſemine lato. *Raii ſyn.* 153. 9, 10.
Stem herbaceous divaricated; leaves lanceolate, obtuſe entire; calyxes of the female flowers peduncled.

13. Atriplex marina. *Serrated Sea Orache.*
Lin. mant. 300. *Reich.* 4. 326. *Lightf. ſcot.* 637.
A. ſerrata. *Hudſ. angl.* 444.
A. anguſtifolia maritima dentata. *Raii hiſt.* 193. *ſyn.* 152. 3. *Pet. herb. t.* 7. *f.* 4. *Bauh. pin.* 120. *prodr.* 58.
Stem herbaceous, erect; leaves linear, ſerrate.

14. Atriplex albicans. *White Orache.*
Ait. hort. kew. 3. 430.
Stem ſhrubby erect, leaves haſtate quite entire acute, ſpikes terminating.

DESCRIPTIONS, *&c.*

Some of theſe Oraches are inclining to be ſhrubby; the leaves are ſometimes almoſt oppoſite; the flowers are glomerate or in little balls, and theſe diſpoſed in panicles.

1. Root perennial, woody, dividing into many branches. The whole ſhrub white. Stems from four to ſix feet high or more, with many thick, woody, brittle branches. Leaves irregularly diſpoſed on the branches on long petioles, thick, ſucculent, ſomewhat ſhining, having a ſubacid flavour. Flowers ſmall, purpliſh, at the ends of the branches. Seeds ſmall, brown.

It grows in hedges near the ſea about Nice; in Spain, Portugal, Sicily, *&c.* Ray ſays that he found it in great plenty about Meſſina.

It was cultivated here in 1640, according to Parkinſon [a],] as a ſhrub, and by ſome was formed into hedges, and conſtantly ſheared; but this plant is by no means fit for this purpoſe, for it grows too vigorouſly; the ſhoots, in one month, at the growing ſeaſon of the year, will be two feet long, in a good ſoil; ſo that a hedge of this plant cannot be kept in tolerable order, nor will it ever form a thick hedge. But a worſe inconvenience attends it; for in very hard winters it is often deſtroyed, and in very dry ſummers, many of the plants will decay.

But although this ſhrub be not proper for hedges, yet it may have a place in wilderneſs quarters, where it will ſerve to thicken, and the ſilver-coloured leaves will add to the variety, among other ſhrubs of the ſame growth. It will grow eight or ten feet high, and if ſuffered to grow wild, without pruning, will ſpread ſeveral feet in compaſs, and ſometimes produce flowers.

2. This is a low underſhrub, ſeldom riſing above two feet and a half, or at moſt three feet high, but becoming very buſhy. The leaves are narrow, and of a whitiſh colour, but not ſo white as thoſe of the former. [In its wild ſtate, it varies in height from ſix inches to a yard. The branches generally recline, are angular, and of a whitiſh green. The leaves are glaucous, oppoſite, petioled, generally elliptic, ſome obtuſe, others lanceolate. The flowers are yellow, and terminate the branches in cluſtered ſpikes [b].

Scopoli obſerves, that the whole ſhrub is glaucous, and, when adult, is covered with a very ſhort pile and a fine meal; that the leaves are lanceolate, not ovate, entire, pubeſcent underneath; and that the flowers are ſmall and crowded in their racemes. It is wild on the ſhores of the European ocean, and in ſalt marſhes, flowering in july and auguſt.]

In plantations it may have a place among other low ſhrubs; and, if planted on a poor gravelly ſoil, will abide ſeveral years, and make a pretty diverſity.

[3. Stem the thickneſs of a finger, covered with an aſh-coloured bark, and divided into declining branches, three or four feet long, ſubdividing into other ſhorter ones. The leaves are thickiſh, from ſilver inclining to glaucous. At each axil of the upper branchlets come out three or four hermaphrodite flowers, with a few females among them, of a yellowiſh colour [c].

Native of France, about Tholouſe, and of Spain, about Toledo.

4. Stem erect, a foot and half or two feet high, ſomewhat angular, white and ſmooth, very branching, the branches alternate, ſubdividing, all diffuſed. Leaves alternate, ſubſeſſile, one at the origin of each branch and bunch of flowers, all rhomb-heart-ſhaped, above an inch in length and breadth, ſinuate-toothed, covered with a fine white meal, and ſmooth. Flowers in cloſe ſeſſile balls at the axils. Valves of the fruit roundiſh-ovate, ſharpiſh, compreſſed, toothletted on the ſides, finely notched about the edge, hoary like the leaves [d]. It is an annual plant, native of the ſouthern countries of Europe.

5. This ſort is of the ſame ſize with the *A. hortenſis.* The fruit is tomentoſe at the baſe, and muricate on the outſide [e]. The leaves are ſilvery beneath, and the flowers white [f]. Native of Siberia, and annual.

6. This grows to the height of a man, according to Linneus, and the leaves are aſh-coloured beneath. Gmelin affirms, that the leaves are green on both ſides.

Mr. Hudſon makes this a variety of the *laciniata,* which he aſſerts to be changed into this by cultivation in a garden. He ſays that the ſtem is from three to five feet high, erect and branching; the branches alſo erect.

7. Root annual. Stem three feet high and more, thick, ſhining. Leaves thick, pale green and glau-

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[a] Hort. kew.

[b] Lightfoot. [c] Dillenius. [d] Pollich. [e] Linneus.
[f] Reichard from Gmelin.

cous, with few veins, of a ſlightly acid flavour; they differ in ſhape, ſome ſtretch out into a long point from a broad baſe, being entire about the edge, ſome are deltoid, others are ſerrate or ſinuate, and others again are triangular[g]. The valves of the calyx are ovate, cordate, ſtreaked, and quite entire. Seeds orbiculate, a little flatted on both ſides, of a ferruginous red colour, deep coloured about the edge ſo as to appear as if ſurrounded with a black ring. The ſeeds of the hermaphrodite flower are lens-ſhaped, under a dark aſh-coloured, very ſmooth, ſhining pellicle[h].

It is a native of Tartary; and was cultivated in 1596, by Gerard[i].

It is of many uſed, ſays Parkinſon, boiled and buttered, to make the ſtomach and belly ſoluble; and is put among other herbs into the pot to make pottage. There are many diſhes of meat made with it while it is young, for being almoſt without ſavour, it is more convertible into what reliſh any one will make it, with ſugar, ſpice, *&c.*

The red Orache is found to dye wool of a good olive colour.]

There are three or four varieties of this, differing only in the colour of the plants; one is of a deep green, another of a dark purple, and a third with green leaves and purple borders. Theſe are ſuppoſed to be only accidental varieties which have come from the ſame ſeeds, but in forty years which I have cultivated theſe ſorts, I have never yet obſerved them to vary.

It was formerly cultivated in the kitchen-gardens as a culinary herb, being uſed as Spinage, and is now, by ſome perſons, preferred to it; though, in general, it is not eſteemed amongſt the Engliſh; but the French cultivate this plant for uſe.

[8. The whole plant is covered with a ſkin that peels off, and is of a gray, hoary colour. Stem two feet high, ſmooth, with many ſpreading branches. The leaves, except the loweſt alternate, and ſilvered with little plates; the lower ones are deltoid, the upper deltoid-lanceolate, below very entire at the edge, above variouſly jagged, on very ſhort petioles, with the baſe extended downwards along them. The hermaphrodite flowers grow at the ſummits of the ſtalks, in ſeſſile cluſters, intermixed with leaves: the females are axillary and twin. Leaflets of the calyx very large, nearly triangular or deltoid, commonly five-toothed, the middle tooth largeſt, generally beſet with prominent tubercles on the ſides near the baſe[k].

It is an annual plant, flowering in july and auguſt, and is a native of the ſea ſhore of Europe.

9. Root annual. Stem generally upright, from one to three feet in height, four-cornered, the angles obtuſe, the ſides ſomewhat grooved, a little ſwelling at the joints, ſmooth, of a purpliſh colour, and branched quite to the bottom: the branches oppoſite; the lowermoſt very long, ſometimes almoſt equal with the ſtalk itſelf, and for the moſt part procumbent. Lower leaves triangular, with the edge more or leſs indented, ſprinkled on the under ſide with meal; ſometimes quite ſmooth, oppoſite, petioled: the upper ones oval, pointed, entire, alternate. Flowers on the tops of the ſtalks and branches in narrow reddiſh ſpikes[l]. The valves of the calyx in the female flowers are frequently toothed in the diſk[m].

It varies with an erect and decumbent ſtem, with leaves ſinuate-toothed, toothed and entire[n].

It varies indeed much according to age and ſituation: on dunghills it is very ſtrong and luxuriant; by road ſides it is weaker, and its branches are long and procumbent; in wet places it becomes more upright, and the leaves are very mealy on the under ſide, particularly when it grows on the ſea ſhore; at other times they are altogether ſmooth.

In its young ſtate this plant is frequently eaten inſtead of Spinach. Birds are very fond of the ſeeds; but cattle do not ſeem much to like the plant. In gardens and other cultivated grounds it is a very troubleſome weed, it ſhould not therefore be ſuffered to grow and ſeed on dunghills[o].

10. Root annual. Stem furrowed; the branches long and widely divaricated, almoſt at right angles with the ſtem, and often weighing it down to the ground. Leaves ſucculent, green, ſlightly ſprinkled with a mealy powder underneath; the lower ones haſtate, but one of the auricles often wanting; the upper ones entire, and linear-lanceolate. The flowers in erect, ſlender ſpikes[p]; according to Scopoli in long, ſpreading racemes. He adds, that the male flowers are four-ſtamened, with the calyx four-cleft; the valves of the ſeeds toothed; the germ compreſſed, one-ſtyled; and that it has all the appearance of a *Chenopodium*.

This ſpecies reſembles the *haſtata* ſo much, that Haller ſeems to doubt whether it be a diſtinct ſpecies.—They have both angular ſtems, ſomewhat furrowed; leaves triangular and haſtate, the appendages longer or ſhorter, toothed or entire; the upper uſually lanceolate and entire. The valves of the ſeeds are larger and flatter in the *haſtata*, and toothed only at the edges: in this they are more convex, and are toothed and tubercled on the ſides[q].

Native of Europe, in waſte places, on ditch banks, and in cultivated grounds; flowering in auguſt.

18. Root annual. Stems numerous, at firſt trailing, afterwards declining or upright, much branched[r]. Leaves both linear and lanceolate[s], ſometimes toothed, with the end recurved, colour glaucous[t]. Valves of the ſeeds triangular, toothed at the edges[u].

Native of Europe, on the ſea coaſt, flowering in auguſt: at Ramſgate in Kent, Yarmouth, Blakeney and Wells in Norfolk.

12. Stem much branched. Leaves glaucous, ſome inverſely ovate. Fertile flowers on long peduncles. Valves of the fruit ovate, the middle lobe triangular and ſhort[x].

Native of the ſea ſhores of Denmark and England; as near Boſton; in the iſle of Thanet; near Yarmouth, Lynn, *&c.* It flowers from july to ſeptember.

13. It may be queſtioned whether this be different from the *littoralis*; the *ſerrata* of Hudſon is probably the ſame ſpecies. Linneus deſcribes his plant to be dwarfiſh, a hand's breadth high, with thickiſh leaves. Hudſon ſays, that his is almoſt upright, with linear, ſerrate leaves. Mr. Woodward has found ſome ſtems with the very narrow entire leaves of the *littoralis*; and others, which were the largeſt and ſtrongeſt, entirely clothed with broader, narrow, elliptical leaves, toothed or jagged throughout, and ſerrate leaves, both from the ſame root[y].

It is an annual plant, native of Sweden and England, on ſea ſhores and in waſte places, flowering in auguſt.

14. Native of the Cape of Good Hope, where it was found by Mr. Francis Maſſon. It was introduced here in 1774, and flowers in june and july[z].]

PROPAGATION AND CULTURE.

1, 2, 3. May be increaſed by cuttings, planted in any of the ſummer months on a ſhady border; where, if they be duly watered, they will ſoon take root, and be fit to tranſplant the Michaelmas following; when they ſhould be planted where they are to remain, for they do not ſucceed well in tranſplanting, eſpecially when they are grown large and woody.

7. This muſt be ſown for uſe early in the ſpring, or at Michaelmas, ſoon after the ſeeds are ripe; at which time it generally ſucceeds better than when it is ſown in the ſpring, and will be fit for uſe at leaſt a month earlier. Theſe plants require no other

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[g] Gmelin.
[h] Gærtner.
[i] Hort. kew.
[k] Linn. Hudſ. Lightf. Woodw. M.S.
[l] Curtis.
[m] Leers.
[n] Hudſon.
[o] Curtis.
[p] Lightfoot.
[q] Woodw. M.S.
[r] Withering.
[s] Gmelin.
[t] Willich.
[u] Withering.
[x] Woodw. M.S.
[y] Withering.
[z] Hort. kew.

culture, but to hoe them when they are about an inch high: to cut them down where they are too thick, leaving them about four inches aſunder, and to cut down all the weeds. This muſt be done in dry weather, otherwiſe the weeds will take root again, and render the work of little or no uſe. When the plants are grown about four inches high, it will be proper to hoe them a ſecond time, in order to clear them from weeds; and, if you obſerve the plants are left too cloſe in any part, they ſhould then be cut out. If this be well performed, and in dry weather, the ground will remain clean until the plant is fit for uſe. Where it is ſown on a rich ſoil, and the plants are allowed a proper diſtance, the leaves will be very large, and in that the excellence of the herb conſiſts. It muſt be eaten when young, for when the ſtalks become tough, it is good for nothing. The ſeeds will ripen in auguſt, when the plants may be cut or pulled up, and laid on a cloth to dry: after which the ſeeds may be beaten out, and laid up in bags for uſe.

[Moſt of the other ſorts, ſo far from being cultivated in gardens, are to be rooted out of them with care, as rank weeds.

Atriplex. See *Atraphaxis*, *Axyris*, *Blitum*, *Chenopodium*; and *Galenia*.]

ATRŎPA. From *Atropos*, the third Fate, ſhe who was ſuppoſed to cut the thread of life.)

Engl. *Deadly Nightſhade*. Fr. *Belle-done*.
Lin. gen. n. 249. *Reich.* 266. *Schreb.* 335. *Juſſ.* 125. *Gærtn. t.* 131. Belladona. *Tournef.* 13. Mandragora. *Tournef.* 12.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Luridæ*. *Solaneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted, gibbous: *diviſions* acute: permanent.

Cor. one-petalled, bell-ſhaped: *tube* very ſhort: *border* ventricoſe, ovate, longer than the calyx: mouth ſmall, five-cleft, ſpreading: *diviſions* ſubequal.

Stam. *Filaments* five, ſubulate, from the baſe of the corolla, and of the ſame length with it, converging at the baſe, above diverging outwards, bowed. *Anthers* thickiſh, riſing.

Pist. *Germ* ſemi-ovate. *Style* filiform, the length of the ſtamens, inclined. *Stigma* headed, riſing, tranſverſely oblong.

Per. *Berry* globular, ſitting on a large calyx, two-celled. *Receptacle* fleſhy, convex on both ſides, reniform.

Seeds very many, reniform.

ESSENTIAL CHARACTER.

Cor. bell-ſhaped. *Stam.* diſtant. *Berry* globular, two-celled.

SPECIES.

1. Atropa Mandragora. *Mandrake.*
Lin. ſpec. 259. *Reich.* 504. *mat. med.* 65. *Allion. pedem. n.* 460.
Mandragora. *Lin. hort. cliff.* 51. *Hall. helv. n.* 578. *Plenck, ic. t.* 126. *Blackw. t.* 364. *Sabb. hort.* 1. *t.* 1. *Lobel. ic.* 267. *Ger.* 281. *emac* 352. *Park. theat.* 344.
M. officinalis. *Mill. dict. n.* 1. *fig. t.* 173.
M. fructu rotundo. *Bauh. pin.* 169. *Raii hiſt.* 668.
Stemleſs, ſcapes one-flowered.

2. Atropa Belladonna. *Deadly Nightſhade*, or *Dwale.*
Lin. ſpec. 260. *Reich.* 504. *mat. med.* 65. *hort. cliff.* 57. *upſ.* 45. *Gærtn. fruct.* 2. 240. *Hudſ. angl.* 93. *With.* 233. *Curt. lond.* 5. 66. *Lightf. ſcot.* 144. *Hall. helv. n.* 579. *Scop. carn. n.* 255. *Jacqu. auſtr.* 4. *t.* 309. *Pollich pal. n.* 226. *Allion. pedem. n.* 459. *Krock. ſileſ. n.* 343. *Villars dauph.* 2. 497. *Blackw. t.* 564. *Sabb. hort.* 1. *t.* 3. *Fl. dan. t.* 758. *Mill. fig. t.* 62. *Berg. phyt. t.* 19. *Plenck. ic, t.* 125. *Pultn. in philoſ. tranſ. vol.* 50. *p.* 62.
Solanum lethale, *Cluſ. hiſt.* 2. 86. *Ger.* 269. *emac.* 340. *Park.* 346. 6. *Mor. hiſt. ſ.* 13. *t.* 3. *f.* 4. *Bauh. hiſt.* 3. 611. *Raii hiſt.* 679. *Camer. epit.* 817. *Fuchſ.* 689.
Stem herbaceous, leaves ovate entire, peduncles one-flowered.

3. Atropa phyſaloides. *Peruvian Deadly Nightſhade*, or *blue-flowered Atropa.*
Lin. ſpec. 260. *Reich.* 505. *mant.* 339.
Alkekengi. *Nov. comm. petrop.* 5. *p.* 319. *t.* 4. *Feu. peruv.* 724. *t.* 16.
Phyſalis peruviana. *Mill. dict. n.* 16.
Stem herbaceous, leaves ſinuate-angular, calyxes cloſed acutangular.

[4. Atropa ſolanacea.
Lin. ſyſt. 221. *Reich.* 505. *mant.* 205. *Trew. rar.* 2. *p.* 9. *t.* 16.
Solanum guineenſe. *Lin. ſpec.* 263. *Comm. hort.* 2. 191. *t.* 96.
Stem ſhrubby, peduncles ſolitary, corollas bell-ſhaped, leaves ſubovate.

5. Atropa arboreſcens. *Tree Atropa.*
Lin. ſpec. 260. *Reich.* 506. *amæn.* 4. 307. *Swartz obſ.* 81.
Belladonna fruteſcens, &c. *Plum. ſpec.* 1. *ic.* 46. *f.* 1.
Stem ſhrubby, peduncles crowded, corollas revolute, leaves oblong.]

6. Atropa fruteſcens. *Shrubby Atropa.*
Lin. ſpec. 260. *Reich.* 506.
Belladonna fruteſcens. &c. *Tourn. inſt.* 77. *Barr. ic.* 1173.
Stem ſhrubby, peduncles crowded, leaves cordate-ovate, obtuſe.

7. Atropa herbacea. *Herbaceous Atropa.*
Mill. dict. n. 3.
Stem herbaceous, leaves ovate nerved, with waved edges.

[8. Atropa procumbens. *Wheel-flowered Atropa.*
Cavan. hiſp. n. 80. *t.* 72.
Stem procumbent, herbaceous: leaves twin, unequal, ovate, ſmooth: flowers in umbels.]

DESCRIPTIONS, *&c.*

1. Mandrake has a long taper root ſhaped like a Parſnep, which runs three or four feet deep in the ground; it is ſometimes ſingle, and at others divided into two or three branches, almoſt of the colour of the Parſnep, but a little darker: immediately from the crown of the root, ariſes a circle of leaves, which at firſt ſtand erect, but when grown to their full ſize, ſpread open, and lie upon the ground; they are more than a foot in length, and are four or five inches broad in the middle, growing narrow toward both ends, of a dark green colour, and a fetid ſcent. Among theſe come out the flowers, each on a ſcape about three inches long: they are five-cornered, of an herbaceous white colour, ſpreading open at top like a Primroſe, having five hairy ſtamens, and a globular germ ſupporting an awl-ſhaped ſtyle, which becomes a globular ſoft berry, when full grown as large as a nutmeg, of a yellowiſh green colour when ripe, full of pulp. [Haller adds, that the leaves are ovate-lanceolate, and waved about the edges; that the flowers have a tinge of violet; and that a circular gland ſurrounds the germ, produced into two horns.

Native of Spain, Portugal, Italy and the Levant. It flowers here in march, and the ſeeds are ripe in july: and it appears from Turner's herbal to have been cultivated in 1562[a].]

The roots have been ſuppoſed to bear a reſemblance to the human form, [and are figured as ſuch in the old herbals, being diſtinguiſhed into the male with a long beard, and the female with a prolix head of hair.] Mountebanks carry about fictitious images, ſhaped from roots of Bryony and other plants, cut into form or forced to grow through moulds of earthen ware, as Mandrake roots. [It was fabled to grow under a gallows, where the matter falling from the dead body gave it the ſhape of a man; to utter a great ſhriek, or terrible groans at the digging up; and it was aſſerted, that he who would take up a plant of Mandrake ſhould in common prudence tie a dog to it for that purpoſe, for if a man ſhould do it himſelf, he would ſurely die ſoon after[d]. The bare mention of ſuch fables are a ſufficient confutation of them, nor would they have been mentioned here had it not been for the alluſions to them which occur in ancient authors. The whole plant is fetid, and reputed to be poiſonous, though in ſmall doſes it was uſed medicinally, and particularly as an opiate.

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[a] Hort. kew.

2. Deadly Nightſhade has a perennial, thick, long, branching root, ſending out ſtrong, herbaceous, upright, round, trichotomous, branching ſtems, from three to five feet, and ſometimes ſix feet in height, frequently tinged with purple. The branches are dichotomous. The root-leaves are often a foot long and five inches broad: the ſtem-leaves are petioled, acute, ſoft, duſky green above and paler green beneath, a little hairy on both ſides, and fattiſh to the touch, changing to a purple colour in the autumn: there are generally two leaves at each branch, one ſmaller than the other, running down along the ſhort petiole. Peduncles axillary, one-flowered. Flowers large, nodding, void of ſcent, Calyx dirty green. Corolla lurid, within duſky purple and ſtreaked, with a yellow variegated baſe, without greeniſh red, or duſky brown. Berry large, at firſt green, but when ripe of a beautiful ſhining black colour, full of purple juice, with roundiſh, dotted channelled ſeeds immerſed in the pulp; and a glandular ring ſurrounding it[c]. Scopoli obſerves, that there are two tubercles between the cells of the anthers; that the ſtigma is two-lobed; that the berry ſits on the ſtellate calyx, is very ſucculent, obtuſe, marked with ſmall dots, and has two heart-ſhaped receptacles to which the ſeeds adhere.

It is a native of Europe, particularly of Auſtria and England, in church-yards and on dunghills, ſkulking in gloomy lanes and uncultivated places: in other countries it is ſaid to be common in woods and hedges. With us it is not ſo common in a wild ſtate, but that the places where it has been found may be ſet down. About Fulborn in Cambridgeſhire, near Wiſbech in the iſle of Ely, Holland in Lincolnſhire, between Temsford-mills and Welwyn in Herts, Charley foreſt and Grace Dieu in Leiceſterſhire, North Luffenham in Rutland, Sutton-Cofield in Warwickſhire, Clifton-hill near Nottingham and Mansfield in the ſame county; and in Weſtmoreland. Mr. Miller obſerved it in Woodſtock-park in Oxfordſhire, and in Uppark in Hampſhire. In the counties round London it is not very common, it has however been remarked about Rocheſter, between that and Maidſtone, and near Feverſham in Kent, about Harefield and More-park near Rickmanſworth, at Dorking in Surry, and by old Gerarde near Highgate.

When this plant was found to differ from the *Solanums* or Nightſhades, it aſſumed the Italian name of *Belladonna*, which was given it, according to ſome, becauſe it was uſed as a waſh among the ladies, to take off pimples and other excreſcencies from the ſkin; or, according to others, from its quality of repreſenting phantaſms of beautiful women to the diſturbed imagination.

The qualities of this plant are malignant, and it is extremely poiſonous in all its parts. Numerous inſtances have occurred of the berries proving fatal, after cauſing convulſions, delirium, *&c.* Buchanan relates the deſtruction of the army of Sweno the Dane, when he invaded Scotland, by the berries of this plant which were mixed with the drink which the Scots, according to truce, were to ſupply the Danes with. The Danes became ſo inebriated that the Scottiſh army fell on them in their ſleep, and ſlew ſuch numbers that there were ſcarcely men enough left to carry off their king.

The caſe related by Mr. Ray is remarkable, *viz.* the dilatation of the pupil of the eye, cauſed by a part of a leaf of this plant applied outwardly, and which took place ſucceſſively on the repetition of the experiment. With reſpect to the berries they have been frequently known to have been fatal to children, and if a conſiderable number are eaten, to grown perſons likewiſe. The ſymptoms are ſaid to occur in leſs than half an hour after taking them, and conſiſt of Vertigo, great thirſt, delirium, ſwelling and redneſs of the face, *&c.* The general ſenſibility of the ſyſtem is ſaid to be weakened to a great degree, ſo that the ſtomach will bear a far larger doſe of emetic medicines than it would otherwiſe have done. Vinegar liberally drank has been found efficacious in obviating the effects of the poiſon.

Dr. Hill relates a very remarkable caſe which occurred under his own obſervation. A labourer found ſome of the plant in the park of a nobleman where he was repairing the pales. He eat heartily of the berries, and gave ſome to his children. After two hours he grew giddy and unable to ſtand; was extremely thirſty, complained of dreadful pain in his breaſt, and difficulty of breathing. He afterwards fell into violent ravings which continued, with ſlight intervals, during great part of the night. All this time he was alſo afflicted with a very painful ſtrangury. He recovered however ſometime afterwards, without the aſſiſtance of medicine, but both the children died in the courſe of the night.

A remarkable inſtance of the malignant powers of this plant occurred a few years ſince under my own eye in the botanic garden at Cambridge, which fully proved, that the young ſhoots, early in the year, are not leſs deleterious than the berries.

The leaves are ſaid to have been ſometimes ſucceſsfully applied in cancerous tumours.

The ingenious Dr. Milne, in his *Indigenous Botany*, has very properly remarked that nature has been more parſimonious in her warnings with reſpect to this plant, than to others of the ſame natural family. Neither the ſmell nor the taſte is offenſive; and if the colour of the flowers proves in ſome degree a repellent, that of the fruit, on the other hand, is in an equal degree, at leaſt, attractive and inviting. Accordingly Belladonna, notwithſtanding its deleterious nature is not totally excluded the precincts of phyſic: nay ſome diſeaſes, and thoſe of the moſt malignant kind, have been known to yield to the anodyne and antiſpaſmodic virtues of this plant when adminiſtered with caution, after reſiſting the force of medicines, more innocent indeed, but of leſs powerful efficacy. Bergius relates that he has often given relief in epilepſy and convulſions, by the internal uſe of the powder of the leaves, taken in doſes of from one to four grains twice a day; and Geſner, in his *Medical Epiſtles*, recommends the expreſſed juice of the berries, boiled with ſugar into a ſyrup, and given a tea-ſpoonful at a time, as excellent in every caſe requiring an opiate, and as peculiarly efficacious in the cure of the dyſentery. The reader however who is deſirous of further information reſpecting the natural and medical hiſtory of this plant, will find his curioſity ſatisfactorily gratified by peruſing the following works.

Fabri *Strychnomania, &c.* Aug. Vindel. 1677.
Sicelii *Diatribe de Belladonna.* Jenæ, 1713.
Timmerman *Periculum Medicum Belladonnæ.* Rintelii. 1765.

3. Root fibrous, annual. Stem two feet high, ſpreading, erect; branches angular. Leaves alternate, ſmooth, oblong, running down the petiole. Peduncles by the ſide of the petioles, ſolitary, naked, one-flowered. Calyx ovate, cut at the baſe, with five compreſſed angles, deeply five-parted; the leaflets ſagittate-ovate. Corolla bell-ſhaped, ſlightly five-lobed, obtuſe; border upright, a little plaited; colour blue with a white eye radiated with five blue ſpots. It has a nectary like that of *Campanula*, conſiſting of five valves, incloſing the germ, and ſupporting the filaments. Fruit nodding, covered with the pentangular calyx, the angles compreſſed and cloſe ſhut, pointed at the baſe. Berry juiceleſs, with three, four or five cells. Seeds roundiſh compreſſed. It forms the connecting link between *Atropa* and *Phyſalis*; differing from the latter in the form of the corolla, in the divergency of

the

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[b] Gerarde's herbal. [c] Haller, Pollich, Jacqu. Pultn.

the ſtamens, in having a five-parted calyx, and a capſule with ſeveral cells[d].]

The ſtem though herbaceous is very ſtrong, in our gardens four or five feet high, and of a purpliſh colour, dividing into ſeveral branches, ſpreading out wide on every ſide. Leaves oblong, deeply ſinuate, deep green. Peduncles ſhort. Calyx large, bell-ſhaped. Corolla large, of the open bell-ſhape, of a light blue colour. Berries about the ſize of common cherries, incloſed in a large ſwelling bladder, having five ſharp angles. It flowers in july, and the ſeeds ripen in the autumn.

Father Feuillée, who firſt diſcovered this plant in Peru, recommends it greatly for its virtues, and ſays, the Indians make great uſe of its berries to bring away gravel, and to relieve perſons who have a ſtoppage of urine, and gives the manner of uſing them; which is, to bruiſe four or five of them either in common water or white wine. The younger Juſſieu ſent the ſeeds to Mr. Miller, [who cultivated this plant in 1759[e].

4. Stem ſix feet high, ſhrubby, ſomewhat branching and angular. Leaves alternate, uſually many from the buds, petioled, quite entire, naked. Peduncles axillary, one-flowered, filiform, the length of the leaves; the flowers pendulous. Calyx bell-ſhaped, five-cleft. Corolla three times larger than the calyx, with lanceolate erect diviſions. Stamens and piſtils twice the length of the calyx. Native of the Cape of Good Hope[f].

5. This is a ſmall tree, or rather a ſhrub. Stem ſmooth, branched; branches ſubdivided, round, ſcarred, rugged. Leaves petioled, alternate, in tufts towards the ends of the branches, lanceolate-ovate, acute, entire, nerved, wrinkled beneath, ſoft and hoary, of a dark colour. Flowers peduncled, heaped, ſcattered on the branches below the leaves, white, ſweet-ſcented, nodding. Peduncles numerous (thirty to forty), long, filiform, one-flowered, whitiſh, ſmooth. Calyx ſhort, tubular, four or five-cleft, whitiſh. Corolla ſomewhat bell-ſhaped: tube narrower at the baſe, ſwelling at top; border four or five-cleft, with equal, ovate, blunt, reflex ſegments. Filaments four or five, equal, twice as long as the corolla: anthers ovate, upright, two-valved. Germ roundiſh, ſuperior. Berry roundiſh, ſoft, black, containing many ſeeds.

Native of South America and Jamaica, on the temperate mountains; flowering in autumn. The berries are commonly full of ſome worm[g].]

6. This riſes with a ſhrubby ſtem to the height of ſix or eight feet, and divides into many branches. Leaves alternate, round, in ſhape like thoſe of the Storax tree. The flowers come out between the leaves upon ſhort peduncles, and are ſhaped like thoſe of Deadly Nightſhade, but are much ſmaller, of a dirty yellowiſh colour, with a few brown ſtripes: they are never ſucceeded by berries in England.

[Linneus remarks. that this agrees with *Phyſalis ſomnifera* in the habit; as well as in other reſpects; inſomuch that the limit of the two genera conſiſts only in the five-parted calyx.

It is a native of Spain; and was cultivated by Mr. Miller in 1739[h].]

7. Root perennial, putting out ſeveral channelled herbaceous ſtems, about two feet high, dividing toward the top into two or three ſmall branches. Leaves four inches long and three broad, having ſeveral tranſverſe prominent ribs on their under ſide. The flowers come out from between the leaves on ſhort peduncles; they are white, and ſhaped like thoſe of Deadly Nightſhade, but ſmaller. It flowers in july and auguſt, but ſeldom ripens its fruit in England. The ſeeds were ſent to Mr. Miller from Campeachy.

[8. Root annual. Stem grooved, much branched, three feet high; branches tender, ſomewhat villoſe. Leaves ſharp-ovate, running down the petiole, ſmooth, quite entire, one-nerved, glaucous beneath. Common peduncle ſolitary, between two petioles, ſcarcely an inch in length; rays of the umbel few (two to five). Calyx half-five-cleft; ſhorter than the corolla, in the fruiting ſtate augmented, always ſpreading. Corolla herbaceous yellow, wheel-ſhaped, ſpreading very much, the border five-cornered, rolled back a little, with ſharp angles. Filaments erect, diſtant, each ſet into a ſmall tubercle or prominency of the corolla round the germ; anthers ovate and upright. Germ globular, half ſtanding out, ſuperior. Berry ſmooth, two-celled, with a fungoſe, ſpherical receptacle, to which the ſeeds are fixed; theſe are numerous, red, ſmooth, orbicular, compreſſed. It differs ſomewhat from its congeners in having a wheel-ſhaped corolla. Native of Mexico. Cultivated in the royal garden at Madrid, where it flowers and fruits in october[i].]

PROPAGATION AND CULTURE.

1. Mandrake is propagated by ſeeds, which ſhould be ſown upon a bed of light earth ſoon after they are ripe, for if they are kept until the ſpring, they ſeldom ſucceed well; but thoſe which are ſown in autumn will come up in the ſpring, when they ſhould be carefully cleared from weeds; and in very dry weather they muſt be refreſhed with water, which will greatly promote their growth. In this bed they ſhould remain to the end of auguſt; when they muſt be taken up very carefully and tranſplanted into the places where they are to remain: the ſoil ſhould be light and deep, for their roots run far down; but if the ſoil be wet, they are often rotted in winter, and if it be too near gravel or chalk, they will make little progreſs; but if the ſoil be good and they are not diſturbed, the plants will grow to a large ſize in a few years, and will produce great quantities of flowers and fruit.

I have been informed by perſons of credit that a root of Mandrake will remain ſound above fifty years, and be as vigorous as a young plant. I know ſome plants myſelf near that age, which are now in great vigour, and may continue ſo many years longer, as there are no ſigns of their decay; but they ſhould never be removed after their roots have arrived to any conſiderable ſize, for it breaks their lower fibres, and ſo ſtints the plants, as that, if they live, they will not recover their former ſtrength in two or three years. Theſe plants ſhould have a warm ſituation, otherwiſe in ſevere winters they will be deſtroyed.

2. [Deadly Nightſhade may be propagated both by its roots, and by ſeeds. It loves a ſhady ſituation;] but on account of its deadly poiſon is rarely admitted into gardens. It ſhould by no means be ſuffered to grow where children or common people reſort, becauſe they are likely to be attracted by the ſplendid black colour of the berries

3. If the ſeeds be permitted to ſcatter, the plants will come up the following ſpring; or if the ſeeds be ſown on a bed of rich earth in the ſpring, the plants will riſe eaſily, and may be afterward tranſplanted to the borders of the pleaſure-garden, where they muſt be allowed room, for if the ground be good, the plants will grow very large.

4, *&c.* may be propagated by ſeeds, which ſhould be ſown in the ſpring on a hot-bed; when they are fit to remove, they ſhould be each put into a ſeparate ſmall pot, filled with loamy earth, and ſhaded until they take root. The 4th and 6th may be placed with other hardy exotic plants in a ſheltered ſituation, and in october they muſt be removed into the greenhouſe. The 5th, 7th, and 8th, muſt be kept in the bark ſtove, to have them thrive well in this country.

The 7th may be increaſed by parting the roots in the ſpring.

[AUBLETIA. [*So named in honour of M. Fuſée Aublet, author of the hiſtory of plants in Guiana,* 1775.)

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[d] Linneus. [e] Hort. kew. [f] Linn. mant. [g] Swartz. [h] Hort. kew.

[i] Cavanilles.

Lin. gen. Schreb. n. 889. Apeiba. *Aubl. t.* 213. *Swartz prodr.* 82. Sloanea. *Læfl.* 311.
Claſſ. 13. 1. Polyandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved, rigid, ſpreading, coloured within, pubeſcent without, deciduous, five-parted: *parts* linear-lanceolate, acute, with thick margins, which, before flowering, are contiguous.

COR. *Petals* five, roundiſh-oblong, ſmaller than the calyx: with very ſhort claws.

STAM. *Filaments* very many, very ſhort. *Anthers* ovate-oblong, outwardly gibbous, gaping on the inner ſide, foliaceous at the tip, acute: the *exterior* ones ſterile, lanceolate, ending in a foliaceous point; ſhorter than the corolla.

PIST. *Germ* roundiſh, depreſſed. *Style* long, ſtriated, gradually thickening, ſlightly incurved. *Stigma* ſpreading, perforated, ten-toothed.

PER. *Capſule* large, orbiculate, depreſſed, coriaceous, echinate, ten-celled, gaping at the baſe.

SEEDS very many, ſmall, roundiſh, ſomewhat compreſſed. *Receptacle of the ſeeds* fleſhy.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* five-petalled. *Capſ.* many-celled, echinate, with many ſeeds in each cell.

SPECIES.

1. Aubletia Tibourbou.
Apeiba Tibourbou. *Aubl. guian.* 538. *t.* 213. *Swartz, prodr.* 82.
Apeiba. *Marcgr. braſ.* 123. *f.* 124. *Raii hiſt.* 1643.
Sloanea. *Loefl. it.* 311.
Leaves acutely ſerrate hirſute.

2. Aubletia Petoumo.
Apeiba Potoumo. *Aubl. guian.* 543. *t.* 215. *Swartz, prodr.* 82.
Leaves elliptic acute ſerrulate hoary beneath.

3. Aubletia aſpera.
Apeiba aſpera. *Aubl. guian.* 545. *t.* 216. *Swartz, prodr.* 82.
Leaves quite entire pubeſcent beneath, fruit compreſſed.

4. Aubletia lævis.
Apeiba glabra. *Aubl. guian.* 541. *t.* 214.
A. lævis. *Swartz, prodr.* 83.
Leaves quite entire, ſmooth on both ſides: fruit rough depreſſed.

DESCRIPTIONS, *&c.*

1. This is a middling ſized tree, with a trunk ſeven or eight feet high, about a foot in diameter, and an irregular, chopped, ſoft, thick bark, fibrous and fit for making ropes. The wood is white and light. Branches ſpreading in all directions, and bent down; twigs villoſe. Leaves alternate, ovate-oblong, cordate at the baſe, green above and wrinkled, having ruſſet hairs underneath; they are ſet on ſhort petioles. Stipules in pairs, oppoſite, oblong, acute, not deciduous. Flowers in racemes oppoſite to the leaves, conſiſting of alternate twigs with three or four peduncled flowers from the top of them. A pair of oppoſite bractes is placed at the origin of each twig, and there are three or four others at the peduncles. The raceme and peduncle are covered with ruſſet-coloured hairs[a]. Native of Braſil, Guiana, the iſlands of Cayenne, and Tobago. *Apeiba* is the Braſilian name, and it is called *Tibourbou* by the Caribbes. Aublet found it in flower and fruit from auguſt to october.

2. This is a large tree, being often forty feet high, and a foot and half or more in diameter, with a brown thick filamentoſe bark fit for making cordage: the wood is light and of a white colour. The branches ariſe from the top of the trunk, and ſpread wide every way. Leaves alternate, nine inches long and four wide, entire, ſmooth, ending in a point, and rounded at the baſe, ſet on a petiole an inch and half in length; on each ſide of this is a large ſtipule, which ſoon falls. Flowers in racemes oppoſite to the leaves, with two bractes at their origin: they are divided into alternate branchlets, with a double bracte to each, and three flowers at the top, on long peduncles, ſurrounded by four large ſcales at the baſe. Corolla yellow. Native of Guiana, in the vaſt foreſts of Sinemari; bearing flowers and fruit in october. It is called *Petoumo* by the Caribbes[b].

3. This is alſo a large tree, from thirty to forty feet in height, and a foot and half or more in diameter, with a grayiſh irregular thick filamentoſe bark proper for making cordage: the wood is light and white. The boughs are large, and divide into branches ſpreading in every direction. Leaves alternate, ovate, ſmooth, ending in a point, rounded at the baſe, five inches long and more, ſet on a ſhort petiole, on each ſide of which at its baſe is a ſtipule, which ſoon falls. Flowers in racemes oppoſite to a leaf and at the extremity of the branches; there are two bractes at the baſe of the raceme, and three or four ſcales at each diviſion of it; at the end are three ſcales, from which ſpring three flowers; the peduncles and pedicels are hirſute. Calyx four or five-parted, the ſegments yellow above, hirſute and ruſſet-coloured beneath. Corolla yellow, four or five-petalled.

Native of Guiana, and the iſland of Cayenne, flowering and bearing fruit in the month of may. This is alſo called *Petoumo* by the Caribbes[c].

4. This is a tree of a middling ſize, its trunk being from ten to twelve feet in height, and eight or ten inches in diameter, with a ſmooth, thin, greeniſh bark: the wood is white, tender, and ſo light that the trunk may eaſily be carried in one hand: the branches ſpring from the top; both they and the twigs are ſmooth, ſpreading every way, and pendulous. Leaves ovate, acuminate, green on both ſides, on ſhort petioles. Stipules in pairs, ſhort, deciduous. Flowers in racemes oppoſite to a leaf. Corolla greeniſh.

Native of Guiana; flowering and bearing fruit in the month of may. The inhabitants call it *Ivouyra*, and uſe pieces of the wood rounded and pointed to procure fire; whence the Creoles call it *Bois de mèche*[d].

Gærtner has given the name of *Aubletia* to the *Rhizophora caſeolaris* of Linneus; and Loureiro, to a Chineſe tree.]

[AUCUBA.
Thunb. jap. 4. *nov. gen.* 61. *Lin. gen. Schreb. n.* 1414. *Juſſ.* 382.
Claſſ. 21. Monoecia Tetrandria.

GENERIC CHARACTER.

* *Male flowers.*

CAL. *Perianth* one-leafed, truncate, obſcurely four-toothed, villoſe, very ſhort, permanent.

COR. four-petalled. *Petals* ovate, acute, ſpreading; underneath concave, hairy; above convex; deciduous.

STAM. *Filaments* four, inſerted into the receptacle among the petals, thick, erect, very ſhort. *Anthers* ovate, twin, with four furrows.

Recept. plano-convex, ſmooth, with a ſquare hole impreſſed upon the middle.

* *Female flowers on the ſame tree.*

CAL. and COR. as in the Male.

PIST. *Germ* inferior. *Style* thick, ſhort. *Stigma* ſimple, capitate.

PER. *Nut* ovate, one-celled.

ESSENTIAL CHARACTER.

MALE. *Cal.* four-toothed. *Cor.* four-petalled. *Berry* one-ſeeded.

FEM. *Nect.* none. *Nut* one-celled.

SPECIES.

1. Aucuba japonica.
Lin. ſyſt. 848. *Thunb. jap.* 64. *t.* 12, 13. *Kæmpf. amæn. faſc.* 5. 775. *ic. ſelect. t.* 6.

DESCRIPTION, *&c.*

A large tree. Branches and ſubdiviſions dichotomous ſmooth rather fleſhy divaricate erect angular ſcarred from the falling of the leaves. Leaves aggregate at the tops of the branches, petiolate oppoſite oblong ſharp, remotely ſerrate ſmooth, pale underneath, a hand's breadth long, nerved. Flowers terminal panicled; panicle trichotomous, ſuperdecompound. Peduncles and pedicels villoſe. Bractes lanceolate. It varies with brown-green, unſpotted leaves; and bright-green leaves variegated with white.—It is allied to the *Serpicula*, but diſtinguiſhed from it by the receptacle of the male being ſmooth, not toruloſe, but perforated in the middle[a].

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[a] Aublet.

[b] Ibid.

[c] Ibid.

[d] Ibid.

Native of Japan. Introduced 1783, by Mr. John Græfer[b].

Avellana. See *Corylus*.

AVENA. (From *aveo*, to deſire or covet; cattle being fond of it.)

Engl. *Oat* and *Oat-graſs*. Fr. *Avoine*.

Lin. gen. 91. *Reich.* 97. *Schreb.* 122. *Tournef.* 297.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina* or *Graſſes*.

GENERIC CHARACTER.

Cal. *Glume* generally many-flowered, two-valved, looſely collecting the flowers: *valves* lanceolate, acute, ventricoſe, looſe, large, awnleſs.

Cor. two-valved: *lower valve* harder than the calyx, the ſize of the calyx, roundiſh, ventricoſe, acuminate at both ends, emitting from the back an *awn* ſpirally twiſted, reflex as at the knee-joint. *Nectary* two-leaved; *leaflets* lanceolate, gibbous at the baſe.

Stam. *Filaments* three, capillary. *Anthers* oblong, forked.

Pist. *Germ* obtuſe. *Styles* two, reflex, hairy. *Stigmas* ſimple.

Per. none. *Corolla* moſt firmly cloſed grows to the ſeed, and does not gape.

Seed one, ſlender-oblong, acuminate at both ends, marked with a longitudinal furrow.

ESSENTIAL CHARACTER.

Cal. two-valved, many-flowered. *Awn* from the back of the corolla, jointed, twiſted.

SPECIES.

[1. Avena ſibirica. *Siberian Oat-graſs*.
Lin. ſpec. 117. *Reich.* 220.
Feſtuca glumis villoſis, ariſtis calyce triplo longioribus. *Gmel. ſib.* 1. 113. *t.* 22.
Panicled; calyxes one-flowered; ſeeds hirſute; awns thrice the length of the calyx.

2. Avena elatior. *Tall Oat-graſs*.
Lin. ſpec. 117. *Reich.* 221. *ſuec.* 102. *Hudſ. angl.* 53. *With.* 112. *Curtis lond.* 3. 6. *Hall. helv. n.* 1492. *Pollich pal. n.* 122. *Leers herborn. n.* 88. *t.* 10. *f.* 4. *Krock. ſileſ. n.* 177. *Oed. dan. t.* 165. *Schreb. gram.* 25. *t.* 1. *Fl. ruſt. t.* 7.
Holcus avenaceus. *Scop. carn. n.* 1239.
Gramen avenaceum elatius, juba longa ſplendente. *Raii meth.* 179. *ſyn.* 406. *Mor. hiſt.* 3. 214. *ſ.* 8. *t.* 7. *f.* 38. *Scheuch. gram.* 239. *Ger. emac.* 23. 1. *Park.* 1176. 1.
β. Gr. nodoſum avenacea panicula, radice tuberibus prædita. *Bauh. pin.* 2. *prodr.* 3. *theatr.* 18. *Scheuch. gram.* 237. *t.* 4. *f.* 27, 28. *Monti. t.* 76. *Ger. emac.* 23. 2.
Panicled; calyxes two-flowered; hermaphrodite floſcule almoſt awnleſs, male awned.

3. Avena ſtipiformis.
Lin. ſyſt. 121. *Reich.* 221. *mant.* 34.
Panicled; calyxes two-flowered; awns twice the length of the ſeed; culm branching.

4. Avena penſylvanica. *Penſylvanian Oat-graſs*.
Lin. ſpec. 117. *Reich.* 222.
Panicle attenuated; calyxes two-flowered; ſeeds villoſe; awns twice the length of the calyx.

5. Avena loeflingiana. *Spaniſh Oat-graſs*.
Lin. ſpec. 118. *ſyſt.* 121. *Reich.* 222. *ſuppl.* 112. *Cavan. hiſp. t.* 45. *f.* 1.
Panicle contracted; floſcules in pairs, hirſute; one peduncled, with two awns at the top, the middle awn longeſt.]

6. Avena ſativa. *Cultivated Oat.*
Lin. ſpec. 118. *Reich.* 222. *hort. cliff.* 25. *upſ.* 20. *mat. med.* 47. *Hall. helv. n.* 1494. *Krock. ſileſ. n.* 178. *Villars dauph.* 2. 147. *Blackw. t.* 422. *Mill. illuſtr. fig. Plenck, ic. t.* 43. *Fl. ruſt. t.* 79.
A. diſperma. *Mill. dict.*

VARIETIES.

1. A. alba. *Bauh. pin.* 23. *Bauh. hiſt.* 2. 432. *Raii hiſt.* 1253. *White Oat.*
2. A. nigra. *Bauh. pin.* 23. *Raii hiſt.* 1253. *Black Oat.*
3. A fuſca ſ. rubra. *Mor. hiſt.* 3. 209. *n.* 2. *Plot. ſtaff.* 204. *Brown or red Oat.*
4. A. cærulea. *Merr. pin. Raii ſyn.* 389. *Blue Oat.*

Panicled; calyxes two-ſeeded; ſeeds very ſmooth, one awned.

[7. Avena nuda. *Naked Oat, Pilcorn,* or *Pillis.*
Lin. ſpec. 118. *Reich.* 222. *amæn.* 3. 401. *Hudſ. angl.* 52. *With.* 113. *Bauh. pin.* 23. *Bauh. hiſt.* 2. 433. *Raii ſyn.* 389. *hiſt.* 1254. *Lob. ic.* 32. *Mor. hiſt.* 3. *ſ.* 8. *t.* 7. *f.* 4. *Ger.* 68. 2. *emac.* 75. 2. *Park.* 1134. 2. *Fl. ruſt. t.* 80.
Panicled; calyxes three-flowered; receptacle exceeding the calyx; petals awned at the back; the third floſcule awnleſs.

8. Avena fatua. *Bearded wild Oat,* or *Haver.*
Lin. ſpec. 118. *Reich.* 223. *lapp.* 30. *ſuec.* 101. *Hudſ. angl.* 52. *With.* 113. *Light. ſcot.* 105. *Hall. helv. n.* 1495. *Pollich pal. n.* 123. *Neck. gallob.* 67. *Leers herborn. n.* 90. *t.* 9. *f.* 4. *Krock. ſileſ. n.* 182. *Villars dauph.* 2. 147. *Schreb. gram.* 109. *t.* 15. *Mor. hiſt.* 3. 209. *ſ.* 8. *t.* 7. *f.* 5. *Fl. ruſt. t.* 81. *Mill. illuſtr.*
Feſtuca. *Bauh. pin.* 10. *n.* 13.
Ægilops. *Raii ſyn.* 389. 7. *hiſt.* 1254. 4.
Panicled; calyxes three-flowered; all the floſcules awned and hairy at the baſe.

9. Avena ſeſquitertia.
Lin. ſyſt. 122. *Reich.* 223. *mant.* 34. *Allion. pedem. n.* 1260.
Gr. pratenſe villoſum, &c. *Scheuch. gram.* 220. *t.* 4. *f.* 17.
Panicled; calyxes ſubtriflorous; all the floſcules awned; receptacles bearded.

10. Avena pubeſcens. *Soft Oat-graſs.*
Lin. ſpec. 1165. *ſyſt.* 122. *Reich.* 223. *mant.* 327. *Hudſ. angl.* 52. *With.* 114. *Hall. helv. n.* 1498. *Gmel. ſib.* 1. 129. *Pollich pal. n.* 126. *Leers herborn. n.* 91. *t.* 9. *f.* 2.
A. pratenſis. *Gort. ingr.* 15.——prat. β. *Lin. ſpec.* 119. *Neck. gallob.* 67.
Gr. avenaceum hirſutum, panic. purpuro-argentea ſplendente. *Raii ſyn.* 406. *t.* 21. *f.* 2. *Scheuch. gram.* 226. *t.* 4. *f.* 20. *Monti,* 65.
Feſtuca dumetorum. *Bauh. pin.* 10. *prodr.* 19.
Subſpiked; calyxes ſubtriflorous, upper florets hairy at the baſe; leaves flat, pubeſcent.

11. Avena ſterilis. *Great wild Oat,* or *bearded Oat-graſs.*
Lin. ſpec. 118. *ſyſt.* 122. *Reich.* 244. *Jacqu. collect.* 1. 90.
Gr. avenac. *Scheuch. t.* 5. *f.* 1. *Barrel. ic.* 75. 2.—maximum, &c. *Magn. monſp.*
Ægilops. *Bauh. hiſt.* 2. 443. *Ger. emac.* 77. *Park. theat.* 1148. 4.—mauritanica, &c. *Pet. gaz. t.* 38. *f.* 7.
Panicled; calyxes five-flowered; the outer floſcules and awns hairy at the baſe, the inner ones awnleſs.]

12. Avena flaveſcens. *Yellow Oat-graſs.*
Lin. ſpec. 118. *ſyſt.* 122. *Reich.* 224. *mant.* 326. *ſuec. n.* 103. *Hudſ. angl.* 53. *With.* 114. *Curtis lond.* 3. 5. *Lightf. ſcot.* 106. *Relh. cantabr. n.* 97. *Hall. helv. n.* 1467. *Gmel. ſib.* 1. 129. *n.* 67. *Pollich pal. n.* 124. *Neck. gallob.* 68. *Leers herborn.* 93. *t.* 10. *f.* 5. *Schreb. gram.* 76. *t.* 9.
Gr. avenac. &c. *Scheuch. gram.* 225. *t.* 4. *f.* 19. & 220. *t.* 4. *f.* 17.
β. Gr. aven. pratenſe elatius, panic. flaveſcente, locuſtis parvis. *Raii ſyn.* 407. *hiſt.* 1284. *Scheuch. gram.* 223. *t.* 4. *f.* 18. *Monti,* 55. *t.* 79. *Mor. hiſt.* 3. 215. *ſ.* 8. *t.* 7. *f.* 42. *Mill. dict. n.* 5.
Panicle looſe; calyxes three-flowered ſhort; all the florets awned.

[13 Avena hiſpida.
Lin. ſyſt. 122. *ſuppl.* 111.
A. capenſis. *Burm. prodr.* 3.
Panicled; calyxes three-flowered, hairy.

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[a] Thunberg.

[b] Hort. kew.

14. Avena capenſis.

Lin. ſyſt. 122. *ſuppl.* 112.

Panicle contracted; calyxes three-flowered ſubulate; corolla pubeſcent; middle awn twiſted curved.

15. Avena purpurea.

Lin. ſyſt. 122. *ſuppl.* 112.

Panicle contracted; calyxes two-flowered, ovate; corollas villoſe; outer glume bifid; awn terminal bent in.

16. Avena lutea.

Lin. ſyſt. 122. *ſuppl.* 112.

Panicle ſpreading; calyxes two-flowered, ſubulate; corollas naked three-awned, middle awn flexuoſe.

17. Avena lupulina.

Lin. ſyſt. 122. *ſuppl.* 113.

Panicle contracted, ovate; calyxes three-flowered, lanceolate; corollas villoſe; outer glume biſubulate; middle awn reflex.

18. Avena fragilis. *Brittle Oat-graſs.*

Lin. ſpec. 119. *ſyſt.* 122. *Reich.* 225. *mant.* 326. *Schreb. gram. t.* 24. *f.* 3.

Spiked; calyxes four-flowered, longer than the floret.

19. Avena pratenſis. *Meadow Oat-graſs.*

Lin. ſpec. 119. *Reich.* 225. *mant.* 327. *lapp.* 31. *ſuec. n.* 104. *Hudſ. angl.* 52. *With.* 115. *Lightf. ſcot.* 105. *Relh. cantabr. n.* 96. *Hall. helv. n.* 1499. *Gmel. ſib.* 1. 127. *Pollich pal. n.* 125. *Leers herborn. n.* 92. *t.* 9. *f.* 1. *D'Aſſo aragon.* 91.

Gr. avenac. montanum, ſpica ſimplici, ariſtis recurvis. *Raii ſyn.* 405. *t.* 21. *f.* 1. *hiſt.* 1290. *Scheuch. gram.* 230. *Mor. hiſt.* 3. 217. *ſ.* 8. *t.* 7. *f.* 21. *Vaill. par. t.* 18. *f.* 1. *Monti*, 66.

Subſpiked; calyxes five-flowered, florets ſmooth, leaves channelled ſmooth.

20. Avena ſpicata.

Lin. ſpec. 119. *Reich.* 225.

Spiked; calyxes ſix-flowered, longer than the outer petal, which is awned and forked at top.

21. Avena bromoides.

Lin. ſpec. 1661. *Reich.* 226. *Gouan. hort. monſp.* 52.

Gr. alpinum avenac. glabrum, &c. *Scheuch. gram.* 228. *t.* 4. *f.* 21, 22.

Subſpiked; ſpicules binate; one peduncled; awns divaricate; calyxes eight-flowered.

22. Avena ſtrigoſa.

Retz. obſ. 1. *n.* 13. *With.* 115. *Schreb. ſpic.* 52.

Panicled; calyxes two-flowered; corolla ſmooth at the baſe; outer valve ending in two awns ſhorter than the valve, and with a bent awn from the back.

23. Avena aurata. *Golden Oat-graſs.*

Allion. pedem. n. 2254. *Hall. helv.* 1488.

Calyxes two-flowered; panicle ſparſe, erect; corollas golden, villoſe at the baſe.

24. Avena Scheuchzeri.

Allion. pedem. n. 2259. *Hall. helv. n.* 1500. *Scheuch. itin.* 6. 455. *t.* 19. *gram.* 23. *t.* 3.

Locuſtas round, five-flowered, pubeſcent at the baſe; peduncles branching.

25. Avena filiformis.

Forſt. florul. n. 46.

Panicle erect very ſlender, calyxes one-flowered, awns twice the length of the calyx.

DESCRIPTIONS, *&c.*

1. Culms from two to three feet in height, very ſlender. Leaves rolled up, ſo as to appear like ruſhes, from ſix inches to a foot in length. Panicle frequently directed entirely to one ſide, reſembling a ſpike, from three to nine inches long, green purple or variegated. Glumes of the calyx almoſt equal, remarkably dagger-pointed, membranaceous towards the point, about four lines in length. Glumes of the corolla of the ſame length or a little ſhorter, extremely villoſe[a].

Native of Siberia. Introduced in 1777, by Meſſ. Kennedy and Lee. It flowers in july and auguſt[b].

2. Root perennial. Stems from two to three feet high or more, upright, round, ſmooth, having four or five purpliſh joints. Leaves ſix or ſeven inches, or even a foot in length, from two to three lines in breadth, together with the ſheath ſtriated and ſmooth. Panicle from a ſpan to a foot in length, upright, ſhining, conſiſting of numerous branches, unequal in length, directed moſtly to one ſide, when young contracted, ſpreading when in full flower, afterwards contracting again, and bending a little at top. Spikelets two-flowered, one male the other hermaphrodite. Valves of the calyx unequal, membranous, pointed, whitiſh; the largeſt marked with three, the ſmalleſt with one green nerve: valves of the male corolla equal in length, the largeſt hollow, ſix-ribbed, generally purple at top, pointed, and awned from below the middle, awn longer than the ſpikelet and jointed, the bottom part ſpirally twiſted, the upper briſtle-ſhaped; the leaſt valve flattiſh and terminating in two points: in the hermaphrodite flower, the midrib of the outer valve runs out into a ſhort awn, and the bottom is covered with numerous hairs. Nectary, two ſmall glumes, lanceolate, ſomewhat globular at bottom. Germ villoſe[c].

Linneus remarks, that the fertile florets have a very ſhort awn, almoſt at the end of the glume; whereas the male florets have a longer awn inſerted towards the baſe. But Mr. Curtis obſerves, that this graſs varies in its awns, and that in general there is only one awn to each ſpikelet. Sometimes each floret has an awn, one uſually longer than the other: but no character is more inconſtant than this of the awn or beard.

Tall Oat-graſs is common on banks, in hedges, on the borders of fields, and ſometimes of meadows, eſpecially wet ones; flowering in june and july.

It is an early graſs, very productive, and yields a plentiful aftermath[d]. The ſtem and leaves are by no means coarſe, but ſoft, tender, and of a pleaſant taſte; and it may be propagated with facility. Some foreign writers ſeem to have miſtaken this for our Ray-graſs, from which it differs moſt widely. It is cultivated in ſome places abroad, and may perhaps be no bad ſubſtitute for Meadow Fox-tail graſs[e].

β. In particular ſituations, the upper part of the root, or rather the baſe of the ſtem becomes knobby, and it then forms the *Gramen caninum nodoſum* of Gerard. This in ſome arable land is very troubleſome, and is one of ſeveral graſſes confounded under the name of Quich or Couch[f].

3. Culms a foot high, often reclining, ſmooth, with brown joints. Branches ſhort, from each axil. Panicle like that of oats, but ſmall, one glume of the calyx lanceolate, the other ovate. Florets two, ſeſſile. Corolla ſmooth, except that the outer glume is rough with hairs at the baſe. Awn terminating, rough, half as long again as the glume. Native of the Cape of Good Hope[g].

4. Obſerved in Penſylvania, by Kalm. Introduced here in 1785, by William Pitcairn, M. D.[h]

5. Root annual, capillary. Culms ſeveral, ſlender, from two to four inches high. Leaves ſhort, flattiſh; the ſheath of the upper one ventricoſe. Flowers in a contracted panicle, half an inch in length. Calyx two-flowered, about the ſame length with the florets, or according to Linneus longer. One of the florets is ſeſſile, the other on a villoſe pedicel. Valves of the corolla briſtle-ſhaped at the tip, with a twiſted awn on the back twice the length of the valve. In dry ſoil near Madrid[i], and at the Cape of Good Hope[k]. Introduced here in 1770, by Monſ. Richard[l].

6. Root annual, fibrous. Culm or ſtraw two feet high and upwards. Panicle various in the different varieties, but always looſe with the ſubdiviſions of it on long peduncles and pendulous. The two glumes or chaffs of the calyx are marked with lines, pointed at the end, longer than the flower and unequal. There are uſually two flowers and ſeeds in each calyx: they are alternate, conical, the ſmaller one is awnleſs, the larger puts forth a ſtrong, two-

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[a] Gmelin.

[b] Hort. kew.

[c] Curtis.

[d] Ibid.

[e] Curtis pract. obſ.

[f] Curtis lond.

[g] Linneus.

[h] Hort. kew.

[i] Cavanilles.

[k] Linn.

[l] Hort. kew.

coloured, bent awn from the middle of the back; both are cartilaginous and fertile[m].

No botaniſt has been able to aſcertain ſatisfactorily the native place of growth of this or any other ſort of grain now commonly cultivated in Europe.]

There are three ſorts of Oats cultivated in England, *viz.* the white, the black, and the brown or red Oat; [to which we may add the blue, the Poland, the Friezland or Dutch, and the Siberian or Tartarian Oat.]

The White ſort is the moſt common about London, makes the whiteſt meal, and is chiefly cultivated where the inhabitants live much upon oatcakes. The Black is more cultivated in the northern parts of England, and is eſteemed a hearty food for horſes. The Red Oat is much cultivated in Derbyſhire, Staffordſhire, and Cheſhire, but is rarely ſeen in any of the counties near London; though, as it is a very hardy ſort, and gives a good increaſe, it would be well worth propagating, eſpecially in ſtrong land: the ſtraw is of a browniſh red colour, as is alſo the grain, which is very full and heavy, and eſteemed better food for horſes than either of the former ſorts.

[The Blue Oat is ſaid, in Merrett's pinax, and Ray's ſynopſis, to have been ſown about Kighley in Yorkſhire. It is probably the ſame with what is cultivated in Lincolnſhire, *&c.* under the name of Scotch Greys.

The Poland Oat has a ſhort plump grain, but the thickneſs of the ſkin ſeems to have brought it into diſrepute among farmers. The grains are moſtly ſingle, it has no awn, and the ſtraw is ſhort[n]. This was ſown by Mr. Liſle in 1709.

Friezland or Dutch Oat affords more ſtraw, and is thinner ſkinned. The grains are moſtly double, the larger one ſometimes awned, with the awn placed high.

Siberian or Tartarian Oat, is according to Mr. Marſhall, a diſtinct ſpecies, unnoticed by Linneus. Each flower frequently contains three perfect florets, never leſs than two, with a pedicelled rudiment of a third. The panicle differs eſſentially from all the varieties of *Avena ſativa*, the grains are thin and ſmall, the largeſt awned, the ſmall ones awnleſs; the ſtraw being tall and reedy. *Avena arundinacea* would be a proper name for it[o].]

The Oat is a very profitable grain, and eſteemed the moſt wholeſome food for horſes, being ſweet, and of an opening nature: other ſorts of grain are apt to bind, which is injurious to labouring horſes; but if they be fed with this grain ſoon after it is houſed, before it has had a ſweat in the mow, or has been otherwiſe dried, it is as bad on the other hand, for it is then too laxative.

This grain is a great improvement to many eſtates in the north of England, Scotland, and Wales; for it will thrive on cold barren ſoils, which will produce no other ſort of grain; it will alſo thrive on the hotteſt land: in ſhort, there is no ſoil too rich or too poor, too hot or too cold for it; and in wet harveſts, when other grain is ſpoiled, this will receive little or no damage; the ſtraw and huſks being of ſo dry a nature, that if they are houſed wet, they will not heat in the mow, or become mouldy, as other grain uſually do; it is therefore of great advantage in the northern parts of England, and in Scotland, where their harveſt is generally late, and the autumns wet.

The meal of this grain makes tolerably good bread, and is the common food of the country people in the north. In the ſouth it is eſteemed for pottage, and other meſſes, and in ſome places they make beer with it.

7. [Naked Oat, as Linneus obſerves, is very nearly allied to the foregoing, differing in little elſe, except that the grains quit the huſks, and fall naked when they are ripe. Haller remarks, that although the calyxes are ſaid to be three-flowered, yet there are ſometimes only two flowers in a calyx: he adds, that the awn is neither twiſted nor jointed. Ray ſays, that it has not a hard huſk, like the common Oat, but ſeveral thin chaffy coats; that the grain alſo is ſmaller, but fuller bodied, and inclining to tawny, like the Red Oat.

Gerard relates (1597) that in Norfolk and Suffolk theſe are called unhulled or naked Oats: it does not appear that they are now cultivated in thoſe counties. Worlidge (1687] affirms, that the Naked Oat has been yearly ſown about Durham above theſe thirty years. Dr. Plot (1686) reports, that it was ſown at Burton upon Trent; and Mr. Ray informs us, that in his time it was cultivated abundantly in the farther part of Cornwall, where it fetched no leſs a price then Wheat.

It is ſtill ſown there in the pooreſt croft-land that has been tilled two or three ſeaſons before with potatoes, and for the uſes of the poor anſwers all the purpoſes of oatmeal. It is a ſmall yellow grain, and for fattening calves, accounted ſuperior to any other nouriſhment[p].]

Mr. Miller ſays, that the Naked Oat is leſs common than the others, eſpecially in the ſouthern parts of England; but in the north of England, Scotland, and Wales, it is cultivated in plenty. This ſort is eſteemed, becauſe the grain threſhes clean out of the huſk, and need not be carried to the mill to be made into oatmeal or griſt. An acre of ground doth not yield ſo many buſhels of theſe, as of the common Oats, by reaſon the grain is ſmall and naked, and goes near in meaſure; but what is wanting in the meaſure, is ſupplied in value.

[It muſt be obſerved, that the above paragraph is copied from Worlidge, and that the Naked Oat is not ſown now to the extent which he ſays it was in his time.

Naked Oat is called *Pillis*, or *Pilez*, according to the orthography in Borlaſe, or *Pill-corn*, from its quality of depoſiting the huſk or chaff. *Pill*, which we now write *peel*, being formerly put for the outer coat of any ſort of fruit.

8. Our bearded wild Oat or Haver has an annual root. It is a taller plant than the cultivated Oat, the culm or ſtraw being commonly three and frequently four feet in height; it is erect, firm, leafy, ſmooth, with four joints or knots. Sheaths ſtreaked, ſmooth. Leaves ſmooth to appearance, but rough to the touch along the edge if ſtroked downwards. Panicle very large and thin, pyramidal, with ſpreading branches, ſome of them dividing towards the top, from one to ſix at a knot, when ripe pendulous. Peduncles compreſſed, ſcabrous. Valves of the calyx from nine to eleven lines long, with from nine to eleven ribs, whitiſh green, longer than the flowers, the outer valve generally a line ſhorter than the inner, containing two florets, both awned; the third is often wanting. The corolla has tufts of hair at the baſe: the outer valve is even, the ribs not being prominent, beſet with whitiſh hairs about the inſertion of the awn, and ſome few ſcattered ones between it and the baſe, ſlightly cloven at the end, but readily ſeparable to the depth of two lines, fawn-coloured when ripe. A ſtrong rough awn, twice as long as the corolla, ſprings from a third part of the length of the back; it is bent aſide about a line above the point of the valve; the inner valve is much ſhorter. The ſeed has a hairy covering.

This is one of our moſt deſtructive annual weeds among corn, and is too frequently ſo prevalent among barley, as almoſt to choke it. The ſeed ripens and falls before harveſt, thus filling the ground, in which it will lie ſeveral years without vegetating. It cannot eaſily be extirpated without repeated fallowing, or by laying down the land to graſs.

The awns are ſometimes uſed for hygrometers, and the ſeeds inſtead of artificial flies, in fiſhing for trout.

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[m] Haller.

[n] Marſhall's Yorkſhire.

[o] Yorkſhire.

[p] Borlaſe's Cornwall, p. 87.

[q] Haller, Leers, St. in With.

The *ſterilis avena* of Virgil, or the wild Oat of ſouthern Europe, is a ſpecies different from this. See n. 11.

9. Panicle oblong. The flowers appear to be hairy, but all the hairs ſit on pedicels or receptacles within the calyx, among the flowers. The third flower is imperfect, and does not get beyond a rudiment, it has however a ſmall awn [r].

In Haller's opinion, it is only a variety of the *flaveſcens* [s].

Native of Germany, Switzerland, Auſtria, and Piedmont.

10. The panicle is contracted or ſqueezed cloſe, ſo as almoſt to put on the appearance of a ſpike; it is of a purpliſh ſhining ſilvery hue. Florets ſometimes only two, ſometimes four, and in more luxuriant plants five. Peduncles covered with a cloſe white down, which is ſhort towards the baſe, but at the point next the baſe of the floret long [t].

According to Linneus, it is very nearly allied to the *pratenſis* (n. 19.), only the leaves are flat, not involute. Necker (gallob. 67.) makes this a mere variety of that.

It is a perennial graſs; hardy, early, and productive. Native of Portugal, France, Germany, England, Siberia: with us it grows in dry and chalky ſoils.

11. Root annual. Culms three or four feet high, round, upright, ſmooth. Leaves ſmooth, flat, ſharp, the longeſt a foot and half in length. The middle ſtem or rachis of the panicle is upright, round, and half a foot long or more; the ſide peduncles are one-flowered, ſpreading very much, filiform, angular, rugged if drawn backwards through the fingers; the lower ones are in whorls and of different lengths. Flowers pendulous. Calyxes four or five-flowered; valves lanceolate-acuminate, concave, equal, ſmooth, white with green ſtreaks. In the two outer florets, the outer valve of the corolla reſembles a valve of the calyx in form, but is a little ſhorter, rugged along the ſtreaks, from the baſe to above the middle cloſely beſet with white hairs, and from the back below the middle putting forth an awn, which is two inches in length, rugged backwards, brown and thick at bottom, bent at an angle, and above the joint green; in the flower upright, in the fruit reflex; in the other oppoſite floret a little longer: the other valve is flat and has no hairs; at each edge it riſes into a rough green nerve. The other florets are awnleſs, ſucceſſively ſmall, and commonly without hairs. The uppermoſt is always barren. Anthers oblong, pale yellow, ſcarcely emerging from the corolla. Germ oblong, round, hirſute. Seeds whitiſh, ſilky eſpecially towards the tip [u].

Native of Barbary; alſo of Spain according to Linneus; and ſuppoſed to be the *ſterilis avena* of the ſouthern countries of Europe. It flowers in june there; with us in july; and was introduced into Kew garden in 1777, by Monſ. Thouin [x].

12. Yellow Oat-graſs has a perennial creeping root. Culm eighteen inches, or from one to two feet high, ſlender, upright, round, with three or four purpliſh joints, about which are numerous ſhort hairs. Leaves flat, two lines in breadth, the upper ſurface hairy, the under ſmooth: ſheath ſtreaked, hairy eſpecially towards the baſe. Panicle three inches and more in length, when in flower ſpreading wide, yellowiſh green and upright, afterwards cloſing, with the ſpicules moſtly one way, becoming yellowiſh brown and ſhining. Calyxes contain two or three, ſometimes four florets, all awned, one of them ſometimes abortive. Valves of the calyx unequal, membranous, pointed. Valves of the corolla alſo unequal, the leaſt in a manner tranſparent, membranous, white and bifid, the largeſt marked with three or four green nerves, hollow, bifid and awned. Nectary two ſmall glumes the length of the germ, jagged at top. Awn from the middle of the back of the larger valve, ſtraight, almoſt twice the length of the valve, when the plant is dry recurved.

This ſpecies is eaſily diſtinguiſhed from the others by its being the leaſt of the genus commonly known; by having its panicle finely divided, and of a yellower hue; its ſpikelets ſmall, delicate, generally containing two perfect flowers; and by having its leaves and ſtems conſtantly hairy. It becomes larger when cultivated, and the ſpikelets have then three or more flowers [y].

Leers has a variety which is viviparous; and Scopoli joins ſeveral of theſe ſpecies, under the name of *Avena piloſa* [z].

This graſs is found in moſt paſtures, eſpecially high ones, in ſome meadows, and frequently on banks by road ſides. In many of our counties it forms a principal part of the fineſt paſturage on the downs, and in ſome meadows contributes to the goodneſs as well as greatneſs of the crop. It is not ſo early as many of the Poas, nor is it ſo late as ſome of the Agroſtis genus: it is by no means unproductive, and bids fair to make a good ſheep paſture [a]. This is one of the graſſes which Mr. Miller recommends for cultivation, next to the Poas or Meadow-graſſes, which he prefers to all others. Dr. Withering affirms that cattle are not fond of it, which muſt ſurely be a miſtake.

13. Culms a foot high, upright, ſmooth. Sheaths hairy. Panicle or raceme with pedicels undivided, three or four. Glumes oblong, acuminate, hairy, upright. Corolla awl-ſhaped. Awns twiſted, twice or three times the length of the flowers [b].

14. Root creeping. Leaves few, ſmooth with a rugged edge. Culms a foot high, ſmooth. Panicle with the appearance of a ſpike, ovate-oblong, purple; the laſt pedicels capillary. Calyx the length of the flower, the two valves equal, attenuated into an awn. Outer valve of the corolla ſubpubeſcent, bifid, terminated by two ſtraight awns, and an intermediate one twiſted, double the length of the others; inner valve ſhort.

This and the foregoing are natives of the Cape [c].

15. This is a very ſmooth little jointed graſs. Leaves briſtle-ſhaped ſmooth tufted ſhort, like thoſe of *Feſtuca ovina*. Panicle ſmall. Glumes of the calyx purple, valves lanceolate keeled ſmooth. All the florets are awned, and covered with white down.

16. In habit and colour this reſembles *Aira flexuoſa*. Both theſe are natives of Martinico [d].

17. This is diſtinguiſhed with difficulty from *A. purpurea*, although it be quite a different ſpecies. It is larger, with the ſheaths extremely tomentoſe, ſo as to be quite white. Panicle yellow, not purple, cloſely crowded into the form of a hop. Flowers longer, with the corollas bifid and more hirſute; the diviſions ſubulate-awned, not obtuſe as in the *purpurea*. Native of the Cape of Good Hope, where it was obſerved by Thunberg [e].

18. Root annual. Culms many ſmooth with three joints, ſix or ſeven inches high, when in flower aſcending. Leaves flat, almoſt naked, ciliate about the edge; ſheaths hairy. Spike the length of the culm, with a compreſſed rachis, and the florets in a double row, preſſed cloſe and alternate. Calyx two or four-flowered lateral oblong pubeſcent; one valve twice as long as the other. Outer valve of the corolla ſharp, with an awn from the back. This graſs bears a genuine ſpike, which is ſingular in the genus *Avena* [f].

Native of Spain and Portugal. Introduced in 1770, by Monſ. Richard [g].

19. Root perennial. Culm a foot high, with about five knots. Sheaths ſtreaked. Leaves ſmooth, channelled, narrow, ſtiff, frequently turning inwards. Panicle compact, almoſt erect, ſcarcely divided; the ſpikelets are ſometimes all ſingle, but generally the lowermoſt divide into two; they are oblong,

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[r] Linneus.
[s] Helv. n. 1497.
[t] Scheuch. & St. in With.
[u] Jacquin.
[x] Hort. kew.

[y] Curtis.
[z] Fl. carn. n. 124.
[a] Curtis.
[b] Linneus.
[c] Ibid.
[d] Ibid.
[e] Ibid.
[f] Ibid.
[g] Hort. kew.

linear, gray above, green beneath, ten-flowered. Peduncles filiform, ſpreading a little, ſomewhat flexuoſe, divaricate, bare towards the baſe. Florets ſmooth, the upper one in each ſpikelet barren. Calyx rough downwards, the larger glume ovate. Awns bent back[h].

Native of Europe and Siberia, on dry paſtures and heaths. It flowers in july.

20. Spike compounded of three or four remote, upright ſpikelets, on very ſhort peduncles. Flowers ſix, ſeſſile, upright. Calyx ſubulate, equal, longer than the ſpikelet; the outer petal has a bifid top, with a jointed awn between the diviſions, the length of the ſpikelet. It has the habit of *Feſtuca decumbens*. Native of Penſylvania[i].

21. Height two feet. Culm round, ſcarcely the thickneſs of a needle. Spikelets round, generally in pairs, one ſeſſile the other peduncled, upright, ſilvery; ſometimes ſolitary, alternate, ſeſſile or peduncled. Calyxes four to eight-flowered, awns from the middle of the back, twiſted, divaricate. It has the air of *Bromus ſquarroſus.*[k]. Native of Switzerland and the neighbourhood of Montpellier.

Haller regards it as a variety of *Avena pratenſis.*

22. Root annual. Culm and leaves bare. Panicle ſlightly nodding. Peduncles from one to four, rough. Calyx the length of the florets; the valves have from ſeven to ten ribs, bordered on each ſide with a row of minute dots the upper valve eight lines long, the lower from ſix to ſeven. Outer valve of the corolla ſmooth below, about the inſertion of the awn, in ſome ſpecimens, beſet with long white hairs, above the awn ſcored, rough, cloven at the end to within a line of the inſertion of the awn; ſegments terminating in purple awns, whitiſh at the end. Seeds hairy. Native of Europe, among Oats, Barley, and ſometimes Rie[l].

23. This is a handſome graſs. Culms nine inches high. Leaves briſtle-ſhaped, very ſlender. Panicle ſtiff, with the ſpikelets mucronate. Glumes of the calyx mucronate, longer than the floret, one ſhorter than the other. Corolla elliptic, pubeſcent at the baſe: top plaited, ſerrate; at the baſe of the outer glume a jointed awn, longer than the flower. Seed oblong, acute. Whilſt the plant is young the calyx is greeniſh, the corolla ſhining pale yellow; but when arrived at maturity, the whole culm, calyx and corolla are of a reſplendent gold colour[m].

Native of the alps of Switzerland and Piedmont.

24. Culm from ſix to twelve inches in height. Leaves ſmooth, leſs rigid than in *Avena pratenſis*, two lines broad and keeled. Panicle of the ſame length as in that, narrow, like a ſpike. Spikelets four or five-flowered, leſs by half than in *Avena pratenſis*. Calyx ſhining, purple, curved at top; the glumes unequal, mucronate. Outer glume of the corolla green, bay and gold colour variegated, mucronate; inner membranaceous, gold and ſilver variegated. Awn long, brown, jointed, twiſted[n].

Native of the alps of Switzerland, Savoy, and Piedmont.

25. Native of New Zealand and Eaſter iſland[o].]

PROPAGATION AND CULTURE.

For the Graſſes, ſee GRASS.

OAT.

The beſt time for ſowing Oats is in february or march, according as the ſeaſon is early or late; and ſometimes I have known them ſown in april upon cold land, and they have been early ripe. The Black and Red Oats may be ſown a month earlier than the White, becauſe they are hardier.

[In the papers of the Bath agricultural ſociety, there is an experiment made in order to aſcertain the effect of early ſowing. Black Oats were ſown on the 27th and 28th of february, which is a month ſooner than the common practice. The quantity ſown was four wincheſter buſhels to the acre. The land was a mellow, deep, ſandy loam, on which potatoes had grown. The produce was ninety-eight buſhels and a quarter to the acre. The ſucceſs however is not imputed wholly to early ſowing, but partly to good deep tillage[p].

White Oats ſown the laſt week in may, have produced ſeven quarters to the acre. In Hertfordſhire they do not put them in till they have done ſowing Barley; in Suffolk, on the contrary, they are ſown before Barley. The former practice is ſeemingly the beſt, this Oat being more tender[q].

Mr. Marſhall gives the blowing of the Sallow as a direction for the time of ſowing this grain.]

Oats are often ſown on land which has the former year produced wheat, rie, or barley. The common method is to plough in the ſtubble about the beginning of february, and ſow the Oats, and harrow them in; but they muſt be harrowed the ſame way as the furrows lie, for if it be done croſſwiſe, the ſtubble will be raiſed on the ſurface; but this is not a good method of huſbandry, for when there is time to plough the ſtubble in autumn, it will rot in winter, and then giving the land another ploughing and a good harrowing juſt before the Oats are ſown, it will make the ground finer and better to receive the grain. Oats are alſo ſown upon land when it is firſt broken up, before the ground is brought to a tilth for other grain, and are frequently put in upon the ſward with one ploughing; but it is much better to give the ſward time to rot before the ſeed is ſown, for the roots of the graſs will prevent thoſe of the corn from ſtriking downward.

Moſt people allow four buſhels of Oats to an acre, but I am convinced that three buſhels are more than enough; the uſual produce is about twenty-five buſhels to an acre, though I have ſometimes known more than thirty buſhels. [This is no very great crop, forty buſhels and upwards being no very unuſual produce; but not from ſowing thin. With reſpect to the proper quantity of ſeed to be ſown, practical men differ widely in opinion.

It appears from Mr. Young's tour through the ſouthern counties, that the quantity of Oats ſown varies from five buſhels two pecks to two buſhels and an half; and that the produce from the ſeveral quantities ſown is as follows:

	Q.	B.	P.
From 5 buſhels and upwards - -	4	6	0
4 buſhels - - - -	4	2	2
4 to 5 buſhels - - -	3	6	0
3 buſhels and an half - -	2	2	0
2 buſhels and an half - -	2	0	0

Mr. Young ſays, that he ſhall not venture to decide the moſt beneficial quantities of ſeed from this table, but that he thinks we may fairly venture to reject the undiſtinguiſhing recommendations which have been given, by ſeveral authors, in favour of uſing very ſmall quantities of ſeed. Two buſhels, and even one, have been named as ſeed enough for an acre, but this table proves the direct contrary. Four buſhels are the moſt common quantity; if theſe gentlemen's opinions were founded on various practice, thoſe farmers who uſe more than that would reap much leſs crops than their neighbours, inſtead of which they reap much greater. It it well known indeed that very ſmall quantities of ſeed ſhould be ſown on land exceſſively rich. A gentleman farmer may make his field as rich as a garden, and then find that one or two buſhels of Oats are ſufficient to be ſown on an acre; but he is not therefore to condemn his neighbours who ſow more; the quantity of ſeed ſhould be proportioned to the poverty of the ground; for in rich land corn tillers ſo much as apparently to cover the field, but in poor land it does not tiller at all, conſequently the grains ſhould be ſo much the nearer.

Mr. Young, in his Northern Tour, gives another table of the different quantities of ſeed ſown, with their reſpective average produce, as follows.

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[h] Linn. Leers, Lightf. St. in With. [i] Linn. [k] Gouan. [l] Retz. Schreb. With. [m] Haller. [n] Ibid. [o] Forſter.

[p] Vol. 4. p. 281.

[q] Young's annals, 9. 98.

	Q.	B.	P.
From 7 buſhels ſown, average produce	6	0	3
6 buſhels - - - - -	6	0	1
5 buſhels - - - - -	4	4	2
4 buſhels and a half - -	4	5	1
4 buſhels - - - -	4	0	0
3 buſhels - - - -	4	1	0

Or thus:

	Q.	B.	P.
From 6 and 7 buſhels, average produce	6	0	2
4 buſhels and a half and five -	4	4	3
3 and 4 buſhels - - -	4	0	2

Here he remarks, that although ſome circumſtances remain doubtful from the above ſcale, yet the ſuperiority of ſix or ſeven buſhels is ſo great, that there is abundant reaſon to think the other quantities are not equal to theſe in advantage; and that the modern ideas of ſowing ſmall quantities of ſeed are not univerſally to be adopted. He recommends that experiments ſhould be tried on all ſorts of ſoils, and in every ſituation, on ſmall pieces of land, to decide this important point.

Though Mr. Young is decidedly of opinion that the quantity of the ſeed ſhould be proportioned to the poverty of the ground, yet there are not wanting others who ſay that poor ſoils ought not to be loaded with too much ſeed, and that ſix or ſeven buſhels an acre would utterly deſtroy cold clay lands. On a rich ſoil Oats, if ſown thin, are very apt to run to ſtraw; and one capital advantage is certainly gained by ſowing thick, which is, that the weeds are thereby effectually ſmothered.

AVENA. See *Agroſtis*, *Aira*, *Anthoxanthum*, *Bromus*, *Elymus*, *Holcus*.]

AVENUES are walks of trees leading to a houſe, and are generally terminated by ſome diſtant object. Theſe were formerly much more in requeſt than at preſent, there being few old ſeats in the country but had one or more of theſe avenues; and ſome had as many of them as there were views from the houſe; but of late theſe are, with good reaſon diſuſed; for nothing can be more abſurd, than to have the ſight contracted by two or more lines of trees, which ſhut out the view of the adjacent grounds, whereby the verdure and natural beauties of the country are loſt; and where the avenues are of a conſiderable length (even where their breadth is proportionable) they appear at each end to be only narrow cuts through a wood, which never can pleaſe any perſon of real taſte; and, when the road to the houſe is through the avenue, nothing can be more diſagreeable; for in approaching to the houſe, it is like going through a narrow lane, where the objects on each ſide are ſhut out from the view; and when it is viewed from the houſe, it at beſt has only the appearance of a road, which being extended to a length in a ſtraight line, is not near ſo beautiful as a common road, which is loſt by the turnings, ſo as ſeldom to be ſeen to a great extent: but as theſe avenues muſt be made exactly ſtraight, when the trees are grown to any ſize, they entirely break the view, whatever way the ſight is directed through them; and if this is in a park, the lawn of graſs through which the avenue is planted, is thereby entirely deprived of the beauty which it naturally would afford, if left open and well kept: therefore, whenever the ſituation of a houſe will admit of a large open lawn in front, the road to the houſe ſhould be carried round at a proper diſtance; and, if it be carried ſometimes through trees, and ſerpented in an eaſy natural way, it will be much more beautiful than any ſtiff formal avenue, how large ſoever made.

But as there may be ſome perſons ſo much wedded to the old way of laying out and planting grounds, as to prefer avenues to the moſt beautiful diſpoſition of lawns, woods, *&c.* I ſhall mention the uſual methods of deſigning and planting them, that have been eſteemed the beſt.

The uſual width allowed to theſe avenues was generally as much as the whole breadth of the houſe and wings; but if they are planted twelve or fourteen feet wider, they will be the better; becauſe when the trees are grown to any conſiderable ſize, they will ſpread and overhang, ſo as to contract the view.

And as for ſuch avenues to woods or proſpects, *&c.* they ought not to be leſs than ſixty feet in breadth; and becauſe ſuch walks are a long time before they are ſhady, it will be convenient to plant another row on each ſide, rather than to loſe the ſtatelineſs that the main walk will afford in time by being broad, where any thing of a proſpect is to be gained.

As to the diſtance, the trees ſhould not be planted nearer one another than thirty-five or forty feet, eſpecially if they are of a ſpreading kind; and the ſame diſtance, if they are for a regular grove.

As to the trees proper for planting avenues, they may be the Engliſh Elm, the Lime-tree, the Horſe Cheſtnut, the common Cheſtnut, the Beech, and the Abele.

The Engliſh Elm is approved for all places where it will ſucceed, and that it will do in moſt places, except in very wet or cold ſhallow grounds. 1. Becauſe it will bear cutting, heading, lopping in any manner whatſoever, and probably, with better ſucceſs than any other tree.

Secondly, the Lime-tree: this is approved by others, becauſe it will do well in any tolerable ſoil, if the bottom be not hot and gravelly; and becauſe of the regular ſhape it has in growing, the agreeableneſs of its ſhade, and the beautiful colour of its leaves.

Thirdly, the Horſe Cheſtnut is alſo to be uſed in ſuch places as are very well defended from ſtrong winds; becauſe wherever it grows freely, if it be not ſkilfully managed now and then by cutting, the branches are ſubject to ſplit down. This tree is valuable on account of its quick growth, the earlineſs of its coming out, the nobleneſs of its leaves, and the beauty of its flowers, being a fine plant both for ſhade and ornament. This delights in a ſtrong hearty ſoil, but will do well in any tolerable ground, if good care be taken in the planting of it; but wherever theſe trees are planted in avenues, they ſhould be placed thirty feet aſunder, that their heads may have room to ſpread, otherwiſe they will not appear ſo beautiful.

Fourthly, the common Cheſtnut will do well in a proper ſoil, and will riſe to a conſiderable height, if planted cloſe together; but if it be planted ſingly, where the tree can take its own natural ſhape, it is rather inclined to ſpread and grow globous than tall.

Fifthly, the Beech is recommended by ſome; but this ſeldom ſucceeds well after tranſplanting, without extraordinary care; though it arrives to a very large tree in many places in England, where it grows naturally; and is the moſt tedious and troubleſome to raiſe, to any tolerable ſize, in a nurſery way.

Sixthly, the Abele: this, indeed, grows more diſperſed and looſe in its head than any of the former, and conſequently, is worſe for defence; but yet is not to be left out from the number of trees for avenues, becauſe it is the quickeſt in growth of all the foreſt trees, and will thrive tolerably well in almoſt any ſoil, and particularly in wet ground, where few of the before-mentioned trees will thrive, and this ſeldom fails in tranſplanting.

Seventhly, the Oak; but this is ſeldom uſed in planting avenues, becauſe it requires ſo long a time to raiſe it up to any tolerable ſtature in the nurſery way; nor is it apt to thrive much after it has been tranſplanted, if at any bigneſs.

As for the Alder, Aſh, Platanus, and Sycomore, they are but rarely uſed for planting avenues.

[AVERRHŎA. (*So named in honour of Ebu Elvelid Ebu Ruſhad, commonly called Averrhoes, of Corduba in Spain, a famous commentator on Ariſtotle and Avicenna. He alſo publiſhed* Colliget, *or the plants uſed in food*, &c. *He died at the beginning of the 13th century.*

Lin. gen. 576. *Reich.* 626. *Schreb.* 784. *Juſſ.* 375.

Claſſ. 10. 4. Decandria Pentagynia. (Pentandria. *Lour.*)

Nat. order of *Gruinales.*—*Terebintaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved, erect, ſmall: *leaflets* lanceolate, permanent.

COR. *Petals* five, lanceolate, the lower part erect, the upper ſpreading.

STAM. *Filaments* ten, ſetaceous; alternately the length of the corolla, and ſhorter. *Anthers* roundiſh.

PIST. *Germ* oblong, obſcurely five-cornered. *Styles* five, ſetaceous, erect. *Stigmas* ſimple.

PER. *Pome* turbinate, five-cornered, five-celled.

SEEDS angular, ſeparated by membranes.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Pet.* five, expanding above. *Pome* five-cornered, five-celled.

SPECIES.

1. Averrhoa Bilimbi.

Lin. ſpec. 613. *Reich.* 2. 375. *fl. zeyl.* 177. *Rumph. amb.* 1. 118. *t.* 36. *Rheed. mal.* 3. 55. *t.* 45, 46. *Raii hiſt.* 1449. 7. *Burm. zeyl.* 147. *ind.* 106. *Lour. cochinch.* 289.

Trunk naked, fruit-bearing, pomes oblong, obtuſe-angled.

2. Averrhoa Carambola.

Lin. ſpec. 613. *Reich.* 2. 375. *fl. zeyl.* 178. *Bauh. pin.* 433. *n.* 2. *Rumph. amb.* 1. 115. *t.* 35. *Rheed. mal.* 3. 51. *t.* 43, 44. *Raii hiſt.* 1449. *n.* 6. *Burm. zeyl.* 148. 2. *ind.* 106. *Lour. cochinch.* 288. *Philoſ. tranſ. vol.* 75. 2. *p.* 356.

Axillas of the leaves fruit-bearing; pomes oblong, acute-angled.

DESCRIPTIONS, &c.

Theſe are trees, natives only of India, and other warm parts of Aſia. Singular for the fruit growing frequently on the trunk itſelf, below the leaves. The flower reſembles that of Geranium; but the fruit is totally different. The leaves are alternate, unequally pinnate, with many pairs of leaflets. The flowers grow in racemes from the trunk or lower branches, but they are ſometimes axillary; their colour is red; they are ſmall, and the greater part is abortive. The fruit is a pome, five-celled, and containing many ſeeds.

1. This is only about eight feet in height, with few reclining branches. The leaves have ten pairs of leaflets and more: they are ſmall, ovate-lanceolate, quite entire, ſmooth, and grow on ſhort petioles. The flowers are red purple, on oblong ſmall racemes adhering to the trunk. Calyx five-cleft. The fruit is an oblong pome, the thickneſs of a finger, ſmooth on the outſide. Native of Goa, and many parts of India, both within and without the Ganges[a].

Burman deſcribes it as a beautiful tree, with green fleſhy fruit filled with a grateful acid juice; the ſubſtance and ſeeds not unlike thoſe of Cucumber; it grows from top to bottom, at all the knots and branches. They make a ſyrup of the juice, and a conſerve of the flowers, which are eſteemed excellent in fevers and bilious diſorders.

2. This is a tree above the middle ſize, with ſpreading branches, and a very cloſe head. The leaves have only about four pairs of leaflets, which are ovate, acuminate, quite entire, ſmooth, petioled, oppoſite, the upper ones largeſt. Flowers lateral, ſcattered, on ſhort racemes, uſually from the ſmaller branches, ſometimes from the larger ones, or the trunk itſelf. Calyx inferior, five-parted, upright, red. Corolla bell-ſhaped, petals oblong-ovate, variegated with purple and white. Stamens always five, ſhorter than the corolla, defended by the angles of the pentagon germ, ſitting on the receptacle. Styles five, ſubulate, with obtuſe ſtigmas. Pome the ſize of a hen's egg, acutely five-cornered, five-celled, many-ſeeded; the rind is yellow, thin and ſmooth; the pulp clear, watery, in many ſweet, in others acid, with ſcarcely any ſmell. Seeds ſmall, oblong, angular, flatted and brown[b].

According to the obſervations of Dr. Bruce, the petals are connected by the lower part of the lamina, and in this way they fall off whilſt the claws are quite diſtinct. The ſtamens are in five pairs, placed in the angles of the germ; of each pair only one ſtamen is fertile, or furniſhed with an anther; the filaments are curved, adapted to the ſhape of the germ; they may be preſſed down gently, ſo as to remain, and then, when moved a little upwards, riſe with a ſpring; the fertile filaments are twice the length of the barren ones. Dr. Bruce gives a curious detailed account of the ſenſitive quality of the petioles and even branches of this tree[c].

Rheede relates, that the *Carambola* is twelve or fourteen feet in height, ſcarcely a foot in girth, with a rough brown bark: that it bears fruit three times a year, from the age of three to fifty: that the root, leaves and fruits are uſed medicinally, either alone, or with Areca or Betel leaves; that the latter, when ripe, are eſteemed delicious; unripe, are pickled; and that they are alſo uſed in dying and for other œconomical purpoſes[d].

Burman ſays, that the acid juice of this is not ſo pleaſant as that of the foregoing; that the fruit is rather larger, and is uſed for the ſame purpoſes; and that it is a very beautiful tree.

In Bengal they call it *Camruc* or *Camrunga*: in Malabar *Tamara-tonga*; the Bramins and Portugueſe call it *Carambola*; and the Dutch, *Vyſhoeken.*

Both the ſpecies are now (1794) introduced into the royal botanic garden at Kew.

AVERRHOA acida. See *Cicca.*]

[AVICENNIA. (*In honour of the famous oriental phyſician Abu Ali Al Hoſſain Ebn Abdallah Ebn Sina, commonly called Avicenna; born at Bokkara in* 981. *He lived at Iſpahan, and died about* 1051; *or according to others in* 1036.)

Lin. gen. n. 1237. *Reich.* 855. *Schreb.* 1063. *Jacqu. amer.* 178. *t.* 112. *Juſſ.* 108.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ. Vitices* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-parted, permanent: *leaflets* ſubovate, obtuſe, concave, erect; increaſed by three ſcales.

COR. monopetalous: *tube* bell-ſhaped, ſhort: *border* bilabiate; *upper lip* ſquare, emarginate, flat; *lower* trifid, diviſions ovate, equal, flat.

STAM. *Filaments* four, ſubulate, erect, the two front ones rather ſhorter, bent back to the upper lip. *Anthers* roundiſh, twin.

PIST. *Germ* ovate. *Style* ſubulate, erect, the length of the ſtamens. *Stigma* bifid, acute; the lower diviſion bent down.

PER. *Capſule* coriaceous, rhomboidal, compreſſed, one-celled, two-valved.

SEED one, large, the form of the capſule, conſtructed of four fleſhy folds, germinating.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* bilabiate; upper lip ſquare. *Capſ.* coriaceous, rhomboidal, one-ſeeded.

SPECIES.

1. Avicennia tomentoſa.

Lin. ſyſt. 579. *Reich.* 3. 200. *mat. med.* 158. *fl. zeyl.* 57. *Jacq. amer.* 178. *t.* 112. *f.* 2. *amer. pict.* 88. *t.* 261. *f.* 46. *Loefl. hiſp.* 193. (Donatia.)]

Bontia germinans. *Lin. ſpec.* 891. *Mill. dict. n.* 2. *Brown. jam.* 263.

[Mangle. *Sloan. jam.* 2. 66. *Raii dendr.* 115. *n.* 1.

Anacardium. *Bauh. pin.* 511. *Bauh. hiſt.* 1. 334.—orientale. *Pluk. alm.* 28.

Oepata: *Rheed. mal.* 4. 95. *t.* 45. *Raii hiſt.* 1566.

Leaves cordate-ovate, tomentoſe underneath.

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[a] Loureiro.

[b] Loureiro.

[c] Philoſ. tranſ.

[d] Hort. malab.

[2. Avicennia nitida.
Lin. ſyſt. 579. *Reich.* 3. 201. *Jacqu. amer.* 177. *t.* 112. *f.* 1. *pict.* 88. *t.* 169.
Leaves lanceolate, ſhining on both ſides.

3. Avicennia reſinifera.
Forſt. eſcul. 72. *florul. n.* 246.
Leaves ovate-lanceolate tomentoſe underneath.

DESCRIPTIONS, *&c.*

1. This tree agrees moſtly with the Mangrove, riſing not above fifteen or ſixteen feet high; its trunk is not ſo large, having a ſmooth, whitiſh green bark; and from the ſtem are twigs propagating the tree, like that: the branches at top are jointed towards their ends here and there; where the leaves come out, oppoſite, on very ſmall petioles, two inches and a half long, one inch broad in the middle, ſmooth, ſoft, having one large rib of a dark green colour: the flowers are many at the top of the branches, white and tetrapetalous [a].

According to Jacquin, it grows to the height of twenty feet or more, and is of the ſame habit with the *nitida.*

It varies with acuminate leaves, more or leſs hoary underneath [b].

Native of the Eaſt and Weſt Indies. Dr. Patrick Browne ſays, that it is frequent near the ſea, both on the north and ſouth ſide of Jamaica, growing in low moiſt ground. This is not the Anacardium orientale of the ſhops, as has been ſuppoſed [c].

2. Height forty feet. Leaves ſharp, entire, oppoſite, three inches long, on ſhort petioles. Peduncles racemed, branching a little terminating. Flowers ſeſſile: corollas whitiſh, with the effigy of a brown ſtamen uſually impreſſed on the middle ſegment of the lower lip. The capſule opens as ſoon as it has fallen, but not on the tree. The creeping roots throw up abundance of ſuckers.

Native of Martinico [d].

3. The leaves of this tree are oppoſite, petioled, coriaceous, entire, ſharp, ſhining above, hoary with a very ſhort yellowiſh nap beneath, two inches long: petioles very ſhort, ſemicylindric, wrinkled on the outſide, from erect ſpreading. Peduncles terminating, ſubtrifid, loaded with a head of flowers. Native of New Zealand.

The green coloured gum, ſo much eſteemed by the natives of New Zealand, and which is very hot in the mouth, is ſuppoſed to be the produce of this tree [e].

AULAX. See *Protea.*

AURANTIUM. See *Citrus.*

AURELIANA. See *Panax.*

AURICULA Leporis. See *Buphthalmum,* and *Bupleurum.*

AURICULA MURIS. See *Arenaria, Ceraſtium, Hieracium, Myoſotis,* and *Silene.*

AURICULA URSI. See *Aretia, Primula, Dodecatheon,* and *Verbaſcum.*

AURICULARIA. See *Hedyotis.*

AWL-WORT. See *Subularia.*]

[AXYRIS.
Lin. gen. n. 1047. *Reich.* 1138. *Schreb.* 1409. *Juſſ.* 86. *Gærtn. t.* 128.
Claſs 21. 3. Monoecia Triandria.
Nat. order of *Holoraceæ.—Atriplices* Juſſ.

GENERIC CHARACTER.

* *Male flowers* in an ament.

CAL. *Perianth* three-parted, ſpreading, obtuſe.

COR. none.

STAM. *Filaments* three, capillary, ſpreading. *Anthers* roundiſh.

* *Female flowers* ſcattered.

CAL. *Perianth* five-leaved (two-leaved, *Syſt.*) concave, obtuſe, converging, permanent: the two outer leaflets ſhorter.

COR. none.

PIST. *Germ* roundiſh. *Styles* two, capillary. *Stigmas* acuminate.

PER. none. *Calyx* cloſely involving the ſeed with its three larger leaflets.

SEED one, ovate, compreſſed, obtuſe.

OBS. A. ceratoides. Linn. *conſtitutes a new genus between* Atriplex, Urtica, *and* Ceratocarpus. *It has therefore had the name of* Diotis *given it, and is to be placed after* Urtica *in the order* tetrandria *of this claſs* Monoecia.

ESSENTIAL CHARACTER.

MALE. *Cal.* three-parted. *Cor.* none.

FEM. *Cal.* two-leaved. *Cor.* none. *Styles* two. *Seed* one.

SPECIES.

1. Axyris amaranthoides. *Simple-ſpiked Axyris.*
Lin. ſpec. 1389. *ſyſt.* 846. *Reich.* 4. 116. *amæn.* 3. 24. *Gmel. ſib.* 3. 21. *t.* 2. *f.* 2. & *t.* 3.
Leaves ovate, ſtem erect, ſpikes ſimple.

2. Axyris hybrida.
Lin. ſpec. 1390. *Reich.* 4. 117. *amæn.* 3. 24. *Gmel. ſib.* 3. 23. *n.* 12. *t.* 4. *f.* 1.
Leaves ovate, ſtem erect, ſpikes conglomerate.

3. Axyris proſtrata.
Lin. ſpec. 1390. *Reich.* 4. 117. *amæn.* 3. 25. *Zinn. goett.* 35. *Gmel. ſib.* 3. 24. *t.* 4. *f.* 2.
Leaves obovate, ſtem ſubdivided, flowers capitated.

DESCRIPTIONS, *&c.*

1. Leaves rugged with ſtellate hairs. Fruit-bearing branches naked for a long way at the baſe. Spike very ſmall, ſubſeſſile, quite ſimple, terminating the branches [a]. Gmelin obſerves, that the calyx of the female flowers is two or three-leaved. It was cultivated in 1758, by Mr. Miller [b].

2. This much reſembles the foregoing ſort, from which however it differs in the ſpike of flowers being on long peduncles, conglomerate, or directed the ſame way, twiſted, with the fruit-bearing branches crowded cloſe to the ſtem, and the leaves more rough [c]. According to Gmelin, the calyx of the female flowers is three-leaved, and there is one ſtyle. Pallas ſuppoſes this to be only a variety of the former ſort.

3. Stem much branched, ſix or ſeven inches high, diffuſed. Leaves petioled. Flowers conglomerate at the ends of the branches, with numerous leaflets among them [d]. According to Gmelin, the calyx of the female flowers is three-leaved.

All theſe are annual plants, natives of Siberia.

AXYRIS ceratoides. See *Diotis.*]

AYENIA. (*Given in honour of the Duke D'Ayen, Duke and Marechalle de Noailles, a great promoter of the ſcience of Botany, who had a noble garden at St. Germain en Laye.*)
Lin. gen. 1020. *Reich.* 1108. *Schreb.* 367. *Gærtn.* 79. *Juſſ.* 278. D'Ayenia. *Mill. dict.*
Claſſ. 20. 4. Gynandria Pentandria.
Claſſ. 5. 1. Pentandria Monogynia. *Schreb.*
Nat. order of *Columniferæ. Malvaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted: *parts* ovate-oblong, acute, coloured in the middle, reflex, withering.

COR. pentapetalous; *petals* five united at the top to the nectary into a flat ſtar: *claws* capillary, very long, bowed outward: *borders* obcordate, reſupinate, with a clubbed point at the top turned upward.—*Nectary* bell-ſhaped, ſitting on a cylindric, erect column, ſhorter than the calyx: *border* five-lobed, *lobes* elevated, above flattiſh with a longitudinal furrow, excavated underneath, and ſharp.

STAM. *Filaments* five, very ſhort, inſerted into the margin of the nectary, on the top of the ribs, between the diviſions of the border, each bent downwards archwiſe through a notch at the end of each petal. *Anthers* roundiſh, under the borders of the petals.

PIST. *Germ* roundiſh, five-cornered, at the bottom of the nectary. *Style* cylindric. *Stigma* obtuſe, five-lobed.

PER. *Capſule* five-grained, roundiſh, muricate, five-celled, ten-valved, elaſtic.

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[a] Sloane. [b] Swartz. obſ. 248. [c] Jacquin. [d] Ibid. [e] Forſter eſcul.

[a] Linneus. [b] Hort. kew. [c] Linn. [d] Ibid.

Seeds ſolitary, rather oblong, gibbous on one ſide, angular on the other.

Obs. *If the petals be carefully ſeparated from the nectary by a needle, this ſtrange flower appears more natural.—The character is taken from the firſt ſpecies; the others are leſs known in Europe.*

ESSENTIAL CHARACTER.

Monogynous. *Cal.* five-leaved. *Pet.* united into a ſtar, with long claws. *Anthers* five, under the ſtar. *Capſ.* five-celled.

SPECIES.

1. Ayenia puſilla. *Smooth Ayenia.*
Lin. ſpec. 1354. *ſyſt.* 821. *Reich.* 4. 45. *Act. Stockh.* 1756. *p.* 23. *t.* 2. *Loefl. it.* 200. *Gærtn. fruct.* 1. 383.
D'Ayenia. *Mill. dict.—fig. t.* 118.
Urticæ folio anomala, &c. *Sloan. jam.* 1. 209. *t.* 132. *f.* 2.
Leaves cordate, ſmooth.

[2. Ayenia tomentoſa.
Lin. ſpec. 1354. *Reich.* 4. 46. *Loefl. it.* 200.
Leaves ovate-roundiſh, tomentoſe.

3. Ayenia magna.
Lin. ſpec. 1354. *Reich.* 4. 46. *Loefl. it.* 199. *Jacqu. amer. pict. p.* 112.
Leaves cordate, pubeſcent; germ of the flowers ſeſſile.]

4. Ayenia lævigata.
Swartz prodr. 97.
Leaves ovate entire very ſmooth, germ pedicelled, nectary ten-cleft radiated.

DESCRIPTIONS, &c.

1. This has a weak woody ſtem, dividing into ſeveral ſlender branches, and riſing from nine inches to a foot high. Leaves ſlightly indented on their edges, on pretty long footſtalks, of a lucid green, ending in acute points, and placed alternately. At the baſe of each footſtalk, from the ſide of the branches, come out two, three or four flowers from the ſame point, each on a ſeparate ſlender peduncle. Corolla purple, tubulous, ſpreading open at the top into five acute ſegments, each terminated by a ſlender tail. [Capſule compound, raiſed above the calyx on a briſtle-ſhaped peduncle; it is rounded five-cornered; the five grains of which it is compoſed are ovate, convex on one ſide, muricated with little ſoft prickles, on the other ſide angular; they are one-celled, two-valved, and open with a ſpring. The common receptacle is filiform, in the axis of the fruit; the proper receptacle is a little ſcar in the inner angle of the grains, to which the ſeeds are fixed. Theſe are ſolitary, ſhaped like grape-ſtones, mucronate at the tip, retuſe at the baſe, gibbous on one ſide, on the other ſlightly angular and marked with a depreſſed longitudinal line, rugged all over with raiſed dots, and of a very dark brown colour: they have two coverings: the outer cruſtaceous, thick, brittle; the inner membranaceous and pale; there is no albumen, but the whole conſiſts of an inverted, yellow embryo; the cotyledons or ſeed-lobes are rounded, two-lobed, foliaceous, rolled ſpirally about the radicle, which is fuſiform, ſtraight, and ſuperior[a].

Many of the flowers being abortive, Linneus ſuggeſts that they may poſſibly be of different ſexes.]

Native of Peru, whence the ſeeds were ſent by the younger Juſſieu to Paris. Mr. Miller received them (about the year 1756) from Dr. Monier, intendant of the Duc D'Ayen's garden; and the plants flowered and perfected ſeeds annually in Chelſea garden. The flowers continue in ſucceſſion on the ſame plants from July to winter.

[2. Leaflets of the calyx lanceolate, acute, permanent. Corolla without petals, but compoſed of a one-leafed, bell-ſhaped nectary, with a five-cleft margin. Stamens on the outſide of the nectary, longer than the calyx, bowed, bent in, and fixed by a broad membranous tip to the edge of the nectary: anthers three. Native of South America[b].

3. An upright ſhrub, five feet high. Leaves acuminate, ſerrate, alternate, three or four inches long, on a tomentoſe petiole, almoſt two inches in length. Peduncles axillary, moſtly in fours, three-flowered, ſhort. Flowers ſmall, herbaceous, by no means gynandrous. Native of Carthagena, and other places in South America[c].

4. Native of Jamaica[d].]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, ſown upon a moderate hotbed early in the ſpring: when they come up, and have four leaves, they ſhould be tranſplanted on a freſh hotbed to bring them forward; part of them may be planted in ſmall pots, and the others on the bed: thoſe in the pots ſhould be plunged into a hotbed of tanner's bark; they muſt be ſhaded till they have taken new root, then they muſt have free air admitted to them every day, in proportion to the warmth of the ſeaſon; they require to be frequently watered in warm weather, but they ſhould not have it in too great plenty. The plants ſhould continue all the ſummer in the hotbed, where they muſt have a good ſhare of air; for thoſe which are fully expoſed to the open air will not thrive, and if they be too much drawn, they do not flower well. The plants will live through the winter in a moderate ſtove, but as they perfect their ſeeds well the firſt year, few perſons care to continue the old plants.

Azadarichta. See *Melia.*

AZALEA. (ἀζαλεος, dry: from its growing in a dry ſoil.)

Lin. gen. 212. *Reich.* 226. *Schreb.* 277. *Gærtn.* 63. *Juſſ.* 158.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Bicornes.—Rhododendra* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, acute, erect, ſmall, coloured, permanent.

Cor. monopetalous, bell-ſhaped, ſemiquinquefid; the ſides of the diviſions bent in.

Stam. *Filaments* five, filiform, inſerted into the receptacle, free. *Anthers* ſimple.

Pist. *Germ* roundiſh. *Style* filiform, the length of the corolla, permanent. *Stigma* obtuſe.

Per. *Capſule* roundiſh, five-celled, five-valved.

Seeds many, roundiſh.

Obs. *The corolla in ſome ſpecies is funnel-ſhaped, in others bell-ſhaped; the ſtamens in ſome declining and very long. It principally differs from* Rhododendron *in the number of its ſtamens.*

ESSENTIAL CHARACTER.

Cor. bell-ſhaped. *Stam.* inſerted into the receptacle. *Capſ.* five-celled.

SPECIES.

[1. Azalea pontica. *Pontic Azalea.*
Lin. ſpec. 1669. *ſyſt.* 198. *Reich.* 427.
A. arborea. *Lin. ſpec. edit.* 1. 150.
Chamærhododendros pontica, &c. *Tourn. cor.* 42. *act. par.* 1704. *Buxb. cent.* 5. 36. *t.* 69.
Leaves ſhining, lanceolate, ſmooth on both ſides, racemes terminal.

2. Azalea indica. *Indian Azalea.*
Lin. ſpec. 214. *Reich.* 428. *Thunb. jap.* 84.
Cham. exoticum, &c. *Breyn. prodr.* 1. 24.
Ciſtus indicus, &c. *Herm. lugdb.* 152. *t.* 153. *Raii hiſt.* 1895.
Tſutſuſi. *Kæmpf. amœn.* 845. *t.* 846.
Flowers ſubſolitary, calyxes hairy.]

3. Azalea nudiflora. *Naked-flowered Azalea.*
Lin. ſpec. 214. *Reich.* 428. *hort. cliff.* 69. *Kalm. it.* 3. 110. *eng. edit.* 2. 169. *Duham. arb.* 1. 160. *Mill. dict. n.* 2. *Gron. virg.* 21. *Trew. ehr. p.* 16. 48. *Cold. novebor.* 25.
Ciſtus virgin. periclymeni flore ampliori minus odorato. *Pluk. mant.* 49.
α. A. coccinea. *Deep ſcarlet Azalea.*
Curt. mag. t. 180.
β. A. rutilans. *Deep red Azalea.*
Calyxes minute.

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[a] Gærtner.

[b] Loefling.

[c] Jacquin.

[d] Swartz.

γ. A. carnea. *Pale red Azalea.*
Tube red at the baſe, calyxes leafy.
δ. A. alba. *Early white Azalea.*
Calyxes of a middling length.
ε. A. bicolor. *Red and white Azalea.*
Limb of the corolla pale, tube red; calyx ſmall; branchlets hairy.
ζ. A. papilionacea. *Variegated Azalea.*
Corolla red, the loweſt ſegment white; calyxes leafy.
η. A. partita. *Downy Azalea.*
Corolla pale red, divided into five parts to the very baſe.
Leaves ovate, corollas hairy, ſtamens very long.

4. Azalea viſcoſa. *Viſcid Azalea.*
Lin. ſpec. 214. *Reich.* 428. *Mill. dict. n.* 1. *Gron. virg.* 21. 27. *Cold. novebor.* 24.
C. virg. fl. & odore periclymeni. *Pluk. alm.* 106. *t.* 161. *f.* 4. *Cateſb. car.* 1. *t.* 57.
α. A. odorata. *Common white Azalea.*
Branches diffuſed; leaves deep green ſhining.
β. A. vittata. *White-ſtriped flowered Azalea.*
Corolla white, with pale red keels; ſtyles elongated red at the end; leaves pale ovate-oblong.
γ. A. fiſſa. *Narrow-petalled white Azalea.*
Corolla divided to the very baſe; leaves deep green ſhining.
δ. A. floribunda. *Cluſter-flowered white Azalea.*
Styles longer than the corolla; leaves glaucous underneath.
ε. A. glauca. *Glaucous Azalea.*
Corolla white; leaves glaucous on both ſides, the younger with ſcattered hairs on the upper ſurface.
Leaves ſcabrous at the edge, corollas with glutinous hairs.

[5. Azalea lapponica. *Lapland Azalea.*
Lin. ſpec. 214. *Reich.* 429. *lapp.* 89. *t.* 6. *f.* 1. *ſuec.* 180.
Leaves with excavated dots ſprinkled over them.

6. Azalea procumbens. *Procumbent Azalea.*
Lin. ſpec. 215. *Reich.* 429. *lapp.* 90. *t.* 6. *f.* 2. *ſuec.* 197. *Hudſ. angl.* 88. *With.* 212. *Lightf. ſcot.* 139. *Hall. helv. n.* 666. *Scop. carn. n.* 218. *Gmel. ſib.* 4. 126. *n.* 12. *Kram. auſtr.* 45. *Jacqu. vind.* 34. *Oed. dan. t.* 9. *Gærtn. fruct.* 1. 301. *Villars dauph.* 2. 533.
Chamærhododendros ſupina, &c. *Bocc. muſ.* 2. 64. *t.* 53.
Chamæciſtus ſerpillifolia flor. carneis. *Bauh. pin.* 466. *Ger. emac.* 1284. *Park.* 657.
Branches diffuſely-procumbent.

7. Azalea punctata. *Dotted Azalea.*
Lour. cochinch. 113.
Leaves rugged about the edge, flowers dotted, heaped.

DESCRIPTIONS, *&c.*

1. This ſpecies much reſembles *Rhododendron ponticum*, but it has five ſtamens and yellow corollas, not ten ſtamens and violet-coloured corollas, as that has. The leaves are ſmaller, ovate and ciliate[a]. Native of Pontus.

2. This is a ſhrub three feet in height, with a trunk an inch thick, having a rough cinereous-brown bark: the branches are ſhort, twiſted and irregular. Leaves ſtiff, villoſe, cloſe and evergreen. Beautiful bright-red flowers cover the whole upper part of the ſhrub[b]. Native of the Eaſt-Indies. Much cultivated in Japan for the elegance of its flowers, and the variety in their ſize and colours. Moſt of the varieties have ſtamens, but ſome have ſix or ſeven. Some have a very viſcid calyx, others a very hirſute one[c].]

3. This, in its native country, frequently riſes to the height of fifteen feet, but in England is never more than half ſo high. It ſends out ſeveral ſtems from the root. The leaves are oblong, ſmooth, alternate, petioled. The peduncles are axillary, long and naked, ſupporting a cluſter of red flowers, which are tubulous, ſwelling at their baſe like thoſe of the hyacinth, and contracted at their neck; they are divided at the top into five equal ſegments, which ſpread open. The five ſtamens and ſtyle are much longer than the petals, and ſtand erect.

[Linneus obſerves, that it flowers before the leaves come out, whence the trivial name, and that the ſtamens are double the length of the corolla.

The flowers ſit in a circle round the extremity of the ſtem, and in their wild ſtate are either of a dark or lively red colour; by degrees the ſun bleaches them. There are more varieties in the gardens; Colden ſpeaks of yellow flowers, but that is probably a miſtake. Some of the buſhes, in their native place of growth are ſix feet high and more: others are low, and ſome not more than a few inches from the ground, all covered with flowers. It is a native of Virginia, and other provinces of North America; in the woods of New Jerſey it is common, and is called *Mayflowers, Wild Honeyſuckles,* and *Upright Honeyſuckles*[d]. Peter Collinſon, Eſq. introduced it here in 1734[e].]

4. This is a low ſhrub, riſing with ſeveral ſlender ſtems near four feet high. The leaves come out in cluſters at the ends of the ſhoots without order; they are ſpear-ſhaped, and narrow at their baſe; their edges are ſet with very ſhort teeth, which are rough. The flowers come forth in cluſters between the leaves at the extremities of the branches; they are white, with a mixture of dirty yellow on the outſide; the tube is an inch long, and at the top they are pretty deeply cut into five ſegments; the two upper are reflex, the two ſide ones are bent inward, and the lower one is turned downward. The ſtamens are a little longer than the petals, and ſupport oblong ſaffron-coloured anthers. The ſtyle is much longer than the ſtamens, and is crowned by an obtuſe ſtigma. Theſe flowers have much the appearance of thoſe of Honeyſuckle, and are as agreeably ſcented; more ſo than the foregoing ſort. They appear the middle of july, but are not ſucceeded by ſeeds in England.

[Linneus remarks, that this is very nearly allied to the foregoing, but flowers after all the leaves are fully expanded; and that the ſtamens are ſcarcely longer than the corolla. They are however longer, though not ſo long as in the former ſort. There are ſeveral varieties of this alſo, but all with white flowers.

It is likewiſe a native of North America in woods and moiſt places: and was introduced with the other, by the ſame curious gentleman[f].

5. This is a divaricated ſhrub, ſix or ſeven inches high. It differs from *Rhododendron dauricum* only in having five ſtamens, whereas that has ten. It alſo much reſembles *R. ferrugineum*, which has however a more tubulous flower, and ten ſtamens; whereas this has a more ſpreading corolla, and five ſtamens[g].

6. Stems procumbent, branching, half a foot long and more. Leaves hard, convex, with the edges contracted, concave underneath with the nerve prominent, ovate-lanceolate. Flowers cloſe, from the upper axillas, three or four together, on ſhort one-flowered peduncles, at the baſe of which are two ovate-lanceolate ſtipules. Calyx purple, a little ſhorter than the corolla, five-cleft almoſt to the baſe. Corolla bright roſe-colour or pale ſcarlet[h]. Capſule ſmall, ſubglobular, cruſtaceous, hard, two or three-furrowed, two or three-celled, two or three-valved, but moſt often three-celled, never five-celled; when the valves are ripe, they are frequently cloven at the end: partition doubled from the edges of the valves being bent in: receptacle central, columnar, acuminate, deciduous. Seeds minute, ovate, hollow-dotted, ferruginous-red[i].

Native of the mountains of Europe; found in the Highlands of Scotland by Mr. Lightfoot, Dr. Hope, and others.

7. This ſhrub is five feet high, upright and branched. Leaves lanceolate, quite entire, ſmooth, alternate. Corolla white. Calyx whitiſh, dotted

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[a] Schreber.
[b] Herman.
[c] Thunberg.
[d] Kalm.
[e] Hort. kew.
[f] Ibid.
[g] Linneus.
[h] Haller, Scop.
[i] Gærtner.

with red; as are alſo the corolla, anthers, and germ. Native of the woods of Cochinchina[k].

PROPAGATION AND CULTURE.

1, 2. The Pontic and Indian ſpecies have not yet been cultivated in Europe.]

3, 4. Grow naturally in ſhade, and upon moiſt ground in moſt parts of North America, from whence many of the plants have been ſent of late years to England, and ſeveral of them have produced their beautiful flowers in many curious gardens.

They muſt have a moiſt ſoil and a ſhady ſituation, otherwiſe they will not thrive. They can only be propagated by ſhoots from their roots, and laying down their branches, for they do not produce ſeeds here; and if good ſeeds could be obtained, they would be difficult to raiſe, and a long time before they would flower. But when they are in a proper ſituation, their roots extend, and put out ſhoots, which may be taken off with roots, and tranſplanted. When any of them are laid down, it ſhould be only the young ſhoots of the ſame year, for the old branches will not put out roots. The beſt time for this is at Michaelmas, and if they are covered with ſome old tan, to keep out the froſt, it will be of great uſe to them. The autumn is alſo the beſt time to remove the plants, but the ground about their roots ſhould be covered in winter to keep out the froſt; and if this is every year practiſed to the old plants, it will preſerve them in vigour, and cauſe them to flower well.

5, 6. Are low plants of little beauty, and growing naturally on boggy ground upon the mountains, are difficult to keep in gardens.

Azarolus and Azarole. See *Cratægus.*

Azedarach. See *Melia.*

B.

BACCHĂRIS. (*A name in Dioſcorides, from* Βάκχος, *Bacchus.*)

Engl. *Ploughman's Spikenard.* Fr. *Baccante.*

Lin. gen. n. 949. *Reich.* 1029. *Schreb.* 1285. *Gærtn. t.* 166. *Juſſ.* 180.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of (*Compoſitæ*) Compound flowers, diviſion the third—*Diſcoideæ.*—*Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* cylindric, imbricate: *ſcales* linear, acute.

Cor. *Compound* equal; *Corollules* hermaphrodite and female mixed.—*Proper*, to the hermaphr. funnelform, five-cleft—to the females ſcarcely apparent, almoſt none.

Stam. *Filaments* five, capillary, very ſmall. *Anthers* cylindric, tubular.

Pist. *Germ* ovate. *Style* filiform, the length of the flower. *Stigma* bifid.

Per. none. *Calyx* unchanged.

Seeds ſolitary, very ſhort, oblong: *down* ſimple.

Rec. naked.

Obs. *Down in ſome ſpecies very long; in others ſcarcely exceeding the calyx.—Scarcely diſtinct from* Conyza.

ESSENTIAL CHARACTER.

Cal. imbricate, cylindric. *Florets* female mixed with hermaphrodites. *Down* ſimple. *Receptacle* naked.

SPECIES.

1. Baccharis ivæfolia. *Peruvian Ploughman's Spikenard.*
Lin. ſpec. 1204. *ſyſt.* 751. *Reich.* 3. 768. *hort. cliff.* 404. 1. *Berg. cap.* 275. *Gærtn. fruct.* 2. 405.
Conyza frutefcens, &c. *Feu. peruv.* 750. *t.* 37. (good.)
Eupatorium africanum, &c. *Pluk. phyt. t.* 328. *f.* 2. (good.)
E. indicum, fl. albo. *Barth. act.* 2. *t.* 57.
Conyza afr. humilis, &c. *Tourn. inſt.* 455. *Barth. act. hafn.* 2. 57. *t.* 57. *Reich.*
Leaves lanceolate, longitudinally tooth-ſerrate.

2. Baccharis neriifolia. *Oleander-leaved Ploughman's Spikenard.*
Lin. ſpec. 1204. *Reich.* 3. 768. *hort. cliff.* 404. 3.
Leaves lanceolate, ſerrate in the upper part with one or two toothlets.

[3. Baccharis arborea.
Lin. ſyſt. 751. *Reich.* 3. 768. *mant.* 284.
Leaves elliptic-lanceolate, quite entire, naked, petioled.]

4. Baccharis halimifolia. *Sea-purſlane-leaved Ploughman's Spikenard,* or *Groundſel tree.*
Lin. ſpec. 1204. *Reich.* 3. 769. *hort. cliff.* 405. 4. *Gron. virg.* 121. *Duham. arb.* 1. *t.* 35.
Senecio virgin. arboreſcens, atriplicis folio. *Herm. par. t.* 225. *Raii hiſt.* 1799.
Pſeudo-Helichryſum virg. fruteſcens, &c. *Mor. hiſt.* 3. 90. *ſ.* 7. *t.* 10. *f.* 4.
Elichryſo-affinis virg. &c. *Pluk. phyt. t.* 27. *f.* 2.
Argyrocome. *Pet. gaz. t.* 7. *f.* 4.
Leaves obovate, emarginate-crenate in the upper part.

[5. Baccharis Dioſcoridis.
Lin. ſpec. 1204. *ſyſt.* 751. *Reich.* 3. 769. *ſuppl.* 366. *amæn.* 4. 289. *Lour. cochinch.* 494.
Conyza major altera. *Bauh. pin.* 265.—dioſcoridis. *Rauw. it. t.* 54.——ſyriæ. *Bauh. hiſt.* 2. 1054. *Raii hiſt.* 262. *Gron. orient.* 110.—minor Rauwolfii. *Park.* 127. *n.* 10.
Leave broad-lanceolate toothed ſeſſile ſtipuled.

6. Baccharis indica.
Lin. ſpec. 1205. *Reich.* 3. 769.
Eupatorio-affinis. *Breyn. cent. t.* 70.
Leaves obovate toothletted petioled.

7. Baccharis braſiliana.
Lin. ſpec. 1205. *Reich.* 3. 770.
Tremate. *Marcgr. braſ.* 81.
Leaves obovate entire ſcabrous ſeſſile, veined underneath.]

8. Baccharis foetida.
Lin. ſpec. 1205. *Reich.* 3. 770. *Gron. virg.* 121.
Conyza americ. fruteſcens fœtidiſſima. *Dill. elth.* 106. *t.* 89. *f.* 105.
Leaves lanceolate, ſerrate-toothed, corymbs leafy.

[9. Baccharis chinenſis.
Lour. cochinch. 494.
Leaves lanceolate quite entire tomentoſe beneath, petioled; peduncles many-flowered axillary.

DESCRIPTIONS, &c.

Moſt of theſe plants are ſhrubby. The flowers are diſpoſed commonly in corymbs.]

1. This grows to the height of five or ſix feet. [The female florets with a trifid corolla are very abundant; the hermaphrodites of the diſk are few and five-cleft[a]. The ſcales of the calyx ſpread very much in a ſtate of maturity. The florets of the diſk are barren; of the ray ſubulate, ſcarcely toothed, fertile. Receptacle obtuſely conical, alveolate at top, the cells toothletted, but at the ſides ſimply and obſcurely ſcrobiculate. Seeds ſmall, ovate-oblong, flatted a little, obſcurely margined, pale: pappus or down ſparing, twice as long as the ſeed, ſcarcely toothed[b].

Native of America. It was cultivated in 1696, in the botanic garden at Chelſea; and flowers in july and auguſt[c].]

2. This has a ſoft ſhrubby ſtalk, which riſes to the height of eight or ten feet, putting out ſide branches toward the top. Leaves ſtiff, having a few indentures toward their top, and placed without order. The flowers are produced at the extremity of the branches in a cloſe ſpike; they make little appearance, being of an herbaceous colour, and are not ſucceeded by ſeeds in England.

[Linneus ſays, that it grows to twice the height of a man in our gardens; that the ſtem is rugged and upright, with patulous branches; that the branches of the preſent and paſt year are leafy, but that the reſt are naked, ſtreaked, and irregular from the ſcars of fallen leaves; that theſe are narrow, acuminate to both ends, ending in the petioles, and bent down at the edge [d].

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[k] Loureiro.

[a] Linneus.

[b] Gærtner.

[c] Hort. kew.

3. Height three feet; trunk the thickneſs of the human arm, and the largeſt of the genus. Leaves alternate, acute, roughiſh; not tomentoſe, a hand breadth long, and half as wide. The terminal corymb of the branches panicled, ſix or ſeven inches in length and breadth, ſubfaſtigiate. Calyx ſubgloboſe, cloſely imbricate with awl-ſhaped ſcales. Down ſeſſile, hairy, faſtigiate, twice the length of the calyx. Seeds ſtreaked. Obſerved in woods, on the iſland of Johanna, by Koenig [e].

4. This is a herbaceous kind of ſhrub, ſix, ſeven, or eight feet high. Leaves many, like thoſe of Gooſefoot, but ſtiffer, irregularly ſet on the branches. Flowers crowded, naked, at the end of the twigs [f].] Theſe are not very beautiful, but the leaves continuing green through the year, has occaſioned this ſhrub to be admitted into many curious gardens. It is a native of Virginia and other parts of North America; and flowers in october. [It was cultivated in 1688, by Biſhop Compton [g].

5. Stems ſhrubby, ſix feet high, weak, a little hairy, much branching, luxuriant. Leaves alternate, half-ſtem-claſping, deeply indented at the baſe, ſoft. Panicles ſmall, among the ramifications. Calyx ſhorter than the flower, flatted; ſcales awl-ſhaped. Female florets many, whitiſh, ſlender, naked; hermaphrodites in the diſk five or ſix; ſtyle of the females bifid; down ſimple, ſtanding out. It is wrongly named Baccharis of Dioſcorides [h].

Loureiro deſcribes the ſtem as five feet high, upright and round, with many weak branches; the leaves as dark green, ſmooth, aromatic, ſtipuled, the flowers many, yellow, on terminating corymbs; calyx oblong.

6. Branches with raiſed ſtreaks. Leaves ſmooth. Corymb large, terminating. Peduncles angular, with ſome awl-ſhaped bractes. Calyxes cylindric, ſmooth. Branches from the axils of the upper leaves, longer than the corymb. Native of Ceylon and the Cape of Good Hope [i].

7. Stem ſomewhat angular. Leaves obtuſe, almoſt quite entire. Panicles nearly naked, with remote, alternate flowers. Calyx with imbricate, ſharp ſcales. Down ferruginous. It reſembles the *indica*, but the leaves are ſtiffer, ſeſſile, and ſcarcely toothed; the flowers larger, fewer, and more remote. Native of Braſil [k].]

8. This riſes with a woody ſtem ſix or ſeven feet high. The leaves are long, hoary on their under ſide, and have a diſagreeable ſcent when handled. The ſtems are terminated by looſe corymbs of flowers, which appearing late in the autumn, are not followed by ſeeds in this country. It is a native of Carolina, and ſome other parts of North America. [It was cultivated in the Dutcheſs of Beaufort's garden at Badmington, and in 1729 in Mr. Sherard's garden at Eltham.

9. This is an underſhrub, three feet high, upright, ſimple, round. Leaves alternate, on ſhort petioles. Flowers yellow, oblong. Native of China, near Canton [l].]

PROPAGATION AND CULTURE.

1. This is a manageable ſhrub. It may be propagated by cuttings, planted in a ſhady border, during any of the ſummer months; or by ſeeds, ſown on a common border in the ſpring. Theſe ſeeds ripen well in this country, and if permitted to ſcatter on the ground, the plants will come up the following ſpring. It is pretty hardy, and will live abroad in mild winters, if planted in a warm ſituation; but it is uſually kept in the greenhouſe, and placed abroad in ſummer; it requires much water in warm weather.

2. This is difficult to propagate, for the cuttings with great difficulty take root; and it is very rare to find ſhoots near the root to lay down, ſo that in Holland they lay down the entire head of young plants, ſlitting the ſmaller branches in the ſame manner as is practiſed for Carnations, laying them into the ground and forking each down to prevent their riſing; theſe when duly watered put out roots in one year, when they may be taken off, and planted in ſmall pots filled with light earth, and placed in the ſhade till they have taken new root; after which they may be placed in a ſheltered ſituation in ſummer; but in winter muſt be kept in a green-houſe.

4. This ſort may be propagated by cuttings, which ſhould be planted in april or may, upon a ſhady border, and duly watered in dry weather, until they have taken root; and, at michaelmas, they will be fit to tranſplant where they are to remain; this will live in the open air, and never is injured by the cold of our ordinary winters; but ſevere froſt will ſometimes deſtroy it.

8. This may alſo be propagated by cuttings planted towards the end of may; if ſhaded and duly watered they will put out roots in two months, when they ſhould be potted, that they may be ſheltered under a frame in winter.

[The other ſorts are more tender, and moſtly require the protection of a ſtove, but are little known in this country.

BACCHARIS. See *Athanaſia, Chryſocoma, Conyza.*

BACCHAROIDES. See *Conyza.*]

[BACŎPA.

Lin. gen. Schreb. n. 266. *Aubl.* 49. *Juſſ.* 313.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Succulentæ.*—*Portulaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted; two of the *parts* oblong, concave, acute: the two inferior deflex, ovate, acute; the ſingle ſuperior one broader, roundiſh, undulated.

COR. one-petalled. *Tube* ſhort, towards the orifice a little enlarged: *border* five-parted: *parts* ovate-oblong, obtuſe, equal, ſpreading.

STAM. *Filaments* five, inſerted into the tube of the corolla. *Anthers* ſagittate.

PIST. *Germ* ovate, compreſſed, below incruſted by the calyx growing to it. *Style* ſhort. *Stigma* headed.

PER. *Capſule* one-celled.

SEEDS very many, extremely ſmall.

ESSENTIAL CHARACTER.

Cor. with a ſhort tube, ſpreading at top. *Stam.* inſerted into the tube of the corolla. *Stigma* headed. *Capſ.* one-celled.

SPECIES.

1. Bacopa aquatica.
Aublet. guian. 129. *t.* 49.

DESCRIPTION, &c.

This plant puts forth ſeveral cylindric, ſucculent, knotty ſtems. Leaves oppoſite, ſtem-claſping, or rather connate, thick, oblong, concave, ſharp, ſmooth. Flowers ſolitary, peduncled, alternate from the axils. Below the calyx there is a pair of fleſhy bractes on the long peduncle. Corolla blue. It puts forth roots from the knots, both as it runs along the ground, and as it lays on the ſurface of the water. Native of the iſland of Cayenne, on the borders of rivulets, flowering and fruiting in december. The French inhabitants call it *Herbe-aux-brulures*, on account of its efficacy in curing burns [a].]

[BACTRIS. (*απο του Βακτρου, a ſtaff; canes being made of the ſtem.*)

Lin. gen. Schreb. n. 1693. *Jacqu. amer. t.* 171. *Gærtn.* 9. 139.

Claſſ. 21. 6. Monoecia Hexandria.

Nat. order of *Palms.*

GENERIC CHARACTER.

* *Male* Flowers.

CAL. *Spathe* univerſal one-leafed; *ſpadix* branched. *Perianth* one-leafed, three-parted, ſmall: *parts* lanceolate, concave, coloured.

COR. one-petalled, three-cleft: *tube* ſhort, *clefts* ovate, acute, erect.

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[d] Hort. cliff. [e] Linneus. [f] Ray. [g] Hort. kew.
[h] Linn. ſuppl. [i] Linneus. [k] Ibid. [l] Loureiro.

[a] Aublet.

Stam. *Filaments* ſix, fubulate, erect, of the length of the corolla, inſerted into the middle of the tube. *Anthers* oblong, incumbent.

* *Female* flowers few in the ſame ſpadix, intermixed with the male ones.

Cal. *Spathe* the ſame as in the males. *Perianth* one-leafed, bell-ſhaped, three-toothed, ſharp-pointed, coloured, very ſmall, permanent.

Cor. one-petalled, erect, three-toothed, permanent.

Pist. *Germ* ovate, large. *Style* very ſhort. *Stigma* headed, obſcurely three-cleft.

Per. *Drupe* coriaceous, roundiſh, fibrous-ſucculent, ſharp-pointed with the ſtyle.

Seed. *Nut* roundiſh, depreſſed on each ſide, marked on the ſides with three holes. *Kernel* ſolid.

ESSENTIAL CHARACTER.

Male. *Cal.* three-parted. *Cor.* one-petalled, three-cleft. *Stam.* ſix.

Fem. *Cal.* one-leafed, three-toothed. *Cor.* one-petalled, three-toothed. *Stigma* obſcurely three-cleft. *Drupe* coriaceous.

SPECIES.

1. Bactris minor.
   Jacqu. amer. 279. *t.* 171. *f.* 1. *ic. ſelect. t.* 256.
   B. minima. *Gærtn. fruct.* 2. 269.—conf. B. globoſa minor. *Ejuſd.* 1. 22. quæ Cocos aculeata, *Swartz* & *hort. kew.* Palma 7. *Brown. jam.* 344.] P. ſpinoſa. *Mill. dict. n.* 3. [*Grew. muſ.* 203. *t.* 16?
   Cocos guineenſis. *Lin. ſyſt.* 985. *mant.* 137?
   Fruit roundiſh.
2. Bactris major.
   Jacqu. amer. 280. *t.* 171. *f.* 2. *ic. ſelect. t.* 263. *f.* 88. (fruit only.)
   Fructus exoticus. *Cluſ. exot. l.* 2. *c.* 23. *f.* 2.
   Fruit ovate.

DESCRIPTIONS, *&c.*

1. Root creeping. Trunk upright, armed with very numerous prickles, about an inch in diameter, ſeldom more than twelve feet high in open ſituations, but in woods ſomewhat higher, covered with a browniſh bark. It begins to flower as ſoon as it has attained the height of about four feet. Leaves frondoſe, few, ſtem-claſping at the baſe, pinnate: the rib prickly, the leaflets enſiform, acuminate, ſhining, flat, very ſlightly folded back at the baſe, ſerrate-prickly, (with very fine prickles, to be known only by drawing the finger from the tip towards the baſe) unarmed or with very few prickles on each ſurface, uſually alternate, but ſometimes oppoſite, uncertain in number. Spathes axillary, ſolitary, ſpreading, continuing a long time after the fruit is ripe. Flowers without ſcent, very ſlightly tinged with yellow. Fruit dark purple, the ſize of a common cherry, containing an acid juice, of which the Americans make a ſort of wine. They are alſo eaten raw, but are not pleaſant. Canes are made of the ſtem: they are dark-coloured, ſhining, jointed and very light; the French call them *Cannes de Tobago.*

2. In habit and manner of growth this is very like the foregoing, but it commonly grows to the height of twenty-five feet, and the trunk is two inches and more in diameter. The leaves are ſix feet long, the leaflets near two feet, with the marginal prickles brown, and more conſpicuous. Spadix compreſſed flat, reclining. Fruit the form and ſize of an egg, acuminate with the ſtyle, fibrous, ſucculent, covered with a dark purple, coriaceous coat, of which the natives make a vinous liquor. The nut is large, of a dark colour, ovate-oblong, with an acuminate, trifid apex, and three obſcure holes, two above the middle, and the third higher. Kernel oblong, blunt at both ends, cartilaginous, ſolid. The fruits are ſold in the market, and are called *Cocorotes.*

Both theſe Palms are natives of Carthagena in South America[a].

Baducca. See *Capparis.*]

[BAECKIA. (*So named in honour of Abraham Baeck, Archiater to the King of Sweden, and a much eſteemed friend of Linneus's, who received this plant from him, among others, in his herbarium.*)

Lin. gen. n. 491. *Reich.* 532. *Schreb.* 670. *Juſſ.* 321.

Claſſ. 8. 1. Octandria Monogynia.

Nat. order of *Calycanthemæ.*—*Onagræ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, funnel-form, five-toothed, permanent.

Cor. *Petals* five, roundiſh, patulous, inſerted into the calyx.

Stam. *Filaments* eight, of which ſix are equal, two ſolitary, very ſhort, bent in. *Anthers* ſubovate, ſmall.

Pist. *Germ* roundiſh. *Style* filiform, ſhorter than the corolla. *Stigma* capitate.

Per. *Capſule* globular, crowned, four-celled, four-valved.

Seeds ſome, roundiſh, angular on one ſide.

ESSENTIAL CHARACTER.

Cal. funnel-form, five-toothed. *Cor.* five-petalled. *Capſ.* globular, four-celled, crowned.

SPECIES.

1. Baeckia fruteſcens.
   Lin. ſpec. 514. *Reich.* 2. 200. *Oſb. it.* 231. *t.* 1.

DESCRIPTION, *&c.*

This is a ſhrub which has the habit of Southernwood, with wand-like branches, and oppoſite, ſhort, ſimple twigs. Leaves oppoſite, linear, ſharp, ſmooth, quite entire. Flowers axillary, ſolitary, on a naked peduncle, the length of the flower, much ſhorter than the leaves. Native of China, and called there Tiongina[b].

BÆOBŎTRYS. (*From* Βαιος, *ſmall, and* Βοτρυς, *a raceme, the fructifications being in thin racemes.*)

Lin. gen. Schreb. n. 318. *Forſter. gen.* 11.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* double: *exterior* three-leaved: *leaflets* roundiſh, concave, ſmaller. *Inferior* one-leafed, bell-ſhaped, ſhort, inferior, growing to the germ, five-cleft: *clefts* ovate, permanent, converging after flowering and crowning the fruit.

Cor. one-petalled, tubular; *tube* very ſhort. *Border* five-cleft, erect: *clefts* rounded, very ſhort.

Stam. *Filaments* five, very ſhort, in the middle of the tube. *Anthers* heart-ſhaped.

Pist. *Germ* globoſe, half-ſuperior. *Style* cylindric, very ſhort, permanent. *Stigma* obtuſe, tuberculated.

Per. *Berry* globoſe, ſomewhat dry, one-celled, growing to the calyx.

Seeds ſeveral, angular, affixed to a columnar *receptacle* in the bottom of the berry.

ESSENTIAL CHARACTER.

Cor. tubular, with a five-cleft border. *Cal.* double; outer two-leaved; inner one-leafed, bell-ſhaped. *Berry* globoſe, one-celled, growing to the calyx, many-ſeeded.

SPECIES.

1. Bæobotrys nemoralis.
   Forſt. fl. auſtral. n. 97.

Native of the iſle of Tanna, in the South Seas.

Balanophora. See *Cynomorium.*

Balanus myrepſica. See *Guilandina.*]

[BALLŌTA. (Βαλλωτὴ, *Gr. a name in Dioſcorides.*)

Lin. gen. n. 720. *Reich.* 778. *Schreb.* 975. *Juſſ.* 114. Ballote, *Tournef.* 85.

Claſſ. 14. 1. Didynamia Gymnoſpermia.

Nat. order of *Verticillatæ*, or *Labiatæ.*

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, ſalver-ſhaped, five-cornered, oblong, ten-ſtreaked, erect, permanent, equal: *mouth* acute, patulous, plaited, five-toothed. —*Involucre* of linear folioles under the whorls.

Cor. monopetalous, ringent: *tube* cylindric, the length of the calyx. *Upper lip* erect, ovate, entire, crenate, concave: *lower* trifid, obtuſe; the middle ſegment larger, emarginate.

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[a] Jacquin.

[b] Linn. from Oſb.

STAM. *Filaments* four, the two ſhorter, ſubulate, bending towards the upper lip, and ſhorter than it. *Anthers* oblong, lateral.

PIST. *Germ* quadrifid. *Style* filiform, in the ſame ſituation and form with the ſtamens. *Stigma* ſlender, bifid.

PER. none. *Calyx* unchanged, foſtering the ſeeds in its boſom.

SEEDS four, ovate.

OBS. *This genus has the involucre of* Clinopodium; *the calyx of* Marrubium; *the corolla of* Stachys; *and is nearly allied to* Marrubium.

ESSENTIAL CHARACTER.

Cal. ſalver-ſhaped, five-toothed, ten-ſtreaked. *Cor.* upper lip crenate, concave.

SPECIES.

1. Ballota nigra. *Stinking* or *Black Horehound.*
Lin. ſpec. 814. *Reich.* 3. 62. *ſuec. n.* 529. *hort. cliff.* 311. *Hudſ. angl.* 260. *With.* 615. *Lightf. ſcot.* 314. *Relh. cantabr. n.* 441. *Sowerby engl. bot. t.* 46. *Hall. helv. n.* 259. *Scop. carn. n.* 714. *Pollich pal. n.* 569. *Sabb. hort.* 3. *t.* 35. *Blackw.* 136.
Marrubiaſtrum. *Rivin. t.* 65.
Marrubium nigrum. *Ger. emac.* 701. 1. *Raii hiſt.* 571.—fœtidum, Ballote Dioſcoridis. *Bauh. pin.* 230. *Park.* 1230. 3. *Mor. hiſt.* 3. 377. *ſ.* 11. *t.* 9. *f.* 14. *Pet. herb. t.* 32. *f.* 4.
Leaves cordate undivided ſerrate, calyxes acuminate.

2. Ballota alba. *White-flowered Black Horehound.*
Lin. ſpec. 814. *ſyſt.* 537. *Reich.* 3. 63. *ſuec. n.* 540. *Tourn. inſt.* 185. *Vaill. par.* 20. *Cam. epit.* 572.
Leaves cordate undivided ſerrate, calyxes ſubtruncate.

3. Ballota lanata. *Woolly Black Horehound.*
Lin. ſpec. 815. *ſyſt.* 537. *Reich.* 3. 63. *Amm. ruth.* 47.
Phlomis fol. multifidis. *Gmel. ſib.* 3. 241. *n.* 72. *t.* 54.
Leaves palmate toothed, ſtem woolly.

4. Ballota ſuaveolens. *Sweet-ſmelling Black Horehound.*
Lin. ſpec. 815. *ſyſt.* 537. *Reich.* 3. 63. *Jacqu. hort.* 3. *t.* 42. *amer.* 172. *pict.* 85. *t.* 163. *Swartz. obſ.* 225.
Byſtropogon ſuaveolens. *L'Herit. ſert. angl.* 19.
Meſoſphærum. *Brown. jam.* 257. *t.* 18. *f.* 3.
Mentaſtrum. *Sloan. jam.* 1. 171. *t.* 102. *f.* 2.
Meliſſa. *Pluk. phyt. t.* 306. *f.* 3. *Plum. cat.* 6. *ic.* 155. *t.* 16. *f.* 1.
Leaves cordate, ſpikes leafy, calyxes truncate, awns linear.

5. Ballota diſticha. *Betony-leaved Black Horehound.*
Lin. ſyſt. 537. *Reich.* 3. 63. *mant.* 83. *fl. zeyl.* 24?
Monarda.
Stachys indica procerior, betonicæ folio. *Pluk. alm.* 357. *Raii hiſt.* 1872.
Marrubium odoratiſſimum, beton. fol. *Burm. zeyl.* 153. *t.* 71. *f.* 1.
Whorls halved, two-parted, half-ſpiked.

6. Ballota piloſa.
Lour. cochinch. 364.
Leaves ovate crenate tomentoſe, whorls hairy, calyxes ten-toothed.

DESCRIPTIONS, &c.

1. Stinking or Black Horehound is a hairy plant, with an upright browniſh ſtem, about two feet in height. Leaves petioled, wrinkled, with the veins nearly parallel; the lower ones ſubcordate, the upper ones ſharp to both ends. Peduncles very ſhort, uſually oppoſite, many-flowered. Involucre many-leaved; the leaflets awl-ſhaped, ſhorter than the calyx. Corolla purple, twice the length of the calyx. Filaments brown[a].

It is a perennial plant, common in moſt parts of Europe, in waſte places and hedges; flowering in July.

It is recommended in hyſterical caſes[b]. In Gotland it is an univerſal remedy in diſorders incident to cattle[c]: but the Swediſh plant is ſuppoſed not to be the ſame with ours. The flowers are occaſionally found white, and then it is miſtaken for *B. alba* of Linneus, which is not a native of England[d].

2. Linneus doubts whether this may not be a variety of the foregoing ſort: in Flora Suecica however he gives us theſe differences. This has a pale ſtem and white corollas; that a brown ſtem and purple corollas: this has rounded-cordate veined leaves; that oblong-ovate, ſharp, very ſoft villoſe leaves with parallel veins: this has involucres half the length of the calyx; that the whole length: but the principal difference is, that the calyx in this is almoſt truncate; in that cut half way into five parts and acuminate: the hairs alſo on the back of the helmet in the corolla converge upwards in that, which they do not in this, which is a native of Sweden.

3. Stems covered with a white wool. Whorls extremely hirſute. Leaves like thoſe of Gooſeberry, ſemitrifid or ſemiquinquefid, with blunt three-toothed lobes, ſmooth above, hirſute underneath. Calyxes five-toothed with briſtle-ſhaped toothlets. Corollas extremely hirſute, pale yellow, white on the outſide. Native of Siberia towards China[e]. Cultivated in 1776, by Mr. James Gordon[f].

4. Root annual. Stem upright, ſhrubby at bottom, branched, hirſute: branches almoſt upright, villoſe. Leaves roundiſh, ſometimes elliptic, crenate, nerved, villoſe, on long, ſlender, lax petioles. Peduncles axillary, bearing from three to five flowers at the tip of the branches. Flowers approximating, blue. Calyx villoſe, viſcid; teeth awn-ſhaped, upright, ſubulate. Tube of the corolla narrower at the baſe, from the middle to the opening dilated: upper lip compoſed of the helmet and two upper ſide ſegments; helmet ſmaller than the ſegments, ovate, arched, bent down, keeled above; lower lip, the two lower ſegments bent down. Filaments longer than the throat of the corolla. Anthers blackiſh. Style ſhorter than the ſtamens. Stigma ſimple, obtuſe. Seeds two, black, ſomewhat compreſſed[g]. Jacquin obſerves, that although there be ſometimes only two ſeeds, yet generally there are four. On the contrary Swartz affirms, that there are very ſeldom four ſeeds. Browne ſays, that it commonly riſes to the height of three or four feet; and that it is a grateful cephalic and alexipharmic. It is a very odorous plant, and the people of St. Domingo uſe it in their warm baths[h]. Native of the Weſt Indies.

5. Stature of *Nepeta.* Stem pubeſcent. Leaves petioled, ſubcordate, ſerrate, tomentoſe. Whorls ſingle on each ſide; each two-parted, or of two conjugate ſpikes on one ſide, riſing as in the *Aſperifoliæ.* Flowers alternate, ſeſſile, riſing, on a ſimple, flexuoſe rachis. Bracte under each flower, awl-ſhaped, ſhorter than the calyx, which has five nearly equal clefts, is awnleſs, five-cornered, and obſcurely ten-angled. Stamens four. Seeds four, roundiſh, ſhining. Native of the Eaſt Indies[i].

Introduced in 1783, by John Earl of Bute[k].

6. Stem perennial, four feet high, upright but weak, ſtreaked, hairy, branched. Leaves acute. Flowers white, in hairy whorls. Calyx recurved, ten-toothed; teeth ſharp, reflex. Seeds four. It differs from *B. diſticha* in its leaves, which are ovate, crenate, not cordate and ſerrate, but eſpecially in having the calyxes ten-toothed. Native of Cochinchina[l].

PROPAGATION AND CULTURE.

The European ſorts, being common ſtinking weeds, are never introduced into gardens. The third is hardy. The three laſt require the protection of a ſtove. They may all be increaſed by ſeeds.]

BALM. See *Meliſſa.*

[—— of Gilead. See *Dracocephalum.*

BALSAM of Capevi tree. See *Copaifera.*

——— of Gilead and of Mecca tree. See *Amyris.*]

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[a] Relh. from Lyons's MSS.
[b] Ray.
[c] Linn.
[d] Engl. Bot.
[e] Linneus.
[f] Hort. kew.
[g] Swartz.
[h] Jacquin.
[i] Linneus.
[k] Hort. kew.
[l] Loureiro.

Balsamina. See *Impatiens.*

Balsamita. See *Achillea*, *Chryſanthemum*, and *Tanacetum.*

[BALTIMŌRA. (*So named by Linneus, in honour of Frederick Calvert Lord Baltimore of the kingdom of Ireland, proprietor of Maryland in North America.*)

Lin. gen. Reich. n. 1068. *Schreb.* 1333. *Juſſ.* 187. *Gærtn. t.* 169.

Claſſ. 19. 4. Syngeneſia Polygamia Neceſſaria.

Nat. order of *Compoſitæ Oppoſitifoliæ.—Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* cylindric: *leaflets* ſeven, lanceolate, erect; the interior ones ſhorter.

Cor. Compound radiate. Corollules hermaphrodite of the *diſk* many (eleven): females of the *ray* five. *Proper* of the hermaphrodites funnel-form, with a five-cleft, tomentoſe border:—of the females ligulate, ovate, trifid; the middle ones leſs.

Stam. in the hermaphr. *Filaments* five: *anther* cylindric.

Pist. in the hermaphr. *Germ.* obſcure. *Style* ſhort. *Stigma* none.—In the females; *Germ* oblong, crowned with a toothed, deciduous calycle. *Style* filiform, very ſhort. *Stigmas* two, filiform, longer than the corollule.

Per. none. *Calyx* unchanged.

Seeds in the hermaphr. none—in the females three-ſided, naked, gibbous at the top.

Rec. chaffy.

ESSENTIAL CHARACTER.

Cal. cylindric, many-leaved. *Ray* of the corolla five-flowered. *Down* none. *Rec.* chaffy.

SPECIES.

1 Baltimora recta.

Lin. ſyſt. 789. *Reich.* 3. 919. *mant.* 288. *Gærtn. fruct.* 2. 444. *Mor. hiſt.* 3. 47. *ſ.* 6. *t.* 13. *f.* 16. (Scabioſa.)

DESCRIPTION, &c.

This is an annual plant, with a ſtem two feet high, four-cornered, upright, green, with the ſides deeply channelled, and the angles rugged. Branches lateral, very ſhort. Leaves oppoſite, petioled, ovate, acuminate, ſerrate, three-nerved, ſpreading, ſubtomentoſe, with very ſhort, ſilky hairs; the old ones rugged. Panicles terminating, ſmall. Flowers yellow. The corollules of the diſk tomentoſe, with black anthers. This is of a diſtinct genus from *Milleria*, although the plant much reſembles it[a]. Gærtner adds, that the flowers are aggregate, terminating and axillary, on ſmooth, very ſimple, unequal peduncles, the later ones ſhorter; the corollules ſulphur-coloured or pale yellow; the receptacle narrow; with membranaceous, linear-oblong chaffs, ſhorter than the calyx; the ſeeds inverſely pyramidal, three-ſided, ſmooth, brown; with a very ſhort, many-leaved down, the leaflets membranaceous, linear-acuminate, marceſcent, unequal, three or four longer than the reſt. He obſerves, that Moriſon's figure, though inaccurate in other reſpects, well repreſents the manner of flowering; but that Plukenet's figure, quoted by Linneus, is a *Sigeſbeckia*, which he names *Phaethuſa americana.*

Native of Maryland, near Baltimore. Introduced in 1781, by Monſ. Thouin[b]. It flowers in june and july.]

Bamboo or Bambu. See *Arundo*, and *Naſtus.*

[BAMBŪSA.

Lin. gen. Schreb. n. 607.

Claſſ. 6. 1. Hexandria Monogynia.

GENERIC CHARACTER.

Cal. none, except glume-like bractes ſcattered, often three under each ſpikelet, oblong-ovate, ſharp-pointed, concave, keeled, unequal, ſhorter than the floſcules; two oppoſite, the third leaning on the flat ſide of the ſpikelet.

Spikelets lanceolate, diſtichous, compreſſed, ſharp, nearly five-flowered.

Cor. *Glume* two-valved; valve inferior oblong, ventricoſe, acuminate, towards the tip keeled and ſtreaked. Interior lanceolate, flat, (with complicated margins,) ciliate, a little longer than the inferior and projecting from it.

Nectary two-leaved, flat, at the anterior ſide of the germ: leaflets ovate, acuminate, bearded at the tip, membranaceous.

Stam. *Filaments* ſix, capillary, almoſt the length of the corolla. *Anthers* parallelopiped, two-cleft at the baſe.

Pist. *Germ* oblong. *Style* capillary, two-cleft. *Stigmas* feathery.

Per. none. Corolla cheriſhes the ſeed, gapes? lets it fall?

Seed ſingle, oblong.

Obs. *The ſuperior floſcules in ſeveral ſpikelets examined by myſelf were merely male. Is this genus therefore to be transferred to Polygamia?* S.

For the reſt ſee *Arundo Bambos*, and *Naſtus.*

Gmelin, in *ſyſt. nat.* has made two genera of this, under the name of *Bambus* and *Naſtus.*]

Banana. See *Muſa.*

[BANARA. (*A vernacular name of the country.*)

Lin. gen. Schreb. n. 809. *Aubl.* 217. *Juſſ.* 293.

Claſſ. 11. 1. Dodecandria Monogynia.

Nat. order of *Columniferæ.—Tiliaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ſix-parted, permanent: *parts* ovate.

Cor. *Petals* ſix, rounding, concave, ſpreading, three times larger than the calyx, inſerted into the receptacle.

Stam. *Filaments* fifteen and more, capillary, length of the corolla, inſerted into a glandule ſurrounding the germ. *Anthers* roundiſh.

Pist. *Germ* ſomewhat globoſe, ſeated in a glandule. *Style* filiform, of the height of the ſtamens. *Stigma* headed.

Per. *Berry* globoſe, but little ſucculent, one-celled, crowned by the permanent ſtyle.

Seeds very many, very ſmall, cornered, ſtriated.

ESSENTIAL CHARACTER.

Cal. ſix-parted, permanent. *Cor.* ſix-petalled. *Germ* ſeated on a glandule. *Stigma* headed. *Berry* globoſe, one-celled, many-ſeeded.

SPECIES.

1. Banara guianenſis.

Aublet. guian. 548. *t.* 217.

DESCRIPTION, &c.

This is a tree of ten feet or more in height, and about ſeven inches in diameter, with a grayiſh bark, and a whitiſh, light wood. Leaves alternate, ovate-oblong, toothletted, ſharp, green and ſmooth on the upper ſurface, paler and ſlightly tomentoſe on the lower. The petiole is ſhort, with two ſmall, deciduous ſtipules at the baſe. The largeſt leaves are five inches long, and two broad. Flowers in axillary and terminating racemes, with a ſingle bracte to each pedicel. The corolla is yellow. The berry is black.

Native of the iſland of Cayenne: flowering in may, and bearing fruit in july[a].]

Bane-berry. See *Actæa.*

BANISTERĬA. (*So named by Dr. Houſtoun, in memory of the Rev. John Baniſter, a curious botaniſt, who loſt his life, in the ſearch after plants, in Virginia*[b].)

Lin. gen. n. 573. *Reich.* 622. *Schreb.* 780. *Juſſ.* 252. *Cavanilles, t.* 243–258. *Gærtn. t.* 116.

Claſſ. 10. 3. Decandria Trigynia.—Monadelphia *Cav.*

Nat. order of *Tribilatæ.—Malphigiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, (four ſeldom five. *Cavan.*) very ſmall, ſtiff underneath with tubercles, permanent. Two melliferous glands are under each diviſion of the calyx, except one; they are therefore eight in number.

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[a] Linneus.

[b] Hort. kew.

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[a] Aublet.

[b] Linneus's words are theſe: Hic Virginiæ penetrons adyta, "monteſque rupeſque ſcandens, ne quid abſconditum ab ejus induſtria ſe ſubduceret, infelici caſu titubat, decidit, conquaſſatur, "miſere perit. Dicta itaque fuit planta americana ſcandens, fructu "confracto, ſanguinolento."

Cor. *Petals* five, orbiculate, very large, ſpreading, crenate (fimbriate, *C.*); claws oblong, linear.

Stam. *Filaments* ten, very ſmall; coaleſcent at bottom. *Anthers* ſimple.

Pist. *Germs* three, winged, coaleſcent. *Styles* three, ſimple. *Stigmas* obtuſe, (enlarged into a leaflet. *Cav.*)

Per. *Capſules* three, running out into a long wing, one-celled, marked at the ſides with ſmall appendicles, not gaping.

Seeds ſolitary, covered, toothed on the lateral edge.

Obs. *The flower, eſpecially the glands of the calyx, ſhow the affinity between this and* Malpighia. *It differs however from that in the leafy ſtigmas, and winged fruit.* B. leona *has ten, the reſt have eight glands.* Cav.

ESSENTIAL CHARACTER.

Cal. five-parted, with melliferous pores at the baſe on the outſide. *Pet.* roundiſh, with claws. *Stigmas* leaf-ſhaped. *Seeds* three, winged with membranes.

SPECIES.

[1. Baniſteria anguloſa.

Lin. ſpec. 611. *Reich.* 2. 371. *Cavan. diſſ.* 426. *t.* 252. *Lamarck dict. n.* 1. *Aublet guian.* 2. 466.

Acer ſcandens, fol. anguloſo. *Plum. ſpec.* 18.

Clematis anguloſo folio, aceris fructu. *Plum. amer.* 77. *t.* 92. *Raii ſuppl.* 328.

Leaves ſinuate-angular.]

2. Baniſteria purpurea.

Lin. ſpec. 611. *Reich.* 2. 372. *Mill. dict. n.* 7. *Cavan. diſſ.* 423. *t.* 246. *f.* 1. *Lam. dict. n.* 2. *Plum. ſpec.* 18. *ic.* 15. *mſ. t.* 2. (Acer.) *Burm. amer. t.* 15.

Leaves ovate, ſpikes lateral, ſeeds erect.

3. Baniſteria laurifolia.

Lin. ſpec. 611. *Reich.* 2. 372. *Mill. dict. n.* 1. *Swartz. obſ.* 182. *Gærtn. fruct.* 2. 167. *Lamarck dict. n.* 3.

Ac. ſcand. fol. laurinis. *Sloan. jam.* 2. 26. *Raii dendr.* 94. *Plum. ſpec.* 18. *ic.* 14.

Leaves ovate-oblong rigid, racemes terminal.

[4. Baniſteria longifolia.

Swartz prodr. 75.

Leaves oblong acuminate rigid ſhining, panicle terminating, branches ſpreading very much.]

5. Baniſteria benghalenſis.

Lin. ſpec. 611. *Reich.* 2. 372. *fl. zeyl.* 176. *Mill. dict. n.* 5. *Rheede mal.* 6. *t.* 59. *Pluk. alm. t.* 3. *f.* 1.

Leaves ovate-oblong acuminate, racemes lateral, ſeeds ſpreading.

[6. Baniſteria dichotoma.

Lin. ſpec. 612. *Reich.* 2. 372. *hort. cliff.* 169. 3.

B. convolvulifolia. *Cavan. diſſ.* 428. *t.* 256. *Lamarck dict. n.* 6.

Leaves ovate, branches dichotomous.]

7. Baniſteria fulgens.

Lin. ſpec. 612. *Reich.* 2. 373. *hort. cliff.* 169. 1. *Mill. dict. n.* 2. *Brown. jam.* 231. 2. *Sloan. jam.* 2. 27. *t.* 162. *f.* 2. *Raii dendr.* 94. *Pluk. mant.* 185. Triopteris.

Leaves ſubovate tomentoſe underneath, racemes brachiate, peduncles umbelled.

8. Baniſteria brachiata.

Lin. ſpec. 612. *Reich.* 2. 373. *hort. cliff.* 169. 2. *Mill. dict. n.* 3. *Lamarck dict. n.* 8.

Leaves ſubovate, branches brachiate, ſeeds narrower within.

9. Baniſteria aculeata.

Mill. dict. n. 6.

Leaves pinnate, leaflets oblong obtuſe, flowers ſpiked, ſtem branching prickly.

[10. Baniſteria coerulea.

Cavan. diſſ. 421. *t.* 243. *Lamarck dict.* 1. 367. *n.* 4. *Aubl. guian.* 1. 466? *Burm. amer. t.* 14.

Acer. *Plum. mſ.* 2. *t.* 109. *ſpec.* 18. *Pluk. phyt. t.* 3. *f.* 1.

Branches tubercled, leaves ovate-acute coriaceous, racemes axillary.

11. Baniſteria nitida.

Cavan. diſſ. 422. *t.* 244. *Lamarck dict. n.* 12.

Leaves ovate-oblong quite entire ſhining beneath, panicle terminating leafy.

12. Baniſteria chryſophylla.

Cavan. diſſ. 422. *t.* 245. *Lamarck dict. n.* 11.

Branches tubercled, leaves ovate-acute with a golden nap on the lower ſurface, wings very long.

13. Baniſteria muricata.

Cavan. diſſ. 423. *t.* 246. *f.* 2.

Leaves ovate-acute tomentoſe beneath, racemes axillary; capſules muricate.

14. Baniſteria Leona.

Cavan. diſſ. 424. *t.* 247.

Branches tubercled, leaves ovate-acuminate coriaceous, flowers panicled.

15. Baniſteria ferruginea.

Cavan. diſſ. 424. *t.* 248.

Leaves ovate-acuminate ferruginous beneath, flowers panicled, bractes imbricate.

16. Baniſteria emarginata.

Cavan. diſſ. 425. *t.* 249.

Leaves ovate ſubcordate, emarginate-cuſpidate at the end, tomentoſe on the lower ſurface, flowers raceme-corymbed.

17. Baniſteria Quapara.

Cavan. diſſ. 425. *t.* 250. *Aubl. guian.* 465. *t.* 186. *Lamarck dict. n.* 10.

Leaves ovate tomentoſe beneath, flowers in corymbs; ſeeds erect.

18. Baniſteria ſinemarienſis.

Cavan. diſſ. 425. *t.* 251. *Aublet. guian.* 462. *t.* 185. *Lamarck dict. n.* 9.

Leaves ovate acuminate, flowers in corymbs yellow, wings gradually widening.

19. Baniſteria orbiculata.

B. fulgens. *Cavan. diſſ.* 426. *t.* 253. *Lamarck dict. n.* 7. *Brown. jam.* 231. *Sloan. jam.* 2. 27. *t.* 162. *f.* 2.

Stem twining; leaves orbiculate, beneath tomentoſe and ſilky; petioles biglandular.

20. Baniſteria ciliata.

Cavan. diſſ. 427. *t.* 254. *Lamarck dict. n.* 13.

Leaves cordate-roundiſh eared ſmooth ciliate.

21. Baniſteria auriculata.

Cavan. diſſ. 428. *t.* 255.

Stem twining, leaves ſubſagittate ſmooth, with rounded lobes, flowers in umbels.

22. Baniſteria ovata.

Cavan. diſſ. 429. *t.* 257. *f.* 1.

Stem twining, leaves ovate acute quite entire, flowers in umbels, involucres ſtipuled.

23. Baniſteria palmata.

Cavan. diſſ. 430. *t.* 257. *f.* 2.

Stem twining, leaves palmate tomentoſe beneath, petioles biglandular.

24. Baniſteria ſagittata.

Cavan. diſſ. 430. *t.* 257. *f.* 3.

Stem twining, leaves ſagittate large tomentoſe, petioles biglandular.

DESCRIPTIONS, &c.

The ſpecies of this genus are all inhabitants of very hot climates, chiefly of America from Braſil to Louiſiana, particularly the iſlands. They are ſhrubs, moſtly with twining ſtems, adorning the woods with the beauty of their flowers, and the variety of their oppoſite leaves. Plumier detected four ſorts; for the reſt we are obliged to Aublet, Commerſon, and other modern travellers.

1. Stem twining, with oppoſite branches, thickened at the baſe. Leaves cordate, angular, the breadth equal to the length, ending at top in a ſhort dagger point, green above, whitiſh beneath, nearly equal to the petioles, on which and near the leaf are two oppoſite glands. There are no ſtipules. Flowers in oppoſite axillary umbels: common peduncle elongated; rays five to ſeven, an inch long, jointed, having two, ſhort, oppoſite bractes. At the inſertion of the rays are two ſmall ſuborbiculate leaves. Corolla ſulphur-coloured. Native of the iſland of Dominique, where Plumier firſt obſerved it[c], Hiſpaniola, &c. The *B. anguloſa* of Miller

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[c] Cavanilles.

ſeems to be the *laurifolia* of Linneus ; and the *laurifolia* of the latter to be the *dichotoma* of the former.]

2. Stems ſtrong and woody, dividing into many branches, [which are oppoſite and twining. It ramps with theſe over the hedges. Leaves ovate, ſometimes round, an inch long, on ſhort petioles, and making the branch as it were pinnate.] There are five or ſix pairs of theſe, nearly of the ſame ſize with thoſe of the common Acacia, but whitiſh on their under ſide. [Flowers axillary, in a kind of ſpike ; with the partial peduncles oppoſite, jointed, and having a pair of very ſhort bractes. Petals purpliſh, ſhort. The third germ is frequently abortive in this ſpecies ; hence Plumier was led to ſay that the fruit is bicapſular and two-winged[d] ; and Miller, that the greater number of ſpecies have two ſtyles only.

Native of the Caribbee iſlands.] Mr. Miller ſays that it was ſent him from Campeachy. [He cultivated it in 1759[e].

3. Stem ſhrubby, climbing, with looſe, reflex, diverging, roundiſh, rugged branches. Leaves petioled, ovate-lanceolate, acute, entire, coriaceous-membranaceous, nerved, ſmooth. Racemes panicled, terminating branches and twigs decuſſate, ferruginous-tomentoſe, peduncles commonly one-flowered, ferruginous, ſhort, yellow. Leaflets at the baſe of the peduncles two, oppoſite, minute, tomentoſe. Calyx five-leaved : leaflets ovate-lanceolate, acuminate, with two round, depreſſed, green glands faſtened to the baſe. Petals ſpatulate. Anthers elliptic. Germ three-cornered, trifid at the tip : ſtyles ſubulate, ſhort : ſtigmas dilated, as it were halved. One of the three capſules is uſually abortive : wings three or four times longer than the capſules. Native of Jamaica and Hiſpaniola[f].

4. Native of the Weſt Indies[g].

5. This has ſtrong woody ſtalks, twining about trees which grow near it, and riſing twenty feet high. [Branches round. Leaves ſmooth, quite entire, petioled,] like thoſe of the Bay-tree. [Racemes ſolitary, oppoſite, ſimple, the length of the leaves,] axillary, looſe, on long peduncles. Corollas blue. [Fruit triple ; each having a lanceolate, obtuſe membrane, thicker downwards, with a ſmall lobe on each ſide at the baſe[h]. This ſpecies recedes from the genus ; it has only one ſtyle, and the capſule has four wings. Native of the Eaſt and Weſt Indies.

6. Cavanilles thus deſcribes his *B. convolvulifolia*, to which he gives *B. dichotoma* of Linneus, as a ſynonym.

Stem ſarmentoſe, ſlender, very tough, climbing aloft upon the neighbouring trees. Leaves ovate-acuminate, very like thoſe of Convolvulus, but much larger, quite entire, ſmooth, bright green ; the petioles and nerves red ; petioles ſhorter than the leaf, and biglandular at top. Flowers in oppoſite, axillary umbels ; common peduncles elongate, ſolitary, ſometimes three together at top ; rays commonly five, an inch long, jointed, with two ſcales at the joints, and two ovate leaflets at the baſe. Corolla of a golden ſcarlet colour, ſpreading. One or two of the germs are often abortive. The fruit is never pedicelled. Plumier firſt obſerved it in the iſland of Martinico.]

7. This has ſlender, winding ſtalks, which riſe five or ſix feet high. The flowers grow in a round bunch at the extremity of the branches, and are of a browniſh yellow colour. The ſeeds are ſmaller, and have narrower wings than in the third ſpecies.

[The leaves are ovate with a point, villoſe beneath, ſhining, ſmooth on the upper ſurface. A ſolitary branch comes forth from the axils, furniſhed with leaves, producing at top in a kind of umbel ſeveral filiform, ſimple, one-flowered peduncles. Seeds erect, the outer angle decreaſing to an edge, the inner more blunt, putting forth a ſmall ſharp membranaceous angle next the piſtil ; by the ſeeds on each ſide next the baſe are three ſmall appreſſed toothlets[i]. Native of Jamaica and Barbadoes. Miller ſays, Campeachy, &c.

The leaves are more oblong than in *B. fulgens* of Cavanilles (n. 19.), and though blunt are terminated by a ſhort ſubulate point. He ſuſpects it to be the ſame with his *B. ſericea*[k].

8. Very like the foregoing, but the leaves more blunt ; the upper branches flower-bearing, panicled ; the inner margin of the winged ſeed ſharp, the outer blunt ; it has no toothlet beſides the lateral ones at the baſe[l].]

This ſends out many branches, which divide again into others, growing without order, and become very buſhy upward, ſending out tendrils by which they faſten themſelves to the neighbouring trees, and mount to a great height ; theſe are garniſhed with oval ſtiff leaves, ending in a point. The flowers are produced in looſe ſpikes at the ends of the branches ; are firſt of a gold colour, and fade to a ſcarlet. Theſe are ſucceeded by ſlender, thin ſeeds, and for the moſt part ſingle. Native of Carthagena.

9. This has climbing ſtalks, which divide into many branches, garniſhed with long winged leaves, compoſed of about twenty pair of ſmall, oblong, blunt pinnæ, each having a deep furrow on the under ſide. At the wings of the leaves the ſtalks are armed with ſhort ſtrong ſpines, a little crooked. The flowers grow in long looſe ſpikes at the end of the branches, are ſucceeded by ſingle ſeeds, and as large as thoſe of the greater Maple. Native of Tolu.

[The following ſpecies are taken, with little variation, from Cavanilles's ninth diſſertation on monadelphous plants, to which claſs he thinks theſe belong. Two are omitted, namely *Ban. microphylla* of Jacquin, which is *Tetrapteris buxifolia* ; and *Ban. ſericea*, n. 589. which ſeems to be a doubtful ſpecies, and may perhaps be nothing more than a young ſpecimen of *Ban. chryſophylla*.

10. Stem ſarmentoſe, climbing : branches round, with a whitiſh bark, ſomewhat rough. Leaves quite entire, glaucous, on ſhort petioles. Peduncles ſhort, bracted. Calyx five-parted half way down. Corolla blueiſh. Filaments ſhort, equal. Styles erect. Fruits ſomewhat woody and tomentoſe, with the wing of a ſulphur-glaucous colour. Native of Jamaica and Dominique.

11. Branches ſmooth, round, but rendered alternately ſomewhat ancipital, by the running down of the petioles. Leaves acuminate, ſhining above, ſilvery beneath ; petioles ſcarcely an inch long, from their baſe runs a little membrane, becoming gradually more ſlender, and diſappearing at the next pair of leaves. Branchlets and flowers in the panicle decuſſately oppoſite ; peduncles one-flowered, jointed and bracted. Capſules ſubtomentoſe, with a yellowiſh, ſhining wing. Native of Braſil, where it was found by Commerſon.

12. Stem arboreous, branched, covered with a glaucous bark, variegated with white tubercles and fiſſures. Leaves ovate-oblong, towards the tip obſcurely ſinuated, one-nerved, coriaceous : petioles ſhort, with a ſmall, brown gland at the baſe. Flowers as in the foregoing, but the peduncles thicker, and having two pairs of bractes. Fruits a little larger than the Chich-pea, ſmooth, running out into large golden wings. Found by Commerſon, near Rio-Janeiro in Braſil.

13. Branches round oppoſite. Leaves one-nerved, quite entire, on ſhort petioles. Racemes and flowers oppoſite. Capſules armed with five ſhort daggers, the loweſt longer than the reſt ; wing rufous. The third germ is ſometimes abortive. Native of Peru, where it was found by Joſeph de Juſſieu.

14. Branches round, with very ſmall tubercles, otherwiſe ſmooth. Leaves large, quite entire, very ſmooth, one-nerved and netted with fine veins.

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[d] Cavanilles.

[e] Hort. kew.

[f] Swartz obſ.

[g] Swartz prodr.

[h] Linneus.

[i] Linn. cliff.

[k] Diſſ. p. 430.

[l] Linn. cliff.

Panicle terminating, leafy, compoſed of axillary branchlets; each flower peduncled, with a concave, acuminate bracte at the baſe. The calyx has ten glands; and the corolla is ſmall. It varies with leaves more elongated. Native of America; and found by Smeathman at Sierra Leona in Africa, whither perhaps it has been tranſported.

15. This does not ſeem to be ſcandent. Branches oppoſite, terminated by a panicle of flowers, imbricate with numerous, ſhort bractes. Leaves rigid, hairy a little on both ſides, eſpecially the young ones, with one protuberant nerve: petioles ſhort. Peduncles one-flowered, numerous, with a bracte at the baſe of each. Corolla reddiſh ſulphur colour, ſmall, concave. Filaments equal, a little longer than the calyx. Anthers yellow, ovate. Germs villoſe. Fruits villoſe-tomentoſe, coriaceous; wing an inch long, and ſubtomentoſe; with two lateral, membranaceous appendicles. Seed ovate-acuminate, blunt at the baſe. Native of Rio-Janeiro near St. Sebaſtian in Braſil: and found there by Commerſon.

16. Branches ſlender, with a brown bark. Leaves above ſhining, lead-coloured when dry, ferruginouſly tomentoſe beneath, one-nerved. Petiole ſhort, biglandular near the leaf. Flowers terminating. Corolla yellow. Stamens red. Germs tomentoſe. Capſules ſmall, running out into a wing, which has one tooth at the baſe below without appendicles. Native of America.

17. This is a ſhrub, ſix feet in height, putting out many ſarmentoſe twining branches, by which it climbs up trees. Leaves ovate-acute, quite entire, having very ſmall hairs ſcattered over the upper ſurface, tomentoſe and rufous beneath. Petioles ſhort, with two ſmall deciduous ſtipules at the baſe. Flowers in globular axillary corymbs: the common peduncle elongated, the partial ones with two ſcales near the baſe. Corolla yellow, with unequal petals. Capſules netted, running out into a long, blunt, upright wing. Seeds lens-ſhaped. Native of Guiana, on the borders of meadows; flowering in auguſt: obſerved there by Aublet.

18. This is a ſhrub with a trunk five feet high, putting forth many climbing twining branches. Leaves pale green beneath, darker green above, covered with very ſmall briſtles; and having a pair of ſtipules at the baſe of the petioles. The fifth petal of the corolla is larger than the reſt and fringed. Native of Guiana, on trees, by the ſides of meadows and fields; flowering and fruiting in auguſt: obſerved there by Aublet.

19. Stem long, branched, jointed. Leaves large, cordate at the baſe, eſpecially the lower ones, ſhortly acuminate, ſmooth above, much longer than the petioles; the upper ones orbiculate not cordate, moſtly ſubſeſſile. Flowers in oppoſite, axillary umbels; rays ſeveral, ſhort, jointed, with two bractes at the joints, and two ſhort leaves at the baſe. Filaments ſhort, unequal, united at the baſe; anthers ovate. Germs united: ſtyles three: ſtigmas leafy, ſhort. Native of Jamaica, Guadalupe, and St. Domingo.

Cavanilles attributes to this the ſame ſynonyms of Sloane and Browne, which Linneus has given to his *B. fulgens*.

20. Stem ſmooth, ſlender, twining, reddiſh, rough with little white dots. Leaves acute, one baſe of the lobes covering the other, with the toothlets hairy, ſo that they ſeem to be ciliate; the hairs are longer, and as it were recurved in the younger leaves; both ſurfaces are ſmooth; the petioles have two glands near the leaf; they have no ſtipules. Flowers in axillary, oppoſite, ſolitary umbels: common peduncles longer than the leaves: rays five to ſeven, half an inch long, with two leaflets at the baſe: partial peduncles one-flowered, jointed, with two bractes at the joints. Calyx half-five-cleft. Corolla an inch and half in diameter and ſpreading; petals crenulate, orange-coloured, with claws, reſembling petioles, into which the baſes of the ſtamens are inſerted. The filaments ſurround the germ in a kind of boat-ſhaped pitcher, and are divided above into ten unequal filaments; two of theſe, almoſt diametrically oppoſite, are three times thicker and longer; a third is a little ſhorter; the reſt are capillary; three of theſe are between the longer filaments, and two on each ſide by the third. Anthers ovate, twin, larger on the longer filaments. Germs villoſe, coadunate at the baſe: ſtyles longiſh, capillary: ſtigmas leafy, ovate, nerved. Wing of the ſeed ovate. Native of Braſil, where it was found by Dombey.

21. Stem ſlender. Leaves deeply cordate, quite entire: petiole ſhorter than the leaf, and near it biglandular. Flowers as in the foregoing. Seeds ovate-acute, and next the receptacle flatted. Native of Rio-Janeiro, and found there by Commerſon.

22. Stem ſomewhat villoſe. Leaves ſmooth above, glaucous and ſomewhat villoſe beneath, quite entire, on ſhort petioles which are biglandular near the leaf. Flowers in axillary umbels: common peduncle an inch long: rays three, of the ſame length, with three bractes at the baſe reſembling an involucre, and a little lower two oppoſite leaflets. Corolla red-ſulphur coloured, with ſmall petals. Stamens nearly equal, ſhort: anthers yellow, grooved. Stigmas leafy, four-ſided. Native of the iſland of Dominique, where it was found by Deſportes and Surian.

23. Leaves divided into five acute parts, the middle one longeſt, cordate at their baſe; deep green and ſmooth above, very tomentoſe and whitiſh beneath; on the petiole near the leaf are two glands. Native of St. Domingo, and found there by Deſportes.

24. The leaves have one tooth on each ſide towards the tip; they are ſmooth above, but tomentoſe beneath: and are twice as long as the petioles, on which, near the leaf, are two glands. Native of St. Domingo, and found there by Deſportes.]

PROPAGATION AND CULTURE.

Theſe plants, being all natives of hot countries, cannot be preſerved in England, unleſs they are kept in a bark-ſtove. They are propagated by ſeeds, which muſt be procured from the countries where they grow naturally. Theſe ſeeds ſhould be fully ripe when gathered, and put into ſand or earth, in which they ſhould be ſent to England, otherwiſe they will loſe their vegetative quality; for from a large parcel of theſe ſeeds which were ſent over in papers, as freſh as they could poſſibly arrive here, very few plants were raiſed, and thoſe did not appear till the ſecond year; therefore when the ſeeds arrive, they ſhould be immediately ſown in pots, and, if it happens in autumn or winter, the pots ſhould be plunged into a hot-bed of tanners bark, where the heat is very moderate, and ſecured from froſt and wet, till ſpring, when they muſt be removed to a freſh hot-bed, which will bring up the plants; but if they ſhould not appear the firſt year, the pots ſhould be preſerved till the next ſpring, to ſee if the ſeeds will grow. When the plants come up, they muſt be put into ſeparate pots, filled with light earth, and plunged into the bark bed, after which they muſt be treated like other tender plants from the ſame countries.

[BANISTERIA. See *Gouania*.

BANKSEA ſpecioſa, *Retz.* See *Coſtus ſpecioſus.*

BANKSIA. (*So named by Linneus in honour of Sir Joſeph Banks, Baronet, Preſident of the Royal Society, who firſt diſcovered it in his voyage with Captain Cook.*)

Lin. gen. Schreb. n. 191. *ſuppl.* 15. *Gærtn. t.* 47. *Juſſ.* 79.

Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Aggregatæ*. *Proteæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, four-cleft, inferior.

COR. one-petalled. *Tube* cylindric, very ſhort. *Border* very long, four-parted: *parts* linear, lanceolate at the tip, internally hollowed by a little cavity, acute.

STAM. *Filaments* none. *Anthers* four, lanceolate, ſeſſile in the cavity of the parts of the corolla.

PIST. *Germ* ſuperior, minute. *Style* filiform, ſtiff, longer than the corolla. *Stigma* pyramidate, acute.

PER. *Capſule* ovate or globoſe, woody, one-celled, two-valved.

SEEDS two, obovate, convex on one ſide, flat on the other, terminated by a very large membranaceous veinleſs wing.

OBS. *In ſome ſpecies a free or unconnected partition, of the figure and ſize of the cavity of the loculament, is placed between the ſeeds. It is of a coriaceo-ligneous nature, and half-two-cleft, the clefts parallel and elaſtic, and when mature, reflex.* (Is this an Arillus?)

ESSENTIAL CHARACTER.

Cal. four-cleft, inferior. *Cor.* four-parted; tube very ſhort; border very long, linear-lanceolate. *Anthers* ſeſſile in the cavity of the parts of the corolla. *Capſ.* two-ſeeded, one (or two-) celled, two-valved.

SPECIES.

1. Bankſia ſerrata. *Serrate-leaved Bankſia.* *Lin. ſyſt.* 161. *ſuppl.* 126. *White voy.* 223. *fig.* 1, 2, 3. B. conchifera. *Gærtn. fruct.* 221. *t.* 48. *f.* 1. *Leaves linear, attenuated into the petiole, equally ſerrate, truncate at the end with a point.*

2. Bankſia integrifolia. *Entire-leaved Bankſia.* *Lin. ſyſt.* 161. *ſuppl.* 127. B. ſpicata. *Gærtn. fruct.* 221. *t.* 48. *f.* 2. *Leaves wedge-form quite entire white-tomentoſe underneath.*

3. Bankſia ericæfolia. *Heath-leaved Bankſia.* *Lin. ſyſt.* 161. *ſuppl.* 127 *Leaves approximating aceroſe truncate-emarginate ſmooth.*

4. Bankſia dentata. *Tooth-leaved Bankſia.* *Lin. ſyſt.* 161. *ſuppl.* 127. *Leaves oblong attenuated into the petiole curved flexuoſe toothed, teeth ending in a ſpinule, white underneath.*

5. Bankſia pyriformis. *Pear-fruited Bankſia.* *Gærtn. fruct.* 220. *t.* 47. *f.* 1. *White voy.* 224. *fig.* *Flowers ſolitary; capſules ovate, pubeſcent; leaves lanceolate, very entire, ſmooth.*

6. Bankſia gibboſa. *Gibbous-fruited Bankſia.* *White voy.* 224. *t.* 225. *f.* 2. B. dactyloides? *Gærtn.* 221. *t.* 47. *f.* 2. *Flowers ſolitary; capſules ovate gibbous wrinkled; leaves columnar.*

7. Bankſia muſculiformis. *Muſcle-fruited Bankſia.* *Gærtn. fruct.* 221. *Rumph. amb.* 2. 185. *t.* 60. *Flowers ſolitary; capſules ovate-conical, muſcle-ſhaped, pointed, with tubercles on the outſide; leaves obovate, emarginate.*

8. Bankſia ſpinuloſa. *Prickly-leaved Bankſia.* *Smith New-Holl.* 13. *t.* 4. *White voy.* 225. *f.* 1? *Leaves linear revolute with a little ſharp point, and with ſpinous denticulations towards the top.*

DESCRIPTIONS, &c.

This genus is nearly allied to *Protea* and *Embothrium* in appearance and character, but is ſufficiently diſtinguiſhed from both in the fruit. It boaſts ſome of the moſt ſpecious plants that have been diſcovered in the South Seas, and even in the known world.

Thoſe with ſolitary flowers and one-celled capſules (n. 5, 6, 7.) form a ſeparate genus, which Dr. Smith names *Saliſburia.* This will be given in its place, and what is here imperfectly delivered will be there corrected.

1. This is the handſomeſt ſpecies of the genus. The leaves are at the ends of the branches, confluent, ſcattered, ſeven or eight inches long, narrow, ſmooth, coriaceous, flat, ſpreading much, ſurrounding the ament, which is very large, thick, columnar, obtuſe, erect. Flowers much ſpreading, aſcending, the borders pubeſcent on the outſide and hoary[a]. It is thus deſcribed in Mr. White's voyage: Trunk thick and rugged. Leaves alternate, ſtanding thick about the ends of the branches on ſhort petioles, obtuſe, ſtrongly ſerrate, of a bright green colour above, beneath opake and whitiſh, with a ſtrong rib running through their middle. A very large cylindrical ſpike of flowers terminates each branch: moſt of theſe are abortive, a few only in each ſpike producing ripe ſeed. The ſtyle growing more rapidly than the corolla, is held in a curved poſition by it. The capſules are covered with thick down. In the third figure, the leaves are not well repreſented.

The flowers and fruits are collected into a large globular ament. The capſule is between the globular and kidney ſhape, on a conical peduncle, thick, woody, pubeſcent with fulvous wool, two-celled, and gaping on the gibbous ſide: partition free, of the ſame form and ſize with the cavity of the cell, coriaceous-woody, half-two-cleft; the laminas, when ripe, reflex and elaſtic. Seed in each cell ſingle, rather large, winged, dark brown. Embryo obovate, erect, white: lobes thin, ſomewhat leafy: radicle acuminate, inferior. The corolla is plainly one-petalled, with a ſhort tube, the ſegments linear, very long, lanceolate at the tip, with an anther-bearing cavity on the inſide. Style longer than the corolla, rigid, pyramidately head-ſhaped[b].

2. The leaves are ſubverticillate at the ends of the twigs[c]. The flowers and fruits are collected into a cylindric ament; and, before they are ripe, are pubeſcent with a nap of ſnowy whiteneſs. Capſule coriaceous, orbiculate at top, turgidly lens-ſhaped, continued at bottom into a conical, compreſſed beak; within it is black, two-celled, and gapes at the tip[d].

3. The leaves of this are very ſmall, but more abundant than in the foregoing ſort[e].

4. The flowers in this ſpecies are ſmaller than in the others[f].

5. The capſules are larger than in any other known ſpecies, being three inches long: they are in the ſhape of a pear inverted, woody, very thick, covered with a ſhort, aſh-coloured nap, reſembling that of a peach: they are one-celled, and open longitudinally on the lower ſide. There is no receptacle, except a filiform umbilical chord extending from the bottom of the capſule to the outer ſide of the ſeed. There are two ſeeds, of a rufous cinnamon colour, convex on one ſide, flat on the other, with a very large, membranaceous, veinleſs wing[g].

6. The leaves are perfectly cylindrical, about two inches long, and one line in diameter, pale green and ſmooth.

If this be the *B. dactyloides* of Gærtner, his figure is by no means a good one: but as he is in general very accurate, this is probably a different plant[h].

Gærtner thus deſcribes the fruits. They are aggregate on the middle of the branches. Capſules an inch long, ovate-globular, woody, thick, one-celled, two-valved; cell excentric, very much compreſſed. Seeds two, plano-convex, winged, bay-brown. Embryo obovate, graſs-green; lobes plano-convex, thin; radicle acuminate, ſhort, inferior. Dr. Smith however aſſures me that theſe are different ſpecies.

7. Leaves alternate, from ſix to eight inches long, and three broad. Flowers in a ſhort, ſimple raceme, in which only one or two fruits ripen[i]. The capſule is from an inch to two inches or more in length, acuminate, woody, rough with roundiſh tubercles, or tranſverſe winding ſinuſes, variegated brown and ruſt colour, one-celled. Seeds two, dark bay[k].

8. Stem woody, branched; the branches commonly three or more together, curved upwards. Leaves irregularly ſcattered, cloſely covering the branches, on very ſhort footſtalks, but little ſpreading, from an inch and half to two inches in length, very narrow, revolute in the margin,

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[a] Linn. ſuppl.

[b] Gærtner. [c] Linn. ſuppl. [d] Gærtner. [e] Linn. ſuppl. [f] Ibid. [g] Gærtner. [h] White voy. [i] Rumphius. [k] Gærtner.

green and ſmooth above, white and downy beneath, ending very abruptly, tipped with three little ſpines, and having ſeveral of the ſame kind hooked upwards, in the margin, particularly towards the top: the young leaves are very downy. Flowers thick ſet in a cylindrical erect ſpike, ariſing from the divarications of the branches. Their common receptacle is cylindrical, rather obtuſe, covered with cloſely imbricated downy ſcales, ſome of the lowermoſt of which terminate in a long downy pointed awn, and from among the reſt the flowers come out in pairs.

It differs from *B. ericæfolia* in having leaves at leaſt four times as long, obtuſe, but with a ſmall central ſharp point from the midrib between the other two terminal points, as well as in having a greater or leſs number of ſmall ſharp-hooked lateral teeth towards the end of each leaf.

The inhabitants of New South Wales call it *Wattangre.* All theſe plants are natives of that country, except the ſeventh, which Rumphius obſerved in Amboina, in 1693.

PROPAGATION AND CULTURE.

Some of the ſpecies have flowered and ſeeded here. They have not yet been increaſed any other way but by ſeeds. Theſe, and the plants in general from the South Seas, are hardy conſidering their climate, and may be treated pretty much in the ſame manner with the Cape plants. They covet abundance of air, and flouriſh beſt near the front of the dry ſtove.

BANKSIA, *Forſt.* See *Pimelea.*]

BAOBAB. See *Adanſonia.*

[BARA MAREKA. See *Dolichos.*]

[BARBADOES Baſtard-Cedar. See *Cedrela.*
——— Cherry. See *Malpighia.*
——— Gooſeberry. See *Cactus Pereſkia.*
——— Wild Olive. See *Bontia.*]

BARBA JOVIS. See *Amorpha, Anthyllis, Cytiſus, Ebenus,* and *Pſoralea.*

BARBAREA. See *Dentaria* and *Eryſimum.*

[BARBERRY. See *Berberis.*]

BARDANA. See *Arctium.*

[BARK-BEDS. See *Hot-beds.*

BARK, Jeſuit's. See *Cinchona.*]

BARLERIA. (*This name was given by Plumier in honour of the reverend James Barrelier, a Dominican, and M. D. of Paris, who travelled from France into Spain and Italy, and died, aged ſixty-eight, on the 17th of ſeptember* 1673. *His Icones were publiſhed in* 1714. *Par. folio.*)

Lin. gen. n. 785. *Reich.* 848. *Schreb.* 1051. *Plum.* 31. *Juſſ.* 103. *Gærtn. t.* 54.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ. Acanthi* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-parted, permanent; two oppoſite leaflets larger.

COR. monopetalous, funnel-form, quinquefid, ſubequal: the fifth diviſion deeper.

STAM. *Filaments* four, filiform; two very ſhort, capillary. *Anthers,* the upper oblong, the lower withered.

PIST. *Germ* ovate. *Style* filiform, the length of the ſtamens. *Stigma* bifid.

PER. *Capſule* acute, flat-quadrangular, two-celled, two-valved, gaping elaſtically at the claws. *Partition* contrary.

SEEDS two, compreſſed, roundiſh.

OBS. *An intermediate genus between* Ruellia *and* Juſticia.

ESSENTIAL CHARACTER.

Cal. four-parted. *Stam.* two far leſs than the others. *Capſ.* quadrangular, bilocular? bivalvular, elaſtic without the claws. *Seeds* two.

SPECIES.

[1. Barleria longifolia.
Lin. ſpec. 887. *ſyſt.* 576. *Reich.* 3. 193. *amæn.* 4. 320.
Anchuſa. *Pluk. alm.* 30. *t.* 133. *f.* 4. *Mor. hiſt.* 3. *ſ.* 11. *t.* 27. *f.* 5.
Spines of the whorls ſixfold; leaves enſiform very long, ſcabrous.]

2. Barleria ſolanifolia.
Lin. ſpec. 887. *ſyſt.* 576. *Reich.* 3. 193. *Mill. dict. n.* 1. *Plum. gen.* 31. *ic.* 43. *f.* 2.
Spines axillary, leaves lanceolate toothletted.

[3. Barleria Hyſtrix.
Lin. ſyſt. 576. *Reich.* 3. 193. *mant.* 89.
Lycium. *Seba muſ.* 1. 21. *t.* 13. *f.* 1.
Melampyro cognata. *Pluk. alm.* 243. *t.* 119. *f.* 5.
Hyſtrix frutex. *Rumph. amb.* 7. 22. *t.* 13.
Spines axillary twin ſimple, leaves quite entire, lanceolate-ovate.]

4. Barleria Prionitis.
Lin. ſpec. 887. *ſyſt.* 576. *Reich.* 3. 194. *fl. zeyl.* 233. *Mill. dict. n.* 2.
Prionitis. *Lin. hort. cliff.* 486.
Coletta-Veetla. *Rheed. mal.* 9. 77. *t.* 41.
Spines axillary pedate fourfold; leaves quite entire lanceolate-ovate.

5. Barleria buxifolia.
Lin. ſpec. 887. *Reich.* 3. 194. *Mill. dict. n.* 3. *Amm. herb.* 104.
Caraſchulli. *Rheed. mal.* 2. 91. *t.* 47.
Spines axillary oppoſite ſolitary, leaves roundiſh quite entire.

[6. Barleria noctiflora.
Lin. ſyſt. 577. *ſuppl.* 290.
Spines axillary branching, leaves lanceolate quite entire cuſpidated, bractes ovate ſcarioſe, tube elongated.

7. Barleria criſtata.
Lin. ſpec. 887. *Reich.* 3. 194. *Oſb. it.* 225. *t.* 8.
Melampyro cognata, &c. *Mor. hiſt.* 3. 429. *ſ.* 11. *t.* 23. *f.* 7.
Leaves oblong quite entire, two leaflets of the calyx broader ciliated, and two linear acute.]

8. Barleria coccinea.
Lin. ſpec. 888. *Reich.* 3. 195. *Mill. dict. n.* 4. *Plum. gen.* 31. *ic.* 43. *f.* 1.
Unarmed, leaves ovate toothletted petioled.

[9. Barleria pungens.
Lin. ſyſt. 577. *ſuppl.* 290.
Unarmed, leaves ovate acute pungent, bractes ciliated.

10. Barleria longiflora.
Lin. ſyſt. 577. *ſuppl.* 290. *Gærtn. fruct.* 253.
Unarmed, leaves ovate ſilky, bractes cordate ſcarioſe, corollas very long.

11. Barleria procumbens.
Lour. cochinch. 377.
Unarmed; leaves lanceolate crenate hiſpid, heads terminating.

DESCRIPTIONS, &c.

1. Stem bluntly quadrangular, erect, hiſpid. Leaves oppoſite, lanceolate-ſword-ſhaped, quite entire, thrice the length of the internodes. Flowers in whorls, axillary. The ſpines of the ſtem are three on each ſide, the length of the whorls[a]. Native of the Eaſt-Indies.

It was introduced in 1781, by Sir Joſeph Banks, Bart.[b]]

2. This riſes with upright ſquare ſtalks three feet high; and has two oblong entire leaves at every joint: above which the flowers come out in whorls ſurrounding the ſtalks, and under each whorl there are ſix ſharp ſpines, which are as long as the calyx. Theſe joints are about three inches from each other. The flowers are blue, and have more of the form of the labiate flowers than any of the other ſpecies. I received it from Panama.

[3. This is carefully to be ſeparated from the next ſpecies. The ſtem is wand-like, not firm; the branches are rather quadrangular than round: the leaves ſmooth on both ſides, not pubeſcent underneath. The axillary ſpines are twin, ſimple, ſeſſile, horizontal; not erect, compound in fours, and pedate. Native of the Eaſt-Indies[c].

4. Stem herbaceous, round, ſtiff. Leaves oppoſite, running down the petioles, pubeſcent underneath: between the branch and the leaf a ſpine

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[a] Linn. [b] Hort. kew. [c] Linn.

with four ſharp rays from the ſame centre. Flowers ſeſſile in the axils. Calyxes acuminate-ſpiny. Two of the four ſtamens very ſmall at the bottom of the corolla, with little anthers. The capſule has a longiſh ſolid point; and burſts without ſuch internal elaſtic points as are in the *Juſticia*. Native of the Eaſt-Indies[d].]

5. This has ſhrubby ſtalks, five or ſix feet high, with ſtrong ſpines under the leaves. The flowers are produced in whorls toward the upper part of the ſtalk; theſe are ſucceeded by ſhort ſeed-veſſels, containing three or four flat ſeeds. Native of Jamaica, [and the Eaſt-Indies.

6. Bractes ſmooth, not hirſute. Flowers blue, reſembling thoſe of *buxifolia*, but longer, and expanding during the night. Obſerved near Tanjour, in the Eaſt-Indies, by Koenig[e].

7. Stem round. Leaves oblong, ovate, ſharp at both ends. Flowers axillary, ſeſſile. Two leaflets of the calyx ovate, acuminate, ſerrate-ſpiny; two alternate ſhorter, linear, acute, quite entire, ſpreading. Corolla blue, erect, ſpreading, with ovate lobes. Stigma obtuſe. Capſule the length of the calyx; valves boat-ſhaped, with a longitudinal partition, and an elaſtic ſpine on the edge[f].]

8. Stems ſmooth, four feet high. Flowers ſcarlet, in whorls at the joints, appearing from july to ſeptember, and ſucceeded by ſhort pods incloſing flat ſeeds. Native of South America.

[9. Found at the Cape of Good Hope by Thunberg[g].

10. This is an underſhrub, with the branches generally oppoſite, ſilky and round. Leaves oppoſite, petioled, quite entire. Flowers terminating. Bractes two or bivalve, parallel, netted, bluntiſh, ſeſſile, almoſt as large as the leaves; and below theſe four other bractes diſpoſed croſſwiſe, linear, the length of the leaves, ſpreading, ſilky[h]. Capſule oblong, drawn to a point at each end, four-cornered, the ſides unequal; it is two-celled, two-valved, opening elaſtically, dark cheſnut-coloured: partition contrary to the valves, bifid, with alternate, hooked ſupports to the ſeeds; which are ſo flatted as to be almoſt like a bracte, of a brown bay colour, covered with waved bundles of appreſſed hairs, readily expanding in water into a floccoſe coma[i].

Obſerved on the mountain of St. Thomas in Malabar by Koenig[k].

11. This alſo is an underſhrub, without ſpines, procumbent, twiſted, hiſpid. Leaves oppoſite, broad-lanceolate. Flowers yellow. Bractes acuminate, ciliate. Segments of the calyx ſubulate, hairy. Capſule oblong, angular, with orbicular ſeeds. Native of China, near Canton[l].

PROPAGATION AND CULTURE.

Barlerias being all natives either of the Eaſt-Indies or South America, require the protection of the bark ſtove. The ſecond, fourth, fifth and eighth were cultivated by Mr. Miller, but the others have not made their appearance in our ſtoves.]

The roots of the ſecond ſort will continue three or four years, but after the ſecond year, the plants grow too rambling, and the lower parts of the branches being naked, are not ſo ſightly as the young plants; therefore a ſucceſſion of theſe ſhould be raiſed, and the old ones turned out. They are propagated by ſeeds, which will ſow themſelves in the pots which are near them in the ſtove, when the plants are once obtained; but where the ſeeds are received from abroad, they muſt be ſown upon a hot-bed in the ſpring; and when the plants are fit to remove, they muſt be each planted in a ſeparate pot, and plunged into a hot-bed of tanners bark, where they muſt conſtantly remain, and be managed in the ſame manner as other tender exotics from the ſame countries; giving them water frequently in ſummer, and letting the freſh air to them every day in warm weather, but in winter they ſhould have leſs water and be kept warm. They flower from june to november, and their ſeeds ripen ſoon after.

The fourth ſort has flexible perennial ſtalks, which if cut off during the ſummer months, and made into lengths of ſix or eight inches, and planted in pots, plunging them into a hot-bed, and duly watered and ſhaded from the ſun, will ſoon put out roots, ſo may be planted each in a ſmall pot, and plunged into the tan-bed in the ſtove; for although this ſort may be kept in a dry ſtove through the winter, yet the plants will not grow near ſo faſt, nor will their leaves be ſo large as thoſe which are plunged into bark. By this method the plants may be propagated in plenty, but as they rarely produce flowers in England, ſo two or three plants will be ſufficient to maintain the ſpecies.

The fifth and eighth ſorts will produce ſeeds in England, provided the plants are kept in the tan-bed in the ſtove, theſe therefore may be propagated by ſeeds, which ſhould be ſown in the hot-bed, and the plants afterward treated in the ſame manner as the former.

Barley. See *Hordeum*.

[**BARNADESIA.** (*So named by Mutis, from Michael Barnades, a Spaniſh botaniſt.*)

Lin. gen. Schreb. n. 1260. *ſuppl.* 55. *Juſſ.* 178.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* ſomewhat ventricoſe, ſpreading at the tip, imbricate: *ſcales* numerous, gradually longer from baſe to tip: the inferior or exterior ovate, cloſely imbricate, ſharp, pungent; the ſuperior or interior ſubulate, flat, ſpreading, pungent.

Cor. *Compound* rayed. *Corollets* hermaphrodite, tubular, very few (three or four) remote, in the diſk; ligulate, in a ſimple ſeries, in the ray. *Proper to the former* funnel-form: *tube* very ſhort; *border* hairy, five-parted; *parts* erect, converging. *Proper to the latter* ligulate, lanceolate, ſpreading at the baſe, incurved at the tip, and ſplit; outwardly very hairy; *tube* longer than the calyx.

Stam. *Filaments* five. *Anther* cylindric, tubular.

Piſt. *Germ* ovate. *Style* filiform, longer than the ſtamens. *Stigma* bifid: *clefts* ſpreading, ovate-rounded.

Per. none. *Calyx* converging.

Seeds very many, ovate, hairy: hairs reverſed. *Down of the flowers of the diſk* briſtly: rays ſubulate, ſtiff, broken backwards, naked, or covered with extremely minute hairs. *Of the radial flowers* long, erect, ſpreading, many-rayed, feathery, ſoft.

Rec. flat, villoſe, without chaff.

ESSENTIAL CHARACTER.

Cal. naked, imbricate, pungent. *Cor.* radiate. *Down,* of the *ray* feathered—of the *diſk* briſtly, broken backwards.

SPECIES.

1. Barnadeſia ſpinoſa.

Lin. ſyſt. 730. *ſuppl.* 348.

DESCRIPTION, &c.

This is a ſhrub, with very ſmooth branches, ſet with a pair of thorns, at their origin, which at firſt were ſtipules; they are patulous, brown and ſmooth. Leaves alternate, ſimple, ovate, quite entire, ſharp, flat, veined, ſomewhat hairy on both ſides, whitiſh underneath. Petioles very ſhort. Stipules in pairs, ſmall, ſubulate. Flowers panicled, terminating. Calyx pubeſcent. The flower is ſingular in having two ſorts of down.

Native of South America, where it was found by Mutis[a].

Barometz. See *Polypodium*.

Baronychia. See *Aſplenium Ruta muraria*.

Barrenwort. See *Epimedium*.]

[**BARRERIA.** (*So named from Peter Barrere, Profeſſor of Medicine at Perpignan, author of* Hiſt. Nat. de la France Equinoxiale. Par. 1714. 12°.

Lin. gen. Schreb. n. 1366. *Scop. gen. n.* 767.

Poraqueiba. *Aubl. t.* 47.

Claſſ. 19. 6. Syngeneſia Monogamia.

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[d] Linn. [e] Ibid. [f] Ibid. [g] Ibid. [h] Ibid.

[i] Gærtner. [k] Linn. [l] Loureiro.

[a] Linn. ſuppl.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-toothed, ſmall.

Cor. one-petalled, five-parted. *Parts* oblong, acute, convex beneath, concave above: with a double *pit*: the ſuperior ovate, bifid, the wedge-ſhaped one trifid; excavated for the reception of the ſtamens.

Stam. *Filaments* five, aſcending, linear, wider above, thick, triangular? bordered, curved. *Anthers* erect, four-cornered, marginated, coaleſcing into the form of a mill-wheel; each, in the cloſed flower, anſwering, together with the filaments, to the pits of two of the petals.

Pist. *Germ* roundiſh. *Style* ſhort. *Stigma* trifid.

Per.

Seeds.

ESSENTIAL CHARACTER.

Cal. five-toothed, very ſmall. *Cor.* five-parted. *Style* ſhort. *Stigma* trifid.

SPECIES.

1. Barreria guianenſis.
Poraqueiba guianenſis.
Aublet. guian. 123. *t.* 47.

DESCRIPTION, &c.

This tree riſes forty or fifty feet in height, and is two feet and a half in diameter: the bark is aſh-coloured, and the wood is reddiſh brown, hard and compact. It ſends forth from the top a great number of branches, which riſe and ſpread in all directions. Theſe branches are loaded with twigs, on which are alternate, entire, ſmooth, firm, ovate leaves, ending in a long point: their petiole is ſhort, convex beneath, channelled above; the largeſt are ſeven inches long and three broad. The flowers are in ſmall axillary ſpikes, alternate, and almoſt ſeſſile. Native of Guiana, in the extenſive foreſts, near the banks of the river Sinemari, fifty leagues from its mouth. It flowers there in november[a].

BARRINGTONIA. (*So named by Forſter, from the Hon. Daines Barrington, fellow of the Royal and Antiquary Societies, and one of the Welch Judges.*) *Lin. gen. Schreb. n.* 1150. *Forſt. gen.* 38. *Lin. ſuppl.* 50. *Thunb. nov. gen.* 47. *Gærtn. t.* 101. Mammeæ ſpec. *Edit. prior.* Commerſona. *Sonnerat. nov. Guin.* 8. Butonica. *Rumph. Hort. kew.* 2. 439. *Juſſ.* 326.

Claſſ. 16. 6. Monadelphia Polyandria.—Polyandria Monogynia. *Forſt.* & *Thunb.*

Nat. order of *Heſperideæ*. *Myrti* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* two-leaved, ſuperior: *leaflets* roundiſh, concave, coriaceous, permanent.

Cor. *Petals* four, equal, ovate, ſpreading, coriaceous, larger than the calyx.
Nectary conic, tubular, coating the baſe of the ſtyle, toothed at the tip: teeth ſeveral, unequal.

Stam. *Filaments* very many, monadelphous, (or conjoined from the very baſe into a cylinder ſeated on the receptacle,) capillary, longer than the corolla. *Anthers* ſmall, roundiſh.

Pist. *Germ* inferior, turbinate. *Style* filiform, length of the ſtamens. *Stigma* ſimple.

Per. *Drupe* large, ovate, conic-quadrangular, crowned by the calyx.

Seed. *Nut* long, ovate, outwardly wrinkled-fibroſe, four-celled. *Kernels* ovate, wrinkled.

ESSENTIAL CHARACTER.

Cal. ſimple, two-leaved, ſuperior, permanent. *Fruit* a dry four-cornered drupe, incloſing a nut one to four-celled.

SPECIES.

1. Barringtonia ſpecioſa. *Laurel-leaved Barringtonia.* *Lin. ſyſt.* 620. *ſuppl.* 312. *Cook voy.* 1. 157. *n.* 24. *fig.* *Forſt. florul. n.* 255. *nov. gen.* 38. *J. F. Miller, ic.* 7.
Mammea aſiatica. *Lin. ſyſt. edit.* 13. 409. *ſpec.* 731. *Oſb. it.* 278. *Thunb. nov. gen.* 2. *p.* 47.
Commerſona. *Sonn. guin.* 14. *t.* 8, 9.
Butonica. *Rumph. amb.* 3. 179. *t.* 114.—ſpecioſa. *Ait. hort. kew.* 2. 439.

DESCRIPTION, &c.

This is a lofty tree, and the handſomeſt in the whole equinoctial Flora, with its thick, ſhady bunches of leaves, and its large handſome, purple and white flowers, every where mixed with them. The trunk is lofty, thick, ſtraight: covered with a dark-gray, ſmooth bark, ſcored with little chinks. The branches are round, expand very widely, are ſubflexuoſe, variouſly divided, covered with a chinky bark, and leafy at the ends. The leaves are crowded, the upper ones in a kind of whorl, ſeſſile, wedge-form, obtuſe, quite entire, expanding, from a foot to fifteen inches in length, thick, coriaceous, very ſmooth, ſhining, dark green, with yellow veins, the rachis yellow, thick, marked with a red baſe. The flowers are borne on a ſolitary, erect thyrſe, a foot in length, at the ends of the branches. Peduncle round, ſubangular, very ſmooth, ſubflexuoſe, a foot long. Pedicels five to twenty, one-flowered, ſcattered, round, very ſmooth, expanding, three or four inches long, and the thickneſs of a gooſe-quill. Bractes roundiſh, very ſmooth, quite entire, ſeſſile, deciduous, ſolitary at the baſe of the pedicels. Flowers very large, very white and tranſparent. Filaments white, with a purple top, and diaphanous at the baſe. Anthers gold-colour. Style white with a purple top. Drupe reddiſh brown. The flowers open during the night, and fall at ſun-riſe; the birds alſo pluck them off, and the ground about theſe trees is perfectly covered with them. The ſeed mixed with the bait, inebriates fiſh in the ſame manner with Cocculus indicus, &c.

It grows within the Tropics, eſpecially on the ſhores of the ocean, and at the mouths of rivers, in the Eaſt-Indies, from the ſouthern coaſts of China through the Molucca iſles to Otaheite and the other Society iſles, the Friendly iſles, &c.—It is cultivated in the governor's garden at the iſland of St. Helena[b].

Introduced 1786, by Mr. Anthony Hove[c].]

Bartramia. See *Triumfetta.*

[BARTSIA. (*So named by Linneus, in memory of his beloved friend John Bartſch, M. D. of whom he gives an intereſting melancholy account in his Flora ſuecica.*) *Lin. gen. n.* 739. *Reich.* 797. *Schreb.* 996. *Juſſ.* 100.

Claſſ. 14. 2. Didynamia Angioſpermia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, permanent: *mouth* obtuſe, two-lobed: lobes emarginate, coloured at the top.

Cor. monopetalous, ringent: *upper lip* erect, ſlender, entire, longeſt; *lower* reflex, trifid, obtuſe, very ſmall.

Stam. *Filaments* four, briſtle-ſhaped, the length of the upper lip; two ſomewhat ſhorter. *Anthers* oblong, approximating, under the top of the upper lip.

Pist. *Germ* ovate. *Style* filiform, longer than the ſtamens. *Stigma* obtuſe, nodding.

Per. *Capſule* ovate, compreſſed, acuminate, two-celled, two-valved; *partition* contrary to the valves.

Seeds numerous, angular, ſmall.

Obs. *This is an intermediate genus between* Rhinanthus, Euphraſia, *and* Pedicularis, *diſtinguiſhed by its coloured calyx.*

ESSENTIAL CHARACTER.

Cal. two-lobed, emarginate, coloured. *Cor.* coloured leſs than the calyx; upper lip longeſt. *Capſ.* two-celled.

SPECIES.

1. Bartſia coccinea. *Red Bartſia.* *Lin. ſpec.* 839. *ſyſt.* 548. *Reich.* 3. 104. *hort. cliff.* 325. 1. *amæn.* 1. 160. *Gron. virg.* 20. 92. *Kalm. it.* 3. 100.
Pedicularis. *Pluk. alm.* 283. *t.* 102. *f.* 5. *Raii ſuppl.* 400. *n.* 9.
Horminum. *Mor. hiſt.* 3. 395. *ſ.* 11. *t.* 13. *f.* 28.
Leaves alternate linear, two-toothed on each ſide.

2. Bartſia pallida. *Pale-flowered Bartſia.* *Lin. ſpec.* 839. *Reich.* 3. 104. *amæn.* 2. 356. *Gmel. ſib.* 3. 201. *n.* 11. *t.* 42.

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[a] Aublet.

[b] Linn. ſuppl.

[c] Hort. kew.

Leaves alternate lanceolate quite entire; floral leaves ovate, toothed.

3. Bartſia viſcoſa. *Viſcid Bartſia,* or *Yellow marſh Eyebright.*
Lin. ſpec. 839. *Reich.* 3. 105. *Hudſ. angl.* 267. *With.* 632. *Lightf. ſcot.* 321. *t.* 14. *Ger. prov.* 283.
Euphraſia. *Raii hiſt.* 772. *n.* 4. *ſyn.* *285. *Pluk. alm.* 142. *t.* 27. *f.* 5. *Mor. hiſt.* 3. 432. *n.* 15. *Pet.* 36. 6.
Alectorolophos. *Barr. rar.* 209. *t.* 665.
Upper leaves alternate ſerrate, flowers diſtant lateral.

4. Bartſia alpina. *Alpine Bartſia.*
Lin. ſpec. 839. *Reich.* 3. 105. *ſuec.* 541. *hort. cliff.* 325. 2. *lapp.* 246. (Euphraſia.) *Scop. carn. n.* 750. *Hudſ. angl.* 267. *With.* 633.
Stæhelinia. *Hall. helv. n.* 312. *Crantz. auſtr.* 294.
Euphraſia. *Raii ſyn.* *285. *n.* 3.
Cratæogonon. *Raii hiſt.* 773. *n.* 5.
Pedicularis. *Oed. dan. t.* 43.
Clinopodium. *Bauh. pin.* 225. *n.* 5. *Pona bald.* 343. *Pluk. phyt. t.* 163. *f.* 5.
Teucrium. *Bauh. pin.* 247. *n.* 6.
Leaves oppoſite cordate obtuſely ſerrate.

5. Bartſia Gymnandra.
Lin. ſyſt. 549. *ſuppl.* 278.
Lagotis glauca. *Gærtn. in nov. comm. petrop.* 14. *p.* 534. *t.* 18. *f.* 2.
Gymnandra borealis. *Pall. it.* 3. 710. *t.* A. *f.* 1.
Veronica. *Gmel. ſib.* 3. 219. *n.* 33.
Two-ſtamened; leaves radical two-fold petioled; ſtem moſtly two-leaved one-ſpiked; ſpike linear obtuſe; whorls bracted collected.

DESCRIPTIONS, &c.

1. This moſt beautiful plant has a ſtem entirely ſimple. Leaves divided, crowded towards the top into a ſpike, having a ſingle flower to each leaf. Calyxes tinged towards the tip of a very deep red, as are alſo the trifid bractes. Capſule elaſtic. The fructification is not yet well aſcertained[a].

Ray deſcribes the leaves as hardly an inch long, broad, trifid, with the ſide ſegments narrow, tinged at the end with red. From the axils come out ſmall pale flowers, on very ſhort peduncles, in looſe membranous hirſute bladdery calyxes.

It was found in Maryland by Vernon, in Virginia by Baniſter and Clayton, and in New York by Kalm.

2. Root fibroſe. Stem round, almoſt upright, quite ſimple, ſomewhat ſtreaked, villoſe towards the top. Leaves ſeſſile, linear-lanceolate, three-nerved, longer than the internodes; the lower ones ſmaller, undivided: the upper longer, broader, with an oblong tooth on each ſide. Floral leaves involving the calyxes, not longer than the flowers, but broader, coloured, more obtuſe, trifid or quinquefid. Spike terminating, leafy, a little inclining to one ſide: flowers alternate, ſeſſile: corolla purple[b].

Native of Siberia and Hudſon's Bay. Introduced in 1782, by the Hudſon's-bay company[c].

3. Stem a foot high, upright, cylindric, ſimple, hirſute. Leaves lanceolate, ſeſſile, wrinkled, ſharply ſerrate, ſlightly hairy, an inch and half long, ſome oppoſite, others alternate. Flowers axillary, ſingle, on ſhort peduncles. Calyx very large, as long as the corolla, ſtreaked, divided deeply into five ſegments which are lanceolate. Corolla yellow. The whole plant is clammy[d]. It is an annual plant, native of France, Italy, and Britain: in the marſhes of Cornwall, Devonſhire, Lancaſhire, and Staffordſhire; and of Argyleſhire in Scotland: flowering in july and auguſt.

4. Stem ſimple, ſix or ſeven inches high, hard, villoſe, obtuſely quadrangular. Leaves dry, ſubhirſute, browniſh green, ſeſſile. Flowers ſolitary from the upper axils, forming a ſhort terminating ſpike. Peduncles ſmooth, blueiſh. Calyx four-cleft. Corollas reddiſh blue or purple; helmet villoſe, ſlightly bifid, longer than the lip; ſtamens bearded. Capſule acuminate, terminated by the ſtyle. Seeds ſubtrigonal, as far as twenty-ſix in one cell[e].

Native of the mountains of Lapland, Switzerland, Savoy, monte Baldo, and near Orton in Weſtmoreland.

5. Stem three or four inches high, round, upright, ſmooth, entirely ſimple. Root-leaves thickiſh, ſucculent, oval, entire or ſerrate, very ſmooth; in the middle of the ſtem alternate, ovate, ſeſſile. The ſpike conſiſts of collected whorls. Bractes ovate, blueiſh. Calyx compreſſed, three-toothed. Corolla pale blue; lower lip bifid or trifid. Capſule four-toothed. It varies in the ſize and form of the leaves, which are ſometimes connate and doubly ſerrate. It grows within the arctic circle, on the north ſide of the frozen rocks in Kamtſchatka, where there is no other vegetation[f].

BARTSIA. See *Euphraſia* and *Rhinanthus.*]

BASELLA, (*a baſiis fucatis.* Lin. *A Malabar name.* Rheede.)
Lin. gen. n. 382. *Reich.* 413. *Schreb.* 520. *Juſſ.* 84. *Gærtn. t.* 126.
Claſſ. 5. 3. Pentandria Trigynia.
Nat. order of *Holoraceæ. Atriplices* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. ſeven-cleft, pitcher-ſhaped; the two outer diviſions broader, one within the reſt, converging above, fleſhy at the baſe. (Gærtner calls this the calyx, and ſays that the clefts are from five to ſeven.)

STAM. *Filaments* five, ſubulate, equal, faſtened to the corolla, and ſhorter than it. *Anthers* roundiſh.

PIST. *Germ* ſuperior, ſubglobular. *Styles* three, filiform, the length of the ſtamens. *Stigmas* oblong, on one ſide the tops of the ſtyles.

PER. *Corolla* permanent, cloſed, fleſhy, counterfeiting a berry.

SEED ſingle, roundiſh.

ESSENTIAL CHARACTER.

Cal. none. *Cor.* ſeven-cleft; two oppoſite diviſions ſhorter, at length berried. *Seed* one.

SPECIES.

1. Baſella rubra. *Red Malabar Nightſhade.*
Lin. ſpec. 390. *Reich.* 748. *fl. zeyl.* 119. *Gærtn. fruct.* 2. 200. *Sabb. hort.* 2. *t.* 98. *Rheed. mal.* 7. 45. *t.* 24. *Thunb. jap.* 127. *Raii ſuppl.* 358. *n.* 13.
Cuſcuta. *Lin. hort. cliff.* 39.
Gandola rubra. *Rumph. amb.* 5. 417. *t.* 154. *f.* 2.
Leaves flat, peduncles ſimple.

2. Baſella alba. *White Malabar Nightſhade.*
Lin. ſpec. 390. *Reich.* 748.
Gandola alba. *Rumph. amb.* 5. 417. *Pluk. alm.* 252. *t.* 63. *f.* 1.
Muraſakki. *Kæmpf. amæn.* 784.

[3. Baſella lucida. *Shining Malabar Nightſhade.*
Lin. ſpec. 391. *Reich.* 748.
Leaves ſubcordate, peduncles crowded branching.

4. Baſella nigra. *Black Malabar Nightſhade.*
Lour. cochinch. 183.
Leaves round-ovate, ſpikes lateral.]

DESCRIPTIONS, &c.

1. The firſt ſort has thick, ſtrong, ſucculent ſtalks and leaves, of a deep purple colour. The plant requires to be ſupported, for it will climb to the height of eight or ten feet, when the plants are kept in a ſtove or glaſs-caſe, and produce a great number of ſide branches: but if they are expoſed to the open air, they will not grow ſo large, nor will they perfect their ſeeds, except it be in very warm ſeaſons; when they are placed in the bark-ſtove, they will often live through the winter, and produce great quantities of flowers and ſeeds. The flowers of this plant have no great beauty, but the plant is preſerved for the odd appearance of the ſtalks and leaves.

[The fruit is a ſort of ſpurious berry, of a very dark red colour, flatted a little, furrowed croſſwiſe at top, formed out of the calyx (or corolla) and containing a ſingle nut, of a ſubglobular form, with five very obſcure ſtreaks, and a large umbilical aperture at the baſe. Medicus affirms that the nut has naturally three cells, with one ſeed in each[a].

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[a] Linneus.
[b] Linn. amæn.
[c] Hort. kew.
[d] Woodw. in With. and Ray.
[e] Scopoli.
[f] Linn. ſuppl.

It is a native of the Eaſt-Indies, Amboina, Japan, &c. and was cultivated in 1739, by Mr. Miller[b]. In the *hortus malabaricus* it is ſaid, that ſeed ſent from Ceylon grew in the botanic garden at Amſterdam, in 1684.]

From the berries of this ſort, a beautiful colour is drawn, but when uſed for painting, does not continue very long, but changes to a pale colour; though I believe this beautiful colour might be fixed, ſo as to become very uſeful; for I have been aſſured, that the juice of theſe berries has been uſed for ſtaining callicoes in India.

2. This has ſmaller ſtalks, the leaves are oblong and flaccid, and the flowers and fruit are ſmaller than in the foregoing. Mr. Miller received the ſeeds from Juſſieu, and raiſed two varieties from them; one with purple ſtalks and leaves, the other having leaves variegated with white. [It was however cultivated by Biſhop Compton in 1691. It is a native of China[c] and Amboina.

3. This is a native of the Eaſt-Indies. All the three ſorts have a very near relation; they keep themſelves however diſtinct in our gardens[d].

4. Stem perennial, twining, ſlender, round, ſucculent, branched. Leaves thick, ſmooth, quite entire, alternate, petioled. Flowers purple and white, lateral, few, in ſimple, long, ſolitary, ſpikes. Calyx three, roundiſh, acuminate, very ſmall ſcales. Corolla one-petalled, with a ſhort ſwelling tube, and a ſix-cleft border; the clefts ovate, concave, bent in, almoſt cloſed. Germ four-lobed. Styles ſhorter than the ſtamens. Berry roundiſh, deep black, ſmall, four-lobed, with four blunt concave clefts at top[e].

Loureiro is of opinion, that the berry is formed from the germ and not from the corolla; becauſe it is four-lobed, as the germ is, whereas the tube of the corolla is ſimple, and the border ſix-cleft. He ſeems to think, that his plant is the ſame with the *Gandola alba* of Rumphius, but different from the *Baſella alba* of Linneus. Perhaps none of theſe are ſpecifically diſtinct.

This is a native both of China and Cochin, in the hedges and fences of their gardens.]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, which ſhould be ſown on a hot-bed in the ſpring; and when the plants are fit to remove, they ſhould be each planted into a ſeparate pot filled with rich earth and plunged into the tan-bed, where they muſt be treated in the ſame manner as other tender exotics. They may alſo be propagated by cuttings, which ſhould be laid to dry a day or two after they are taken from the plants, before they are planted, that the wound may heal, otherwiſe they will rot. Theſe cuttings muſt be planted into pots filled with light freſh earth, and plunged into a moderate hot-bed of tanners bark, where they will take root in a fortnight or three weeks time, when they ſhould be treated in the ſame manner as the ſeedling plants. But as theſe riſe ſo eaſily from ſeeds, it is ſeldom they are propagated any other way, becauſe they are plants of ſhort duration. Theſe flower from june to autumn, and the ſeeds ripen in ſeptember and december.

Theſe plants will climb to a conſiderable height, and ſend forth a great number of branches, ſo that they ſhould have a place near the back of the ſtove, where they may be trained up to a trelliſe, or faſtened to the back of the ſtove, otherwiſe they will twiſt themſelves about whatever plants ſtand near them, and be very injurious to the other plants; whereas, when they are regularly trained to a trelliſe, they will have a good effect in adding to the variety.

[Basil. See *Clinopodium.*

Basilicum. See *Ocymum.*

BASSIA. (*Named by Koenig, in honour of Ferdinando Baſſi, Curator of the Botanic Garden at Bologna.*)

Lin. gen. Reich. n. 645. *Schreb.* 805. *Juſſ.* 152. *Gærtn. t.* 104.

Claſſ. 11. 1. Dodecandria Monogynia.

Nat. order of *Dumoſæ. Sapotæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved; *leaflets* coriaceous, ovate, permanent.

Cor. monopetalous, bell-ſhaped; *tube* inflated, ovate, fleſhy: *border* ſhorter than the tube, eight-parted; diviſions ovate, almoſt upright.

Stam. *Filaments* ſixteen; eight below the jaws, and eight in the middle of the tube. *Anthers* linear, ſagittate, acute, villoſe on the inſide, ſhorter than the corolla.

Pist. *Germ* ſuperior, ovate. *Style* ſubulate, twice as long as the corolla. *Stigma* acute.

Per. *Drupe* fleſhy, milky.

Seeds. *Nuts* five, oblong, three-cornered.

ESSENTIAL CHARACTER.

Cal. four-leaved. *Cor.* eight-cleft; tube inflated. *Stam.* 16. *Drupe* five-ſeeded. (*Berry* five-celled, with a ſeed in each cell. *G.*)

SPECIES.

1. Baſſia longifolia.
Lin. ſyſt. 441. *Reich.* 2. 412. *mant.* 555 & 563. *Gærtn. fruct.* 2. 104.
Illippe *Malabaris.* Miele *Ceylonenſibus.*
Leaves ovate-lanceolate, peduncles axillary.

2. Baſſia dubia.
Gærtn. fruct. 2. 105.
Conf. Vidoricum ſilveſtre 1. *Rumph. amb.* 3. 184.

3. Baſſia obovata.
Forſt. florul. n. 200.
Leaves obovate, peduncles heaped terminating.

Descriptions, &c.

1. This is a lofty tree, with the outmoſt branches recurved, thickiſh, and covered with a gray down. Leaves on the extreme branches alternate, approximating, petioled, ovate-lanceolate, quite entire, acute, veined, naked, half a foot long, deciduous. Petioles roundiſh, ſhort. Peduncles axillary, one to five, ſimple, filiform, one-flowered, upright; after the time of flowering, prolonged, pendulous[a].

Berry fleſhy, milky, with five ſeeds, one in each cell; they are oblong, very ſlightly compreſſed, ſometimes acuminate at each end, ſometimes only at the baſe, very ſmooth, ſhining, yellow with a white band[b].

Native of Malabar and Ceylon.

2. Seed large, half-moon ſhaped, flatted like a lens, ſmooth, ſhining, of a dark cheſnut colour, except an oblong, rugged umbilical area, which is pale and almoſt white. The ſhell is thick, ſtony, and very hard. The ſeeds of Baſſia are with difficulty diſtinguiſhed from thoſe of Sapota, without attending to the *albumen* of which Baſſia is entirely deſtitute; the inner integument of the ſeed is alſo commonly wanting[c].

3. Native of the iſle of Tanna, in the South Seas[d].

[BASSOVIA.

Lin. gen. Schreb. n. 348. *Aubl.* 85. *Juſſ.* 419.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, permanent, five-parted; *parts* ovate, acute.

Cor. one-petalled. *Tube* very ſhort. *Border* five-cleft, ſpreading: *clefts* ovate, acute, larger than the calyx.

Stam. *Filaments* five, inſerted into the tube of the corolla, and oppoſite to its clefts. *Anthers* ovate.

Pist. *Germ* ovate, ſitting on a glandule. *Style* ſhort. *Stigma* thickiſh, obtuſe.

Per. *Berry* ovate, knobbed.

Seeds very many, kidney-ſhaped, girt with a membrane, neſtling in pulp.

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[a] Gærtner. [b] Hort. kew. [c] Ibid. [d] Linn. [e] Loureiro.

[a] Linn. [b] Gærtner. [c] Ibid. [d] Forſt.

ESSENTIAL CHARACTER.

Cor. five-cleft, ſpreading, with a very ſhort tube. *Berry* ovate, knobbed, with many ſeeds.

SPECIES.

1. Baſſovia ſylvatica.
Aublet. guian. 217. *t.* 85.

DESCRIPTION, *&c.*

Stems herbaceous, three or four feet high, branched. Leaves alternate, ovate-acute, ſmooth, quite entire, on a petiole about an inch in length; the largeſt are ten inches long, and four and a half broad. Flowers in axillary corymbs, green and very ſmall. Native of Guiana, in wet foreſts, flowering and fruiting in june[a].

Bastard Alkanet. See *Lithoſpermum.*
———— Balm. See *Melittis.*
———— Cabbage-tree. See *Geoffroya.*
———— Cedar. See *Theobroma Guazuma.*
———— Creſs. See *Thlaſpi.*
———— Feverfew. See *Parthenium.*
———— Gentian. See *Sarothra.*
———— Hare's-ear. See *Phyllis.*
———— Hatchet Vetch. See *Biſerrula.*
———— Hemp. See *Datiſca.*
———— Hibiſcus. See *Achania.*
———— Jeſuit's Bark Tree. See *Iva.*
———— Indigo. See *Amorpha.*
———— Knot-graſs. See *Corrigiola.*
———— Lupine. See *Trifolium Lupinaſter.*
———— Orpine. See *Andrachne.*
———— Pimpernel. See *Centunculus.*
———— Plantain. See *Heliconia Bibai* and *Centunculus.*
———— Quince. See *Meſpilus Chamæmeſpilus.*
———— Saffron. See *Carthamus.*
———— Toad-flax. See *Theſium.*
———— Vetch. See *Phaca.*

Basteria. See *Calycanthus.*

Bata. See *Muſa.*

Batatas. See *Convolvulus.*]

[BATIS. (Βατις, *the name of an herb, which bears ſome reſemblance to Bramble,* Βατος. Pliny.)
Lin. gen. n. 1104. *Reich.* 1208. *Schreb.* 1503. *Brown.* 356. *Jacqu. amer.* 260. *Juſſ.* 443.
Claſſ. 22. 4. Dioecia Tetrandria.

GENERIC CHARACTER.

* *Male.*

Cal. *Ament* pyramidal, ſcales one-flowered, four-fold imbricate. *Cor.* none.

Stam. *Filaments* four, erect, longer than the ſcales of the ament. *Anthers* oblong, twin, incumbent.

* *Female,* on a ſeparate plant.

Cal. *Ament* common fleſhy, containing ſome floſcules conglobated into an ovate, quadrangular body: involucre two-leaved. *Cor.* none.

Pist. *Germ* quadrangular, faſtened to the ament. *Style* none. *Stigma* two-lobed, obtuſe, villoſe.

Per. *Berry* conjoined with the reſt, one-celled.

Seeds four, triangular, acuminate.

ESSENTIAL CHARACTER.

Male. *Ament* four-fold imbricate. *Cal.* and *Cor.* none.

Fem. *Ament* ovate; involucre two-leaved. *Cal.* and *Cor.* none. *Stigma* two-lobed, ſeſſile. *Berries* conjoined, four-ſeeded.

SPECIES.

1. Batis maritima.
Lin. ſpec. 1451. *ſyſt.* 883. *Reich.* 4. 240. *Jacqu. amer.* 260. *t.* 40. *f.* 4. *pict.* 127. *t.* 246. *Brown. jam.* 356. *Sloan. jam.* 1. 144. (Kali.)

DESCRIPTION, *&c.*

This is a ſhrub four feet high or leſs. Stems brittle, round, aſh-coloured, much branched, diffuſed, procumbent: the young branches are four-cornered, four-furrowed, green, oppoſite and upright. Leaves oblong, thicker above, acute, gradually drawing to a point towards the baſe, fleſhy, ſucculent, flat above convex beneath, ſeſſile, oppoſite, ſcarcely an inch long, numerous. Stigmas white. Fruits yellow or greeniſh yellow. The whole plant is very ſalt to the taſte; and it is burnt for barilla at Carthagena, *&c.* Native of the Caribbee iſlands, and the neighbouring continent[b]. It is very common on all the ſalt marſhes on the ſouth ſide of Jamaica. Linneus doubts whether this be diſtinct from the *Bucephalon* of Plumier.

Battata. See *Dioſcorea.*

Battatas. See *Helianthus.*

BAUHINIA. (*This genus was ſo named by Plumier, in honour of the two famous Botaniſts John and Caſpar Bauhin.*)
Lin. gen. n. 511. *Reich.* 554. *Schreb.* 697. *Plum.* 13. *Juſſ.* 351.
Claſſ. 10. 1. Decandria Monogynia.
Nat. order of *Lomentaceæ. Leguminoſæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* oblong, gaping longitudinally on the lower ſide, reclining on the other, gaping alſo five ways at the baſe, with five cohering leafiets above, deciduous.

Cor. *Petals* five oblong, waved, with attenuated reflected tops, expanding; the lower ones a little larger, the upper one more diſtant, all with claws placed on the calyx.

Stam. *Filaments* ten, declining, ſhorter than the corolla; the tenth much the longeſt. *Anthers* ovate, always on the tenth, ſeldom on the reſt.

Pist. *Germ* oblong, ſitting on a pedicel. *Style* filiform, declining. *Stigma* obtuſe, riſing.

Per. *Legume* long, ſubcolumnar, one-celled.

Seeds many, roundiſh, compreſſed, placed according to the length of the legume.

Obs. B. divaricata & acuminata *have diadelphous filaments, in a ſituation contrary to that of papilionaceous flowers, the ſolitary ſtamen occupying the lower place.*

ESSENTIAL CHARACTER.

Cal. five-cleft, deciduous. *Pet.* expanding, oblong, with claws, the upper one more diſtant, all inſerted into the calyx. *Legume.*

SPECIES.

1. Bauhinia ſcandens. *Climbing Mountain Ebony.*
Lin. ſpec. 535. *Reich.* 2. 245. *Loefl. it.* 218.
Clematitis indica, &c. *Raii ſuppl.* 328. *n.* 13 & 14.
Folium linguæ. *Rumph. amb.* 5. *t.* 1.
Naga-mu-valli. *Rheed. mal.* 8. 57. *t.* 30, 31.
Stem cirrhiferous.

2. Bauhinia aculeata. *Prickly-ſtalked Mountain Ebony.*
Lin. ſpec. 535. *Reich.* 2. 246. *hort. cliff.* 156. *n.* 1. *t.* 14. *Loefl. it.* 219. *Jacqu. amer.* 119. *t.* 177. *f.* 2. *edit.* 2. *pict.* 60. *t.* 260. *f.* 31. *Plum. gen.* 23. *ic.* 44. *f.* 1.
Stem prickly.

3. Bauhinia divaricata. *Dwarf Mountain Ebony.*
Lin. ſpec. 535. α. *Reich.* 2. 246. *hort. cliff.* 156. *n.* 2. *t.* 15.
Leaves ſmooth; lobes divaricated acute two-nerved; petals lanceolate.

4. Bauhinia ungulata.
Lin. ſpec. 535. *Reich.* 2. 246. *hort. cliff.* 157. 3.
Leaves ovate; lobes parallel.

5. Bauhinia variegata. *Variegated Mountain Ebony.*
Lin. ſpec. 535. *Reich.* 2. 246.
Arbor ſ. Thomæ. *Zanon. hiſt.* 26. *t.* 15.
Chovanna-mandaru. 1. *Rheed. mal.* 1. 57. *t.* 32. *Raii hiſt.* 1751. *n.* 1. *Burm. ind.* 94.
Calyxes one-leafed burſting; petals ſeſſile ovate; lobes of the leaves ovate obtuſe.

6. Bauhinia purpurea. *Purple Mountain Ebony.*
Lin. ſpec. 536. *Reich.* 2. 247.
Chovanna-mandaru. 2. *Rheed. mal.* 1. 59 *t.* 33. *Raii hiſt.* 1751. *n.* 2.
Mandaru ſecunda ſpecies. *Pluk. alm.* 240. *Burm. ind.* 94.
Leaves ſubcordate, two-parted, rounded, tomentoſe underneath.

7. Bauhinia tomentoſa. *Downy Mountain Ebony.*
Lin. ſpec. 536. *Reich.* 2. 247. *hort. cliff.* 157. *n.* 4. *upſ.* 99. *fl. zeyl.* 147. *Burm. zeyl.* 44. *t.* 18. *Burm. ind.* 94.
Mandaru maderaſpatenſe. *Pluk. alm.* 240. *t.* 44. *f.* 6.

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[a] Aublet.

[b] Jacquin.

Canſchena-pou. *Rheed. mal.* 1. 63. *t.* 35. *Raii hiſt.* 1752.
Leaves cordate, lobes ſemiorbiculate tomentoſe.

8. Bauhinia acuminata. *Sharp-leaved Mountain Ebony.*
Lin. ſpec. 536. *Reich.* 2. 247. *hort. cliff.* 157. *n.* 5. *fl. zeyl.* 148.
Velutta-mandaru. *Rheed. mal.* 1. 61. *t.* 34. *Raii hiſt.* 1751. 3.
Leaves ovate, lobes acuminate ſemiovate.

9. Bauhinia emarginata.
Mill. dict. n. 5.
B. aculeata fol. rotundo emarginato, fl. magno albo. *Houſt.*
Stem prickly, leaves cordate with round lobes, tomentoſe underneath.

10. Bauhinia rotundata.
Mill. dict. n. 7.
B. acul. fol. ſubrotundis bicornibus, fl. magno albo. *Houſt.*
Stem prickly, leaves ſubcordate two-parted rounded, flowers ſcattered.

11. Bauhinia aurita. *Long-eared Mountain Ebony.*
Ait. hort. kew. 2. 48. *Mill. fig.* 41. *t.* 61.
B. divaricata β. *Lin. ſpec.* 535.
Leaves ſubtranſverſe at the baſe, lobes lanceolate porrected three-nerved; petals lanceolate.

[12. Bauhinia porrecta. *Smooth broad-leaved Mountain Ebony.*
Swartz. prodr. 66. *Ait. hort. kew.* 2. 48. *Plum. gen.* 23. *ic.* 32. *t.* 44. *f.* 2. *Brown. jam.* 286. 1. *Sloan. jam.* 2. 51. (Senna.)
Leaves cordate, lobes porrected acute three-nerved, petals lanceolate.

13. Bauhinia candida. *White-leaved Mountain Ebony.*
Ait. hort. kew. 2. 49.
Leaves cordate pubeſcent underneath, lobes ovate obtuſe; calyxes attenuated upwards and elongated.

DESCRIPTIONS, *&c.*

The Bauhinias are trees or ſhrubs, ſome of them climbing. The leaves are ſimple, but two-lobed or two-parted, which circumſtance gave occaſion to Plumier to name this genus from the two famous brothers. The flowers are in ſpikes or racemes, either axillary or terminating.]

1. This riſes with many ſlender ſtalks, which put out tendrils, and faſten themſelves to the neighbouring trees, whereby they riſe to a great height. Leaves alternate, heart-ſhaped, on long footſtalks; they are ſix inches long, and three inches and a half broad in the middle, and are deeply cut into two pointed lobes, each having three prominent ribs running longitudinally. It is native of both Indies, and has not produced flowers in England. The ſeeds were ſent to Mr. Miller from Campeachy, [probably before the year 1752.

The flowers are at firſt whitiſh, but turn to a yellowiſh colour. They ſeem to appear but ſeldom even in their place of natural growth. The fruit is ſlender and flat, half a foot or a palm in length, and an inch in breadth, hard, ſmooth, very dark brown; it contains ſix or eight flat bony ſeeds, black with a ſilvery border [a].

2. This is an erect inelegant ſhrub, the height of a man. The trunk and branches are very prickly. Leaves roundiſh; the two lobes alſo are roundiſh and blunt. The flowers are large, white, and have a ſcent which is ſomewhat unpleaſant. Sometimes the fold of the calyx is entire, not cloven [b].

Linneus adds, that the leaves are cloven to one-third of their depth, that they are ſmooth, have nine nerves, and a very ſmall thread from the diviſion of the leaf, that the petiole is thicker and callous at both ends, and that there is one ſtrong ſharp ſhort prickle at the baſe of the petiole on each ſide, from the top of which, when young, nectareous drops diſtil [c].]

Mr. Miller ſays, that it riſes to the height of ſixteen or eighteen feet, in Jamaica, where it grows plentifully, and the other ſugar iſlands in America; that the ſtalks are terminated by ſeveral long ſpikes of yellow flowers, which are ſucceeded by bordered pods, about three inches long, containing two or three ſwelling ſeeds; that theſe pods are glutinous, and have a ſtrong balſamic ſcent, as have alſo the leaves when bruiſed; and that it is called in America, the Indian Savin-tree, from its ſtrong odour, ſomewhat reſembling the common Savin.

[According to Jacquin, it is frequent about Carthagena in woods. It was cultivated by Mr. Miller, in 1752 [d].]

3. This is a low ſhrub, ſeldom riſing more than five or ſix feet high, dividing into ſeveral branches. [The ſtem is ſtraight and unarmed, except that it has two reflex prickles at the origin of the branches, ſo ſmall as to be ſcarcely viſible. Leaves cordate, five-nerved, cloven half way, with the lobes ſtanding very wide from each other, whence the trivial name. Flowers in a ſimple upright raceme. Corolla white [e].] They have a very agreeable ſcent, appear moſt part of the ſummer, and are one of the greateſt beauties of the hot-houſe. The pods are taper, about four inches long, and contain four or five dark-coloured ſeeds. It grows naturally in great plenty on the north ſide of the iſland of Jamaica. [Cultivated before 1742, by Robert James Lord Petre. It flowers from june to ſeptember [f].

4. This differs from the others in having the leaves more oblong, entire and not at all emarginate at the baſe, cloven to the middle into two ſtraight parallel lobes, and having nine nerves, the outmoſt of which are very ſmall. The calyx is very long, ſtreaked and of a gray colour; the petals are ſubulate: ſtamens alternately ſhorter; legume very long, pendulous [g].]

It riſes to the height of twenty feet, with a ſmooth ſtem, dividing into many ſmall branches; which are terminated by looſe bunches of white flowers; and theſe are ſucceeded by very long narrow compreſſed pods, with eight or ten ſeeds in each. Native of America; Mr. Miller ſays, that he received the ſeeds from Campeachy.

5. This riſes with a ſtrong ſtem, upwards of twenty feet high, dividing into many ſtrong branches. The flowers are large, and grow in looſe panicles at the extremity of the branches, of a purpliſh red colour, marked with white, and the bottom yellow. The pods are about ſix inches long, and three quarters of an inch broad, containing three or four compreſſed ſeeds in each. It grows naturally in both Indies: [and was introduced here in 1690, by Mr. Bentick [h].

6. This alſo is a tall tree, but differing from the foregoing ſort in having larger leaves, more deeply cut, and a little more contracted on the ſides. In the flowers, the calyx is yellowiſh green and red; the corolla is of a very red purple, and one petal out of the five is ſtreaked with white on the claw both within and without [i]; they are all lanceolate and diſtant [k]. The legumes are larger than thoſe of any other ſort, being one and a half or two ſpans in length, and an inch in breadth [l]. Native of the Eaſt-Indies, where it flowers the whole year. Mr. Miller affirms, that it grows naturally at La Vera Cruz; but he ſeems to have miſtaken the ſpecies. It was introduced here in 1778 [m].

7. This grows to the height of two fathoms, with a trunk nearly ſix inches in diameter, and divides into many branches. The leaves are much ſmaller than in the foregoing ſpecies [n]; they are rounded, cloven half way, ſeven-nerved and blunt, with the lobes rounded and almoſt upright [o]; they have a ſtrong ſcent, eſpecially if rubbed during the night, when the lobes are clapped together. The flowers have a green calyx, and a bell-ſhaped, yellowiſh-white corolla; one of the petals has a duſky red-purple ſpot at the claw, reſembling a little ſharp-pointed leaf. Stamens yellowiſh-white. The flowers have no ſmell [p].

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[a] Rumphius.
[b] Jacquin.
[c] Hort. cliff.
[d] Hort. kew.
[e] Hort. cliff.
[f] Hort. kew.
[g] Hort. cliff.
[h] Hort. kew.
[i] Hort. malab.
[k] Linn.
[l] Hort. malab.
[m] Hort. kew.
[n] Hort. malab.
[o] Linn.
[p] Hort. malab.

Native of the Eaſt-Indies.] Mr. Miller ſays, that it was ſent him from Campeachy in 1730, by the late Dr. Houſtoun: [but he ſeems again to confound the ſpecies. It was cultivated, according to Ray, by Compton Biſhop of London, in 1687.

8. This is only about the height of a man, with a trunk the thickneſs of the human arm. The leaves are more deeply cut, longer, contracted into a cuſp or point towards the end, nine-nerved, leſs divaricated. The flowers are bell-ſhaped, of a very pure white without any ſpots, void of ſcent; the petals are rounded and quite blunt. Stamens white[q]; in this and the third ſpecies diadelphous the contrary way to what they are in the papilionaceous flowers[r]. Legumes ſmaller than in the others, being only four or five inches in length; they are an inch broad, ſmooth, a little bent on one ſide, with a round broad back[s].

Native of the Eaſt-Indies. Mr. Miller ſays, it grows naturally in both Indies, but he has confounded this with the twelfth ſpecies.]

9. This ſeldom riſes more than ten feet high, dividing into many irregular branches, armed with ſhort crooked ſpines; the leaves grow alternate, are heart-ſhaped, and have two roundiſh lobes; they are woolly on their under ſide, and have ſhort footſtalks. The flowers grow at the extremity of the branches, two or three together; theſe are large, and of a dirty white colour, and are ſucceeded by ſhort flat pods, each containing two or three ſeeds.

10. This riſes twenty feet high, with a ſtrong upright ſtem, which ſends out many branches toward the top; armed with ſpines growing by pairs, which are ſtrong and crooked. The leaves are heart-ſhaped and grow alternately, having two rounded lobes. The flowers are large and white, coming out thinly at the ends of the branches. The petals of theſe are near two inches long, and ſpread open wide; the ſtamens and ſtyle are nearly of the ſame length. The flowers are ſucceeded by long flat pods, which are narrow, each containing five or ſix ſeeds.

Both theſe are natives of Carthagena in New Spain. [I give them on Mr. Miller's authority; but they are nothing more than varieties of the ſecond ſpecies.]

11. This ſort approaches near to the *B. non aculeata, folio ampliori & bicorni* of Plumier, (B. porrecta, n. 12.) but the lobes of the leaves are much longer, nor are the flowers ſo large as in his plant, which is figured in *Hort. malab.* by the title of *Velutta-Mandaru*, and is *B. acuminata* of Linneus n. 8.[t]

[It was cultivated in 1756, by Mr. Miller, and flowers in ſeptember[u].

12. This tree riſes to about fifteen feet in height, having ſeveral ſtraight trunks about the thickneſs of a man's leg, covered with a whitiſh bark, dividing into many branches and twigs, making a pleaſant top. The leaves are three inches long, and two broad in their broadeſt part, yellowiſh green, ſmooth, thin, having ſeven or more ribs, with ſome tranſverſe ones, making the whole very nervous; the petioles are an inch long. The flowers come out at the ends of the twigs ſeveral together, on pedicels half an inch in length: petals long, red white variegated or ſtriated: ſtamens long and white. Legumes five or ſix inches in length, brown. It grows on the hills every where in Jamaica. The wood is very hard, and veined with black, whence the name of Ebony[x].

It was cultivated by Mr. Miller in 1739, and flowers in july[y].

13. This is a native of the Eaſt-Indies, where it was obſerved by Claude Ruſſel, Eſq. It was introduced in 1777, by Patrick Ruſſel, M. D. and flowers in may and june[z].

The proper place of the eleventh ſpecies is after the third, of which it was ſuppoſed by Linneus to be only a variety. The twelfth ſhould come in between the ſeventh and eighth. The fifth, thirteenth, and ſixth ſhould be placed after the eighth. The ninth and tenth may be referred, as varieties, to the ſecond. There are many other ſpecies both from the Eaſt and Weſt Indies, not yet ſufficiently determined. The whole genus indeed requires to be ſtudied anew, in order to eſtabliſh the ſpecies on better principles than we poſſeſs at preſent.]

PROPAGATION AND CULTURE.

All theſe plants being natives of hot countries, will not thrive in England, unleſs they are kept in the bark-ſtove. They are propagated by ſeeds, which muſt be procured from the countries where they grow naturally, for they do not perfect their ſeeds in England.

The third ſort has ſeveral times produced pods in the Chelſea garden, but they have never come to maturity. The ſeeds ſhould be brought over in their pods, which will preſerve them good. Theſe muſt be ſown in pots filled with light freſh earth, and plunged into a moderate hot-bed of tanners-bark; if the ſeeds are good, the plants will come up in about ſix weeks, and in a month after, will be fit to tranſplant, when they ſhould be carefully ſhaken out of the ſeed pot, ſo as not to tear off the roots, and each planted into a ſeparate ſmall pot filled with light loamy earth, and plunged into the hot-bed again, being careful to ſhade them until they have taken freſh root, after which they ſhould have freſh air admitted to them every day in warm weather. In the autumn they muſt be placed in the bark-ſtove, and treated in the ſame way as other tender exotics, giving them but little water in winter. As theſe plants frequently flower, they are worthy of a place in the ſtove.

[BAWD-MONEY. See *Æthuſa Meum.*]

BAY. See *Laurus.*

[BAY, Loblolly. See *Gordonia.*

BEAD-TREE. See *Melia.*

BEAM-TREE. See *Cratægus Aria.*]

BEAN. See *Vicia Faba.*

——, Kidney or French. See *Phaſeolus.*

[BEAN-CAPER. See *Zygophyllum.*]

BEAN-TREFOIL. See *Anagyris* and *Cytiſus.*

[BEAR-BERRY. See *Arbutus.*

BEAR'S-BREECH. See *Acanthus.*

BEAR'S-EAR. See *Primula Auricula.*]

———— Sanicle. See *Verbaſcum.*

BEAR'S-FOOT. See *Helleborus.*

BECABUNGA. See *Veronica.*

BEE-FLOWER, or Orchis. See *Ophrys.*

BEECH-TREE. See *Fagus.*

BEET. See *Beta.*

BEFARIA. See *Bejaria.*

[BEGONĬA. (*So named by Plumier, from Monſ. Begon*.*)

Lin. gen. n. 1156. *Reich.* 1165. *Schreb.* 1442. *Dryander in Linn. tranſact.* 1. 158. *Tournef. inſt. t.* 442. *Gærtn. fruct. t.* 31. *Juſſ. gen.* 436.

Claſſ. 21. 8. Monoecia Polyandria.

Nat. order of *Holoraceæ.—Incertæ* Juſſ.

GENERIC CHARACTER.

* *Male flowers.*

CAL. none.

COR. *Petals* four (in *B. octopetala* ſix to nine.), of which two oppoſite ones are larger, commonly roundiſh (in *B. ferruginea* all nearly equal, oblong.)

STAM. *Filaments* numerous (fifteen to one hundred) inſerted into the receptacle, very ſhort, ſometimes united at the baſe. *Anthers* oblong, erect.

* *Female flowers,* uſually on the ſame common peduncle with the males.

CAL. none.

COR. *Petals* in moſt ſpecies five, in ſome ſix, in others perhaps four, commonly unequal.

PIST. *Germ* inferior, three-ſided, in very many winged. *Styles* in moſt three, bifid. *Stigmas* ſix.

PER. *Capſule* in moſt three-cornered, winged, three-celled, opening at the baſe by the wings; ſome are two-celled, and others perhaps one-celled.

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[q] Hort. malab. [r] Linn. [s] Hort. malab. [t] Mill. fig. [u] Hort. kew. [x] Sloane. [y] Hort. kew. [z] Ibid.

* Regi Galliæ ab intimis conſiliis, et rei nauticæ in ora Santonum præfectus.

ESSENTIAL CHARACTER.

MALE. *Cal.* none. *Cor.* many-petalled. *Stam.* numerous.

FEM. *Cal.* none. *Cor.* many-petalled, ſuperior. *Capſ.* winged, many-ſeeded.

SPECIES.

1. Begonia nitida.
Dryand. in Linn. tranſ. 1. 159. *Ait. hort. kew.* 3. 352.
B. obliqua. *L'Herit. ſtirp. nov.* 1. 95. *t.* 46.
B. minor. *Jacqu. collect.* 1. 128. *n.* 3.
B. purpurea. *Swartz. prodr.* 86.
Shrubby erect, leaves very ſmooth unequally cordate obſcurely toothed, largeſt wing of the capſule roundiſh.

2. Begonia iſoptera.
Dryand. in Linn. tranſ. 1. 160. *Smith ic. ined.* 2. *t.* 43.
Cauleſcent, leaves ſmooth ſemicordate obſcurely toothed, wings of the capſule almoſt equal parallel.

3. Begonia reniformis.
Dryand. in Linn. tranſ. 1. 161. *t.* 14. *f.* 1, 2.
Cauleſcent, leaves kidney-ſhaped angular toothed, the largeſt wing of the capſule acute-angled, the others parallel very ſmall.

4. Begonia erminia.
Dryand. in. Linn. tranſ. 1. 162. *L'Herit. ſtirp. nov.* 1. 97. *t.* 47.
Cauleſcent, leaves cordate acuminate ſerrate, the largeſt wing of the capſule ſickle-ſhaped, the reſt obliterated.

5. Begonia crenata.
Dryand. in Linn. tranſ. 1. 162. *t.* 14. *f.* 3.
Cauleſcent, leaves unequally cordate roundiſh obtuſe crenate-toothed, capſules two-celled.

6. Begonia tenuifolia.
Dryand. in Linn. tranſ. 1. 162. *t.* 14. *f.* 4.
Cauleſcent, leaves unequally cordate ovate acute angular obſcurely toothed, capſules two-celled.

7. Begonia ferruginea.
Dryand. in Linn. tranſ. 1. 163. *Smith ic. ined.* 2. *t.* 44. *Linn. ſuppl.* 419. *Lamarck encycl.* 1. 395. *n.* 9. *Jacqu. collect.* 1. 128. *n.* 1.
Cauleſcent, leaves unequally cordate toothed, petals of the male flower oblong nearly equal.

8. Begonia grandis.
Dryand. in Linn. tranſ. 1. 163.
B. obliqua. *Thunb. jap.* 231. *Kæmpf. ic. ſelect. t.* 20.
Sjukaido. *Kæmpf. amæn.* 888.
Cauleſcent, leaves unequally cordate angular ſerrate, wings of the capſule a little unequal.

9. Begonia macrophylla.
Dryand. in Linn. tranſ. 1. 164. *Lamarck encycl.* 1. 394. *n.* 6.
B. grandifolia. *Jacqu. collect.* 1. 128. *n.* 2.
B. purpurea et nivea maxima, folio aurito. *Plum. ic.* 34. *t.* 45. *f.* 1.

10. Begonia acutifolia.
Dryand. in Linn. tranſ. 1. 165. *Jacqu. collect.* 1. 128. *n.* 4. *Sloan. jam. t.* 127. *f.* 1, 2.
Cauleſcent, leaves ſemicordate angular toothed, the largeſt wing of the capſule obtuſe-angled, the others acute-angled.

11. Begonia acuminata.
Dryand. in Linn. tranſ. 1. 166. *t.* 14. *f.* 5, 6.
Cauleſcent, leaves hiſpid ſemicordate acuminate unequally toothed, the largeſt wing of the capſule obtuſe-angled, the others acute-angled.

12. Begonia humilis.
Dryand. in Linn. tranſ. 1. 166. *t.* 15. *Ait. hort. kew.* 3. 353.
Cauleſcent upright, leaves hiſpid ſemicordate doubly-ſerrate, wings of the capſule rounded a little unqual.

13. Begonia hirſuta.
Dryand. in Linn. tranſ. 1. 167. *Aublet guian.* 913 *t.* 348. *Lamarck encycl.* 1. 393. *n.* 3. *Jacqu. collect.* 1. 129. *n.* 8.
Cauleſcent, leaves hiſpid ſemicordate doubly ſerrate, the largeſt wing of the capſule obtuſe-angled, the others parallel and very ſmall.

14. Begonia Urticæ.
Dryand. in Linn. tranſ. 1. 167. *Linn. ſuppl.* 420. *Lamarck encycl.* 1. 394. *n.* 8. *Jacqu. collect.* 1. 129. *n.* 7.
B. urticæfolia. *Smith ic. ined.* 2. *t.* 45.
Cauleſcent radicant, leaves hiſpid on both ſides unequally ovate doubly ſerrate, capſules three-horned at the baſe.

15. Begonia ſcandens.
Dryand. in Linn. tranſ. 1. 168. *Swartz prodr.* 86.
B. glabra. *Aublet guian.* 916. *t.* 349. *Lamarck encycl.* 1. 394. *n.* 4. *Jacqu. collect.* 1. 129. *n.* 5.
Scandent radicant, leaves ovate-roundiſh obſcurely toothed, the largeſt wing of the capſule obtuſe-angled, the others parallel and very ſmall.

16. Begonia tuberoſa.
Dryand. in Linn. tranſ. 1. 168. *Lamarck encycl.* 1. 393. *n.* 1.
Empetrum acetoſum. *Rumph. amb.* 5. 457. *t.* 169. *f.* 2.
Creeping, leaves unequally cordate angular toothed, wings of the capſule parallel.

17. Begonia rotundifolia.
Dryand. in Linn. tranſ. 1. 169. *Lamarck encycl.* 1. 394. *n.* 7.
B. obliqua δ. *Linn. ſpec.* 1498.
B. roſeo flore, folio orbiculari. *Tournef. inſt.* 660. *Plum. cat. amer.* 20. *ic.* 33. *t.* 45.
Creeping, leaves reniform-roundiſh crenate.

18. Begonia nana.
Dryand. in. Linn. tranſ. 1. 169. *L'Herit. ſtirp. nov.* 1. 99. *t.* 48.
Stemleſs, leaves lanceolate, ſcape with about two flowers.

19. Begonia tenera.
Dryand. in Linn. tranſ. 1. 169. *t.* 16.
Falkea tenera. *Koenig M. S. S. in bibl. Banks.* 17. *p.* 227.
Stemleſs, leaves unequally cordate, flowers umbelled.

20. Begonia diptera.
Dryand. in Linn. tranſ. 1. 170.
B. capenſis. *Linn. ſuppl.* 420. *Jacqu. collect.* 1. 130. *n.* 9. *Linn. mant.* 502.
Stemleſs, leaves unequally cordate, peduncles dichotomous, one wing of the capſule very large, another narrow, and the third obſcure.

21. Begonia octopetala.
Dryand. in Linn. tranſ. 1. 171. *L'Herit. ſtirp. nov.* 1. 101.
Stemleſs, leaves cordate five-lobed, peduncles dichotomous.

22. Begonia malabarica.
Dryand. in Linn. tranſ. 1. 171. *Lamarck encycl.* 1. 393. *n.* 2. *Jacqu. collect.* 1. 129. *n.* 6. *Rheed. mal.* 9. 167. *t.* 86.
Stems herbaceous, peduncles axillary ſhort ſubtriflorous, fruits berried.

23. Begonia repens.
Dryand. in Linn. tranſ. 1. 172. *Lamarck encycl.* 1. 394. *n.* 5.
B. obliqua γ. *Linn. ſpec.* 1498. *Plum. amer.* 20. *ic.* 34. *t.* 45. *f.* 2.
Stems creeping rooting at the joints, leaves one-eared, peduncles axillary long many-flowered.

DESCRIPTIONS, &c.

The whole plant in the Begonias is fleſhy. The ſtem, in moſt of the ſpecies, is herbaceous, but ſome of them are ſtemleſs. The leaves are petioled, in the caulescent ſpecies alternate. At the baſe of the petioles is a pair of ſtipules. The peduncles in the greater part are dichotomous; and, in the caulescent ſpecies, axillary. They are natives of Aſia and America, within the Tropics. Three ſpecies have been found on the iſlands near the coaſt of Africa, but none on that continent[a].

Plumier gave ſix ſpecies of Begonia, but the few words by which he diſtinguiſhed them, were not ſufficient to diſcriminate them ſpecifically. Whence Linneus, in his firſt edition of his Species Plantarum, joined all theſe, together with one from

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[a] Dryander in Linn. tranſ. 1. 159.

Sloane, under the name of Begonia obliqua: and in the ſecond edition he added two more ſynonyms, one from Rumphius, and another from Browne; ſo that it contained all the ſpecies at that time known. Chev. Lamarck in the Dictionnaire Encyclopedique, and M. Jacquin in the firſt volume of his Collectanea, were the firſt who attempted to bring this confuſed genus into ſome order; but neither of them had ſeen more than one ſpecies, and were obliged to make out the reſt merely from books[b].

A ſpecies of Begonia flowering in october 1788, in Mr. Lee's garden at Hammerſmith, fortunately induced Mr. Dryander to ſtudy this genus; and he laid the reſult of his reſearches before the Linnean ſociety, the year following. The chief of what is here given is taken from that paper: and ſtudents in Botany will doubtleſs moſt ardently wiſh that many more obſcure and doubtful genera may be treated in the ſame maſterly way.

1. Stems almoſt upright, branched, round, ſmooth, as is the whole plant, with alternate cylindric branches. Leaves acute or acuminate, almoſt entire or obſcurely toothed, ſeven-nerved; one lobe of the baſe is double the ſize of the other; the younger ones are roſe-coloured about the edge; they are all very ſmooth and ſhining, bright green, paler beneath, permanent, ſpreading, four or five inches long, and two or three inches broad: the petioles are cylindric, thick, ſpreading, one-third only of the length of the leaf. Stipules ſeſſile, oblong, one-nerved, as it were three-winged from a rib winged underneath produced into a point; on the ſides membranaceous, revolute; they are ſpreading, deciduous, the length of the petiole. Racemes compound, cymoſe, androgynous, the males very numerous, the females few at the top, ſolitary, axillary, on long peduncles, dichotomous, three inches wide. Peduncles upright, cylindric, longer than the leaf, the thickneſs of the petiole. Bractes oppoſite, below the dichotomies and the pedicels, half-embracing, ovate or roundiſh, membranaceous, caducous. Corolla fleſh or roſe coloured[c], ſometimes of a darker red: in the female flowers ſix-petalled[d].

This elegant ſhrub, which is now a common ornament to our hot-houſes, was introduced here in the year 1777, by William Brown, M. D. It is a native of Jamaica[e], and flowers here from may to december.

2. Stem upright, obſcurely ſtreaked, ſmooth. Leaves acuminate, waved, veined, bright green and very ſmooth on the upper ſurface, pale ferruginous on the under, moſt minutely dotted. Petioles ſhort, ſemicylindric, ſmooth. Panicle terminating, dichotomous, many-flowered, ſmooth. Bractes oblong, membranaceous, deciduous, leaving a ſcar in form of a half ring at the baſe of each peduncle and pedicel. Male flowers ſuperior, more numerous than the females, and ſmall. Corolla two-petalled; petals cordate-roundiſh, entire, blunt, converging very cloſely before they unfold. Stamens thirty to forty: anthers obcordate, awnleſs, margined, two-celled, gaping on one ſide. Capſule turbinate, with three equal wings, with the angles bent down very much, and not aſcending. Seeds numerous, ſmall. Native of Java: where it was obſerved by Thouin[f].

3. Stems ſhort, the thickneſs of a finger. Leaves broader than they are long, crenate-toothed, with from eight to ten ſharp unequal angles, cordate at the baſe, one ſide ſmaller than the other. Petioles the length of the leaf. Common peduncle a ſpan in length, terminated by a twice dichotomous cyme, ſplitting into fourfold diviſions. Pedicels umbelled. In the male flowers, petals four croſs-ſhaped ſpreading white: two oppoſite larger ovate blunt quite entire, in the middle convex outwardly; the others only half the ſize, oblong-lanceolate, acute, ſlightly keeled. Filaments about thirty, nearly equal, yellow. Anthers linear-oblong, longer than the filaments, the length of the ſmaller petals, upright, yellow. No piſtil. In the female flowers five petals oblong, nearly equal, ſpreading, a little concave, ſharpiſh, white. Germ ovate, triangular: angles membranaceous: the membrane of the outer angle largeſt: ſtyles three, two-parted, ſomewhat villoſe: ſtigmas ſimple. Capſule ovate, with the two inner angles equal and ſmaller than the third, which is very large and extends upwards into an acute angle; it is three-celled, and the cells are cylindric, gaping at the baſe. Seeds very numerous, ovate, ſmall, faſtened to a thick columnar receptacle[g].

Native of Braſil, near Rio de Janeiro, in ſhady clefts of rocks. Obſerved there by Sir Joſeph Banks.

4. Stems few, ſimple, upright, ſcarcely a ſpan in height. Leaves nearly equal, ciliate-toothed or ſerrate, having tailed toothlets on the upper ſurface moſt conſpicuous whilſt the leaves are young; they are very ſmooth, looſely nerved, bright green on both ſides, three or four inches long, and two broad. Petioles nearly equal to the leaves. Stipules ovate, ſhort, ſubulate-acuminate. Corymbs terminating, peduncled, upright, three-parted, androgynous. Bractes under the corymb and peduncles. Flowers peduncled, upright, whitiſh: males numerous; females mixed with the males, but fewer in number and ſcarcely larger, ſolitary in each branchlet of the corymb.

Native of Madagaſcar, on ſtones and rocks by brooks; collected there by Jo. Gul. Bruguiere, M.D. who looks upon the appendices to the leaves, reſembling the galls on lime-tree leaves, or the tails in ermine, as belonging to the leaves themſelves, and not occaſioned by punctures of inſects[h].

5. Flowers pale red. The male flowers have four petals, two oppoſite ones narrower, but ſcarcely ſhorter. The female flowers have five petals, three of which are narrower. Style ſingle.

Native of the Eaſt-Indies, in the iſland Salſette, and near Fort Victory, on walls and rocks. Found there by Ant. Pantaleon Hove[i].

6. In the male flower, corolla four-petalled, compreſſed, pale fleſh-colour with red ſtreaks. Petals oppoſite in pairs; the two outer ovate-roundiſh, obtuſe, a little cordate at the baſe, three or four lines in diameter; the two inner ones only half the ſize, ovate-oblong, bluntiſh. Filaments one hundred, inſerted into a receptacle elevated into a little cone, and ſhort: anthers ovate, erect, yellow. Piſtil none. In the female flower, petals five, of the ſame colour as in the male, and of the ſame form with the outer petals in the male flower; the inmoſt leſs than the reſt. Stamens none. Germ fleſh-coloured. Styles three, ſmooth[k]. Native of Pulo Pontangh, or Prince's iſland, near Java. Found there by Sir Joſeph Banks[l].

7. Stem ſuffruticoſe, declining, round, rather ſolid, ſmooth and even: branches alternate, ſhort, ſpreading, pubeſcent, leafy. Leaves ſpreading, ſharp, obſcurely crenate, ſubciliate; on the upper ſurface deep green, roughiſh, grooved at the veins; on the under pale, covered with very ſmall rounded whitiſh ſcales crowded very cloſe together; veins alternate, ſtraight, divided, prominent, rough with hairs. Stipules ſemicordate, embracing, ſharp, quite entire, ſubciliate; one twice the ſize of the other. Panicles dichotomous, axillary or terminating. Peduncles round, pubeſcent. Bractes a pair to each flower, from upright ſpreading, ſmall, ovate, ſharp, ſubciliate, deciduous. Flowers blood-red, nodding. Males very numerous. Petals four, nearly equal, lanceolate; the two outer ones a little longer, ſharp, thicker, pubeſcent on the outſide; inner blunt, emarginate, ſmaller eſpecially before the expanſion of the flower, ſmoothiſh. Stamens equal in length to the corolla (nine to eight, commonly twelve to fourteen) upright, with flat filaments. Anthers linear-lanceolate, very long, two-celled, yellow, gaping laterally, terminating in a

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[b] Dryander in Linn. tranſ. 1. 156. [c] L'Heritier. [d] Jacquin. [e] Dryander. [f] Smith.

[g] Solander in Linn. tranſ. 1. 161. [h] L'Heritier. [i] Dryander. [k] Solander in Linn. tranſ. 1. 162. [l] Dryander, Ibid.

filiform bifid beak, which is white except at the tip, where it is red, it is at firſt convolute, and afterwards revolute. No rudiment of a piſtil.—Female flowers mixed with the males, and a little larger. Petals ſix, like thoſe of the males; the three outer ſharp and oppoſite to the angles of the germ, the three inner emarginate and oppoſite to the ſides of the germ, all inſerted below the top of it. Stamens none. Germ turbinate, pubeſcent, coloured. Styles numerous (twenty-four), in ſix parcels, dichotomous, unequal in length, upright, ſcarcely equal to the corolla. Stigmas ſimple. Capſule turbinate, triangular, crowned with a tubercle, opening at the angles below: it has no wings. Seeds numerous, ſmall[m].

It is eaſily diſtinguiſhed from the other ſpecies hitherto known, by the long and narrow petals of the male flowers, all of the ſame breadth, and very little differing in length.

Mutis gathered it in New Granada[n].

8. Stem round, ſimple, the ſize of a quill, ſmooth, green except at the joints where it is red, dotted, two feet high, lax, upright; ſometimes there is a ſmall branch from the axils. Leaves ovate, ſhorter on one ſide, ſharp, doubly ſerrate, nerved, rough with ſmall prickles, otherwiſe ſmooth, pale beneath. Petiole round, like the ſtem, a finger's length. Flowers terminating, in a dichotomous panicle. Peduncles round, red, ſmooth, divided: pedicels ſubtriflorous, ſubdivided into three other pedicels. Bractes under the peduncles and pedicels two, oppoſite, ovate, blunt, concave, entire, purple, ſmooth, a little ſhorter than the flower. Corolla (in the male flowers) four-petalled, ſmooth, purple; the petals, before they open are cordate and compreſſed; but when open they are ſpreading and unequal: the two outer cordate, roundiſh; the inner only one-fourth of the ſize. Filaments more than fifty, united at the baſe, white, ſhorter than the corolla: anthers roundiſh, twin, yellow[o].

The wings of the germ, in the figure given by Kæmpfer, from whom alone we are acquainted with the female flowers, have an acute angle in ſeveral inſtances, but in others they are rounded. Thunberg ſuppoſes this ſpecies to be dioecous, but Kæmpfer's figure has male and female flowers in the ſame panicle. It is not uncommon to find male flowers only on monoecous plants.

This ſpecies and the next have by far the largeſt leaves of any in the genus; but in this the flowers are twice as large as in macrophylla[p].

Native of Japan.

9. This is two feet high, and entirely ſmooth. The female flowers are five-petalled[q]. A ſpecimen in Sir Joſeph Banks's herbarium has a panicle conſiſting entirely of female flowers in the axilla of the lower leaf; and from the axilla of the leaf above a panicle of male flowers. Native of the iſlands in the Weſt-Indies[r].

10. This ſpecies comes very near to the following, but differs in having few or no hairs on the leaves, which are on longer footſtalks one-third or one-fourth of the length of the leaf itſelf; theſe on the contrary are ſo ſhort in B. acuminata, as not to equal the angle of the leaf, which extends beyond the inſertion of the footſtalk[s]. According to Jacquin, the ſtems creep, and as they run along, put out both roots, and upright branches a foot and half in height.

Native of Jamaica, where it was obſerved by Sir Hans Sloane, and ſince by Maſſon. Sloane's deſcription does not accord either with his figure or ſpecimens[t].

11. In the male flowers four petals, of which two that are oppoſite are ſmaller. The female flowers have five petals, of which two alſo are ſmaller than the reſt. At the baſe of the germ are two bractes, which are ſharply ſerrate, and only half the length of the germ.

Native of Jamaica, on the blue mountains. Introduced into the Royal garden at Kew in 1790[u].

12. The whole plant is pellucid. Stem, petioles and peduncles pale red. Stem round, ſwelling at the joints, a ſpan high the firſt year, and two feet the ſecond. Leaves acuminate, the ſerratures ciliate, the upper ſurface deep green, hiſpid with ſoft upright *ſtrigæ*, tubercled at the baſe; the lower pale green, quite ſmooth except a few *ſtrigæ* on the veins, as alſo on the petioles. Stipules ſemi-ovate, concave, ciliate, hyaline. Peduncles axillary, uſually dichotomous. Bracte at the baſe of the pedicels, ovate, ciliate, minute. In the male flower, petals white; two cordate-orbiculate, large; two very ſmall; theſe are wanting in ſome flowers. Filaments about fifteen, very ſhort: anthers oblong, yellow. In the female flowers, petals five, white, permanent, obovate-oblong, two a little narrower. Germ three-cornered, the corners ſharp; the wings rounded, a little unequal, pale fleſh-colour. Styles three, very ſhort. Stigmas two-parted, the parts divaricate, then converging, and afterwards diverging again; they are yellow, and covered with very ſmall glands.

It is a native of the iſland of Trinidad in the Eaſt-Indies, and was found there by Alex. Anderſon.

When this plant flowered in Mr. Lee's garden at Hammerſmith in october 1788, it was ſuppoſed to be annual, having produced flowers and fruits in a few months from its being ſown. It was then very low, whence it got the trivial name of *humilis*, but it has ſince ſtood over the winter, and grown much taller[x].

13. Stem cylindric, branched. Leaves eared, ovate, deeply notched, ſharp, ſtreaked with red veins, petioled. Stipules long, toothletted. Flowers panicled, terminating, dichotomous, with two ſmall linear ſcales at the baſe of each. Corolla white[y].

The female flowers, according to Jacquin, are five-petalled. He affirms alſo, that this ſort is annual and dioecous; but that may be a miſtake. See n. 8.

Obſerved by Monſ. Fuſée Aublet, on the rocks of Guiana.

14. Stems very many, a foot high, aſcending, jointed, throwing out roots at the joints, branched, leafy, roundiſh, ſubflexuoſe, rough with hairs at top. Leaves ſpreading, ſharp, the ſerratures tipt with a hair, pale beneath, when they grow old entirely red. Petioles ſhort, round, rough with hairs. Stipules ovate, membranaceous, ſetaceous-toothed at the tip, ſomewhat hairy on the outſide. Peduncles axillary, the length of the leaf, upright, filiform, rough with hairs. Bractes membranaceous, ciliate-toothed, coloured. Flowers uſually in pairs, a male with a female, ſmall, blood-red. In the male, petals four; the two outer oppoſite, ovate, hairy on the outſide towards the tip; the inner narrower, ſcarcely ſhorter, paler and more tender, ſmooth. Stamens ſcarcely equal to the corolla (fourteen to eighteen) upright. Filaments ſhort, irregularly united, whitiſh, ſmooth: anthers oblong, awnleſs, two-celled, gaping at the ſides, yellow. No rudiment of a piſtil. Female flowers very like the males; petals ovate, obtuſe, probably five. No ſtamens. Germ inferior, very large, hairy, three-horned at the baſe, crowned at the tip with the ſtyles and petals. Styles about five, upright, ſhorter than the petals, ſubfoliaceous, and one or two of them reſembling petals: ſtigmas ſubcapitate, and ſeem to be ſimple. Jacquin ſays, that it is annual, but it is probably a perennial plant. Mutis gathered it in New Granada[z].

15. This differs from the thirteenth in having the ſtems decumbent, knotty, and puſhing out roots at the knots; it climbs trees when they are within its reach. Leaves leſs deeply toothed. Flowers ſmaller, greeniſh[a]. Aublet affirms, that this ſpecies is dioecous. He alſo ſays, that the leaves are ſmooth, but they are not quite without hairs[b]. This is peren-

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[m] Smith.
[n] Dryander in Linn. tranſ. 163.
[o] Thunberg.
[p] Dryander in Linn. tranſ. 164.
[q] Jacquin.
[r] Dryander.
[s] Ibid.
[t] Ibid.
[u] Dryander.
[x] Idem.
[y] Aublet.
[z] Smith.
[a] Aublet.
[b] Dryander.

nial, and a native of Guiana, the iſle of France[c] and Jamaica[d].

16. Stems round, creeping. Scapes upright, round, red, ſemipellucid, racemed. Leaves pale red, white or pale green, ſmooth and ſomewhat ſhining. Petals two, red on the outſide, white within, in the male flowers: four in the female flowers, and white[e].

Lamarck has joined this with *B. capenſis* of Linneus's ſupplement (n. 20.); but the capſules of that ſpecies have only two winged corners, one wing being very large; and there is every reaſon to ſuppoſe, from the figure and deſcription of Rumphius, that this has all the wings of the ſame ſize, as in *B. iſoptera*[f].

Native of Amboina, the Molucca iſlands, and Celebes[g].

17. Stems thick, cylindric, naked, with ſmall permanent ſtipules, between which they are marked with ſcars from the fallen leaves: towards the top are ſeveral leaves, ſlightly crenate, green and ſhining above, white beneath, on pretty long petioles. From the end of each ſtem ariſes a peduncle or rather ſcape, longer than the leaves, bearing an umbel-ſhaped panicle of red monoecous flowers at the top. Native of South America, on rocks and trees[h]. This is one of the ſpecies which was found by Plumier.

18. Root perennial, fleſhy, in a manner tuberous, roundiſh, fibrous at the baſe, red within, brittle. Leaves few, radical, equal, acuminate, ſharp at the baſe, ciliate-ſerrate, ſmooth, bright green on both ſides, from fifteen to eighteen lines in length, and ſix lines in breadth. Petioles ſcarcely ſhorter than the leaves. Scape upright, the length of the leaves, with two or three flowers at the top, very ſmooth. Flowers peduncled, upright, one or two males, the third female, ſcarcely larger than the others, four or five lines in diameter. Bractes oppoſite, linear, ſharp, under the peduncles. Corolla of the males four-petalled; of the female ſix-petalled. Capſule oblong, triangular; one of the wings very large. Seeds very numerous, roundiſh, and very ſmall.

Native of Madagaſcar, on rocks and trunks of trees. Found by Bruguiere[i].

19. Leaves all radical, orbiculate-cordate, ſharp, unequally toothed, membranaceous, tender, with white pellucid fibrils glandular at the baſe on the upper ſurface, and with a ſmaller number of them eſpecially at the veins on the under ſurface. Petioles round, almoſt upright, ſmooth, with a few fibrils ſcattered about them, red, longer than the leaves, often a foot in length, ſmaller than a gooſe-quill. Scapes upright, round, ſmooth and even, with fibrils on them, ſhorter and more ſlender than the petioles. Stipules radical, ovate, acuminate, concave, keeled at the back, fleſhy, whitiſh, withering, half an inch long. Male flowers numerous; females few: umbels ſometimes compound. Bractes at the baſe of the pedicels lanceolate, ſmall, caducous. Pedicels round, ſmooth, with fibrils ſcattered over them, a little coloured, longer than the flower. In the male flower, petals four, ſnow white; the two outer cordate-orbiculate, with fibrils on the outſide, within ſmooth, marked with obſcure nerves, before they open preſſed cloſe, flat, after they open ſpreading; the two inner alternate with the outer ones, ovate, acute, ſmooth on both ſides, leſs by two-thirds than the outer ones. Filaments connate at the baſe, numerous, (fifty) capillaceous, ſmooth, greeniſh white: anthers upright, club-ſhaped, longer than the filaments, ſhorter than the inner petals, yellow. In the female flower, petals ſix, three outer and three inner, differing from the male only in number. Germ club-ſhaped, three-ſided, winged at the angles, having fibrils ſcattered over it. Styles three, almoſt upright, club-ſhaped, ſmooth, yellowiſh, a little ſhorter than the ſmaller petals. Stigmas curved in a kidney ſhape, with the tips thicker, covered with very ſlender golden-coloured hairs, eſpecially at the tips. Capſule turbinate, with three wings. Seeds faſtened to the wings on each ſide, numerous, globular, very ſmall. Native of Ceylon: found there by Koenig[k].

20. Root tuberous, thick. Scapes roundiſh, longer than the petioles, panicled. Leaves radical, petioled, repand, toothletted. The male flowers have two obcordate, upright petals, and two cordate, pale roſe-colour: ſtamens many, with linear anthers, longer than the filaments. In the female flowers, the corolla as in the male: no ſtamens: ſtyles three, branched, filiform; ſtigmas blunt. Capſule inferior, with three unequal ſides[l]. Native of the iſland of Joanna, in ſhady places, by the ſides of mountains; found there by Koenig[m].

21. Root tuberous, viſcid, purple within. Leaves radical, equal or nearly ſo, the lobes blunt, ſharp at the end, doubly or unequally toothed, nerved, veined, ſcarcely pubeſcent, a ſpan long. Petioles pubeſcent, longer than the leaves. Scape upright, two feet high, pubeſcent, many-flowered and trifid at the top, the middle ſegment bearing one male flower, the lateral ones ſubdivided. Flowers in a kind of corymb, pedicelled, males and females mixed, but fewer of the latter. Bractes oppoſite, ſeſſile, under the peduncles and pedicels, ovate, emarginate, deciduous. Petals in the males ſix to nine, but moſt frequently eight, of which four are exterior: in the females five or ſix; in both equal or nearly ſo. Found on the mountains of Lima, by Dombey; who ſent the ſeeds to the Paris garden, where it has grown ſome years (1785), but has not flowered[n].

22. No other ſpecies of Begonia being hitherto known, whoſe female flowers have only three petals, it requires the confirmation of modern botaniſts before we can truſt to the authority of the Hortus Malabaricus for ſo ſingular a circumſtance. The male flowers of B. humilis have ſometimes only two petals, and why may not a ſimilar monſtroſity happen in female flowers[o]? Native of Malabar.

23. Chevalier Lamarck deſcribes this with white flowers, which according to Plumier's name ſhould be pink. He gives as a variety B. roſeo flore, folio aurito, minor et glabra; and adds, ic. 45. f. 3: but that figure belongs to B. roſeo flore, foliis acutioribus, auritis et late crenatis[p]. Native of St. Domingo.

The two laſt are juſtly denominated obſcure ſpecies by Mr. Dryander, who adds alſo the following.

1. Acetoſa Nigritarum ſeu Indorum Lingat. *Kamel ſtirp. luzon. in Raii hiſt. 3. p. 14. n. 24. Icon in Muſ. brit. mſs. ſloan.* 4080. *f.* 109.

This comes very near to B. malabarica, ſo far as can be judged from the rude figure of Father Kamel[q].

2. In a volume of drawings in Sir Joſeph Banks's library, made at Canton by a Chineſe, who had been inſtructed by the late Mr. Blake in the art of making botanical drawings, is a figure of a Begonia, under the name *Tſou Hoy Tong*, which is related to *grandis*, but differs in the leaves not being angulated, and the margin being equally ſerrate. As only male flowers are repreſented in the drawing, it is impoſſible to determine it[r].

3. Begonia roſeo flore, folio aurito minor et glabra. *Tournef. inſt.* 660. *Plum. amer.* 20. B. obliqua β. *Linn. ſpec.* 1498.

This is referred to B. nitida by Jacquin and Swartz: but Plumier was not in Jamaica, whence alone that ſpecies has come to us: beſides the epithet of *minor* is ill applicable to ſo tall a ſhrub as that, which has as large leaves as any in the genus, except *macrophylla* and *grandis*[s].

4. Begonia roſeo flore, foliis acutioribus, auritis et late crenatis. *Tournef. inſt.* 660. *Plum. amer.* 20. *ic.* 34. *t.* 45. *f.* 3.—B. obliqua ε. *Linn. ſpec.* 1498.

5. Rumex ſylveſtris ſcandens, foliis cordato-angulatis ab altera parte majoribus. *Brown. jam.* 203.

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[c] Aublet. [d] Dryander. [e] Rumphius. [f] Dryander. [g] Rumphius. [h] Lamarck. [i] L'Heritier.

[k] Koenig in Linn. tranſ. [l] Koenig in Linn. mant. [m] Dryander in Linn, tranſ. [n] L'Heritier. [o] Dryander in Linn, tranſ. [p] Ibid. [q] Id. ib. 171. n. 2. [r] Id. ib. 172. n. 3. [s] Id. ib. 172. n. 5. & 160.

6. Totoncaxoxo coyollin. *Hern. mexic.* 195.
7. Begonia obliqua. *Gærtn. fruct.* 156. *t.* 31.[t]

PROPAGATION AND CULTURE.

Theſe plants increaſe readily by cuttings; and if kept in the bark-ſtove prove highly ornamental, being much eſteemed both for the beauty of the flowers and the ſingularity of the leaves. Where there is no bark-ſtove, they will be found to do very well over the flue of the dry ſtove.

Behen. See *Centaurea* and *Cucubalus.*

BEJARIA. (*This name was given by Mutis, in honour of Bejar, a Spaniſh botaniſt.*)

Lin. gen. Reich. n. 648. *Schreb.* 811. *Juſſ.* 159. Claſſ. 11. 1. Dodecandria Monogynia. Nat. order of *Bicornes.—Rhododendra* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, gibbous downwards, ſubventricoſe, ſeven-cleft; *diviſions* ſubequal, ovate, acute, converging, ſmall; the outer ones broader: permanent.

Cor. *Petals* ſeven, oblong, broader above, obtuſe, patulous, inſerted into the receptacle.

Stam. *Filaments* fourteen, ſubulate, rather ſhorter than the corolla; alternately leſs. *Anthers* oblong, incumbent.

Pist. *Germ* ſuperior. *Style* columnar, middle-ſized, permanent. *Stigma* thickiſh, ſeven-ſtriated.

Per. *Berry* juiceleſs, ſeven-cornered, depreſſed, umbilicate, ſeven-celled.

Seeds numerous, columnar-oblong, imbricate.

ESSENTIAL CHARACTER.

Cal. ſeven-cleft. *Petals* ſeven. *Stam.* fourteen. *Berry* ſeven-celled, many ſeeded.

SPECIES.

1. Bejaria æſtuans.
Lin. ſyſt. 443. *Reich.* 2. 415. *mant.* 242. *ſuppl.* 247. *Mutis amer.* 1. *t.* 7.
Leaves lanceolate, flowers in racemes.

2. Bejaria reſinoſa.
Lin. ſyſt. 443. *ſuppl.* 246. *Mutis amer.* 1. *t.* 8.
Leaves ovate, flowers heaped.

DESCRIPTIONS, &c.

1. This is a ſhrub twelve feet in height, with roundiſh ſpreading branches. Leaves generally alternate, crowded, obtuſe, quite entire, without veins, ſhining, tomentoſe underneath. Petioles very ſhort, flattiſh. Flowers axillary, few; terminating many. Peduncles racemed; pedicels round, hirſute, the length of the flower, not ſhorter, as in the other ſpecies. Corollas fleſh-colour. It reſembles the *reſinoſa*, but is of a higher growth. Native of Mexico[a]. Found in New Granada, by Mutis.

2. This is a tree, with proliferous branches, and an irregular tender ſubpubeſcent bark. Leaves ſcattered, ſubpetioled, ſmooth, evergreen, quite entire, an inch in length. Flowers from the ends of the branches, on pubeſcent one-flowered peduncles forming racemes not at all prolonged. Corolla purple, very reſinous or viſcid. Stamens pubeſcent near the baſe. Found in New Granada by Mutis.

Theſe have a peculiar bitter flavour, and are allied to the *Rhododendrons*[b].

The generic name was erroneouſly made *Befaria* by Linneus: he having taken the y in Mutis's manuſcript for an f; as I learn from the obliging information of Dr. Smith, who poſſeſſes Mutis's letters to Linneus.

Bejuco. See *Hippocratea.*

Belilla. See *Muſſænda.*

Belladonna. See *Amaryllis* and *Atropa.*

Bell-flower. See *Campanula* and *Canarina.*

Bellidiastrum. See *Doronicum.*

Bellidioides. See *Chryſanthemum.*]

BELLIS. (*Latin, from Bellus, pretty, handſome.*) Engl. *Daiſy.* Fr. *Paquerette.*

Lin. gen. n. 962. *Reich.* 1042. *Schreb.* 1300. *Tournef.* 280. *Vaill. act. gall.* 1720. *f.* 16, 20. *Juſſ.* 183. *Gærtn. t.* 168. Bellis Leucanthemum. *Mich. gen.* 29.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua. Nat. order of *Compoſitæ Diſcoideæ.—Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* hemiſpheric, upright: leaflets ten to twenty in a double row, lanceolate, equal.

Cor. *Compound* radiate. *Corollules* hermaphrodite, tubular, numerous in the diſk: *Female* ligulate, more in number than the leaves of the calyx in the ray.

Proper of the hermaphrodite funnel-form, five-cleft: of the female ligulate, lanceolate, ſcarcely three-toothed.

Stam. of the hermaphrodite filaments five, capillary, very ſhort. *Anther* cylindric, tubular.

Pist. *Germ* ovate: of the hermaphrodite ſtyle ſimple, ſtigma emarginate: of the female, ſtyle filiform; ſtigmas two, patulous.

Per. none. *Calyx* unchanged.

Seeds ſolitary, obovate, compreſſed: *down* none.

Rec. naked, conical.

ESSENTIAL CHARACTER.

Cal. hemiſpheric, with equal ſcales. *Seeds* ovate, with no down. *Rec.* naked, conical.

SPECIES.

1. Bellis perennis. *Perennial* or *common Daiſy.*
Lin. ſpec. 1248. *Reich.* 3. 838. *fl. ſuec. n.* 761. *mat. med.* 188. *hort. cliff.* 418. *upſ.* 265. *Gærtn. fruct.* 2. 419. *Hudſ. angl.* 370. *Wither. arr.* 926. *Curt. lond.* 1. 62. *Lightf. ſcot.* 487. *Hall. helv. n.* 93. *Scop. carn. n.* 1039. *Pollich pal. n.* 810. *Krock. ſileſ. n.* 1423. *Villars dauph.* 3. 197. *Fl. dan. t.* 503. *Blackw. herb. t.* 200. *Mor. hiſt. ſ.* 6. *t.* 8. *f.* 29. *Petiv. brit. t.* 19. *f.* 2. *Ger.* 510. 4. *emac.* 636. 5. *Park. theat.* 530. 11. *Raii hiſt.* 349. 2.
β. B. hortenſis. *Double* or *Garden Daiſy.*
Mill. dict. n. 3. *Curtis magaz. t.* 228. *Raii hiſt.* 350. *n.* 4.
γ. B. fiſtuloſa. *Quilled Daiſy.*
δ. B. prolifera. *Proliferous* or *Hen and Chicken Daiſy.*
Scape naked.

2. Bellis annua. *Annual Daiſy.*
Lin. ſpec. 1249. *ſyſt.* 770. *Reich.* 3. 838. *Gouan. hort. monſp.* 447. *illuſtr.* 69. 1. *Bauh. pin.* 261. *n.* 8. *prodr.* 121. *n.* 5. and 262. *n.* 3. *prodr.* 121. *n.* 7. *Bocc. muſ. t.* 35.
Stem ſomewhat leafy.

DESCRIPTIONS, &c.

1. [Common Daiſy is ſufficiently diſtinguiſhed by its perennial root; truncate or præmorſe at the end; leaves radical, inverſely ovate or lanceolate or rather ſpatulate, blunt at the end, notched and often waved about the edge, an inch or more in length and about half an inch in breadth; ſcapes hirſute, ſolid at bottom, hollow at top, from two to four inches long, having ſometimes a ſingle leaf, and terminated by one radiate flower, frequently near an inch in diameter: florets in the diſk yellow, numerous (one hundred and fifty); in the ray white, often purple on the outſide, and ſometimes at the tip, amounting frequently to near fifty in number: receptacle ſurrounded by very ſmall tubercles, which perhaps may be nectaries[a]: ſeeds cordate-oblong or emarginate, compreſſed, ſurrounded by a whitiſh rim, bay-aſh-coloured in the middle, having a few whitiſh hairs on them[b]. It is a native of moſt parts of Europe in paſtures; flowers almoſt all the year, and ſhuts up cloſe every night and in wet weather[c].

The taſte of the leaves is ſomewhat acrid; in ſome countries however it is uſed as a potherb[d]. The roots have a penetrating pungency[e]. It is ungrateful to cattle, and even to geeſe; it occupies therefore a large ſhare of paſture lands, to the excluſion of graſs and profitable herbs. It has been much recommended as excellent for freſh wounds externally, and againſt inflammatory diſorders, &c. internally; but it is now wholly out of uſe. Lady

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[t] Dryander in Linn. tranſ. 173. n. 6, 7, 8, 9.
[a] Linn.
[b] Ibid.

[a] Pollich, Krock. Relh.
[b] Gærtner.
[c] Linn.
[d] Lightf.
[e] Withering.

Margaret, Counteſs of Richmond, bore three white Daiſies (Marguerites) on a green turf[f].

Varieties of the Garden Daiſy are Double White, Red, White and Red ſtriped, Variegated, Scarlet and Pied. Double quilled or with fiſtular florets. Double cock's-comb ſhaped, white red and ſpeckled. Proliferous, Childing or Hen and Chicken Daiſy.]

2. This is a low annual plant, ſeldom riſing more than three inches high, with an upright ſtalk having leaves on the lower part, but the upper part naked, and ſupporting a ſingle flower like that of the common Daiſy, but ſmaller. Native of Sicily, Spain, about Montpellier, Verona, and Nice. [Cultivated in 1759, by Mr. Miller[g].]

PROPAGATION AND CULTURE.

The common wild Daiſy being a troubleſome weed in paſture lands, and the lawns and graſs walks in gardens, is never cultivated.

The Garden Daiſies flower in april and may, when they make a pretty variety, being intermixed with plants of the ſame growth; they ſhould be planted in a ſhady border, and a loamy ſoil without dung, in which they may be preſerved without varying, provided the roots are tranſplanted and parted every autumn; which is all the culture they require, except the keeping them clear from weeds.

Theſe were formerly planted for edgings to borders, but they are very unfit for this purpoſe; becauſe where they are fully expoſed to the ſun, they frequently die in large patches, whereby the edgings become bald in many places.

[Mr. Curtis, on the contrary, thinks that Daiſies appear to moſt advantage in edgings to borders, not that they are equal to box for this purpoſe, but becauſe they enliven the border more, and add much to the general gaiety of the garden. He recommends the roots to be taken up the laſt week in ſeptember, or the firſt in october, to be divided into ſingle plants, and to be planted three inches apart in a trench, not in holes by a dibber, ſpreading out the fibres, and preſſing the earth cloſely round them; by which means they will not be ſubject to be drawn out of the ground by the worms. Such edgings ſhould be replanted every autumn, becauſe the plants, if they grow well, ſpread too wide. Mr. Curtis affirms, that if they remain undiſturbed in the ſame ſpot, they will recur to their natural ſtate and become ſingle, notwithſtanding Mr. Miller informs us, that he never obſerved them ſo to do[h].

BELLIS. See *Anthemis*, *Aſter*, *Athanaſia*, *Bellium*, *Calendula*, *Chryſanthemum*, *Cotula*, *Doronicum*, *Eclipta*, *Oſmites*, *Saponaria*.

BELLIS major. See *Chryſanthemum*.

BELLIS cærulea. See *Globularia*.]

[BELLIUM.

Lin. gen. Reich. n. 1043. *Schreb.* 1301. *Juſſ.* 182.

Claſs 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* ſimple, with very many, equal, boat-ſhaped leaflets.

COR. *Compound* radiated: in the ray female, ten or twelve; in the diſk hermaphr. very many.—*Proper*, of the hermaphr. funnel-ſhaped, quadrifid, erect; of the females elliptic, emarginate, ligulate.

STAM. in the hermaphr. *Filaments* four, ſhort. *Anther* cylindric.

PIST. in the hermaphr. *germ* turbinate; *ſtyle* filiform: *ſtigma* bifid, oblong—in the females, *germ* turbinate; *ſtyle* very ſhort; *ſtigma* bifid, minute.

PER. none. *Calyx* unchanged.

SEEDS turbinate; crown chaffy, eight-leaved, rounded: *down* with eight ſimple awns.

REC. naked, conic.

OBS. *Different from* Bellis *and* Pectis, *on account of the down, and four-cleft corollules.*

ESSENTIAL CHARACTER.

Cal. with equal leaflets. *Seeds* conic, with a chaffy eight-leaved crown, and awned down. *Recept.* naked.

SPECIES.

1. Bellium bellidioides.
   Lin. ſyſt. 770. *Reich.* 3. 839. *mant.* 285. *Gærtn. fruct.* 2. 461.
   Bellis droſeræfolia. *Gouan. illuſtr.* 69. 2.
   B. annua minima. *Triumf. obſ. t.* 82.
   B. maritima min. &c. *Bocc. muſ.* 149. *t.* 107.
   Scapes naked filiform.
2. Bellium minutum.
   Lin. ſyſt. 770. *Reich.* 3. 839. *mant.* 286.
   Pectis minuta. *Lin. ſpec.* 1250. *Schreb. act. upſ. nov.* 1. 84. *t.* 5. *f.* 2.
   Bellis cretica fontana omnium minima. *Tournef. cor.* 37. *Vaill. act.* 547.
   Stem leafy.

DESCRIPTIONS, &c.

1. This has the habit of the Daiſy, but differs eſſentially from it in having a down to the ſeed. Leaves radical, obovate, quite entire, almoſt upright, ſcabrous on the upper ſurface, ſhorter than the petiole. It has filiform runners, rooting at the end, bearing both leaves and flowers. Scapes longer than the leaves, bearing one flower, which nods before it opens. Leaflets of the calyx ten, lanceolate, rather ſcabrous, parallel. Ray white, with oval emarginate corollets: diſk yellow, with quadrifid corollets. Seeds ſomewhat hairy: the down has eight roundiſh chaffs; and eight briſtles, longer and placed alternately with the chaffs[a]. Native of Italy, about Rome; and in the iſland of Majorca.

2. This is one of the minuteſt of plants. Stem capillary, an inch in length; the whole plant ſmooth and aſcending. Leaves obovate, quite entire, ſmooth, ſhorter than the petiole. Peduncles one or two, terminating, the length of the whole plant, capillary, one-flowered. Calyx the ſize of a cabbage ſeed. The plant, examined with a glaſs, appears to have hairs ſcattered over it[b]. Native of the Levant. Introduced in 1772, by Monſ. Richard[c].]

BELLONIA. (*So named by Plumier, in honour of the famous French phyſician Pierre Belon, who has left many valuable tracts on natural hiſtory.*)

Lin. gen. 226. *Reich.* 242. *Schreb.* 298. *Plum.* 31. *Juſſ.* 200.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Rubiaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, ſuperior, ſemiquinquefid, permanent; *diviſions* lanceolate, acute.

COR. monopetalous, wheel-ſhaped; *tube* very ſhort; *border* flat, ſemiquinquefid, obtuſe, large.

STAM. *Filaments* five, ſubulate, erect, very ſhort. *Anthers* erect, converging, ſhort.

PIST. *Germ* inferior. *Style* ſubulate, ſtraight, longer than the ſtamens. *Stigma* acute.

PER. *Capſule* turbinate-ovate, wrapped up in the calyx, and beaked with its converging diviſions, one-celled.

SEEDS numerous, roundiſh, ſmall.

ESSENTIAL CHARACTER.

Cor. wheel-ſhaped. *Capſ.* one-celled, inferior, many-ſeeded, beaked with the calyx.

SPECIES.

1. Bellonia aſpera.
   Lin. ſpec. 244. *Reich.* 475. *Plum. gen.* 19. *ic.* 47. *Swartz prodr.* 42. 2. *obſ.* 69.
   Leaves ovate ſerrate, flowers corymbed terminating.

[2. Bellonia ſpinoſa.
   Swartz prodr. 42.
   Thorny; leaves ovate angular tooth-ſerrate, peduncles axillary, one-flowered.]

DESCRIPTION, &c.

1. This is a ſhrub, ten or twelve feet in height, ſending out many lateral branches. [Leaves oppoſite ovate ſerrate, rough beneath, on very ſhort petioles. Flowers in looſe corymbs[d]. This ſpecies is yet little known, and according to Swartz, has been ſeen only by Plumier, and reſts wholly upon his authority.] Mr. Miller ſays, that it is very common in ſeveral of the warm iſlands in America, whence

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[f] Ord M.S.

[g] Hort. kew.

[h] Magaz. 228.

[a] Linn.

[b] Ibid.

[c] Hort. kew.

[d] Linn.

he has received the ſeeds. [As there is no ſpecimen of it in his herbarium, which is now in the poſſeſſion of Sir Joſeph Banks, we cannot form a judgment whether the plant which he ſpeaks of might be that of Plumier, or the ſecond ſpecies, diſcovered in Hiſpaniola by Swartz.]

PROPAGATION AND CULTURE.

It is propagated by ſeeds, which ſhould be ſown early in the ſpring, in a pot filled with light freſh earth, and plunged into a hot-bed of tanners bark, obſerving to water it frequently, as the earth appears dry; but you muſt be careful not to waſh the ſeeds out of the ground. When the plants are come up half an inch high, they ſhould be carefully tranſplanted into pots filled with light freſh earth, and plunged into the hot-bed again, obſerving to water and ſhade them until they have taken root; after which time they ſhould have air admitted to them every day, when the weather is warm; they muſt alſo be frequently watered. When the plants have filled theſe pots with their roots, they ſhould be carefully ſhaken out of them, and their roots trimmed, and put into larger pots filled with light freſh earth, and plunged into the hot-bed again. In warm weather they ſhould have free air admitted to them every day; but in autumn they muſt be plunged into the bark-ſtove, and treated in the ſame manner as other tender exotic plants. The ſecond year theſe plants will ſometimes flower, but they rarely produce good ſeeds in this climate; however, they may be propagated by cuttings in the ſummer months, provided they are planted in light earth on a moderate hot-bed, and carefully watered and ſhaded until they have taken root. Theſe plants muſt be conſtantly kept in the ſtove, and ſhould have a large ſhare of free air in warm weather; but if they are ſet abroad, they will not thrive in this climate.

Belvedere. See *Scoparia.*

[Belutta. See *Celoſia* and *Crinum.*

Bem-curini. See *Juſticia.*

Benjamin-tree. See *Laurus.*

Bennet, Herb. See *Geum.*

Bent-Grass. See *Agroſtis.*

Benzoe. See *Croton.*]

Benzoin. See *Laurus.*

BERBERIS. (*An Arabic name, uſed by Averrhoes, and the officinal writers.*)

Engl. *The Barberry* or *Pipperidge-buſh.*
Fr. *Epine-vinette.*

Lin. gen. n. 442. *Reich.* 476. *Schreb.* 595. *Tournef.* 385. *Juſſ.* 286. *Gærtn. t.* 42.
Claſſ. 6. 1. Hexandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* ſix-leaved, patulous: *leaflets* ovate, with a narrower baſe, concave, alternately ſmaller, coloured, deciduous.

Cor. *Petals* ſix, roundiſh, concave, erect-expanding, ſcarcely larger than the calyx.

Nectary, two ſmall, roundiſh, coloured bodies, faſtened to the baſe of each petal.

Stam. *Filaments* ſix, erect, compreſſed, obtuſe. *Anthers* two, faſtened on each ſide to the top of the filaments.

Pist. *Germ* cylindric, the length of the ſtamens. *Style* none. *Stigma* orbiculate, broader than the germ, ſurrounded with a ſharp edge.

Per. *Berry* cylindric, obtuſe, umbilicated with a point, one-celled.

Seeds two, oblong, cylindric, obtuſe.

Obs. B. cretica *has three ſeeds.* Reich.

ESSENTIAL CHARACTER.

Cal. ſix-leaved. *Pet.* ſix, with two glands at the claws. *Style* none. *Berry* two-ſeeded.

SPECIES.

1. Berberis vulgaris. *Common Berberry.*
Lin. ſpec. 471. *Reich.* 2. 106. *mat. med.* 97. *hort. cliff.* 122. *ſuec.* 311. *Gærtn. fruct.* 1. 200. *Hudſ. angl.* 137. *With.* 366. *Lightf. ſcot.* 178. *Sowerby engl. bot. t.* 49. *Hall. helv. n.* 828. *Scop. carn. n.* 437. *Krock. ſileſ. n.* 560. *Villars dauph.* 3. 266. *Pollich pal. n.* 354. *Mill. fig. t.* 63. *Blackw. t.* 165. *Plenck, ic. t.* 252. *Duham. p.* 162. *fig. Ger.* 1144. *emac.* 1325. *Park.* 1559. *Raii hiſt.* 1605. *ſyn.* 465. *Cam. epit.* 86. *Fuchſ.* 543. *Bauh. hiſt.* 1. 54.

β. B. violacea. *Purple-fruited Berberry.*

γ. B. canadenſis. *Canada Berberry.*
Mill. dict. n. 2.

B. latiſſimo fol. canadenſis. *H. R. Par. Boerh. lugdb.* 2. 233.

Peduncles racemed, ſpines triple.

2. Berberis cretica. *Cretan* or *Box-leaved Berberry.*
Lin. ſpec. 472. *ſyſt.* 343. *Reich.* 2. 107. *Tourn. cor.* 42. *Bauh. pin.* 454. *Thunb. jap.* 146.

Lycium creticum. *Alp. exot.* 21. *t.* 20. *Pon. ital.* 137.

Peduncles ſubumbelled; ſpines triple.

[3. Berberis ilicifolia. *Holm-leaved Berberry.*
Lin. ſyſt. 343. *ſuppl.* 210.

Leaves obovate ſerrate-ſpinous, pedicels elongated cymoſe, ſpines digitate.

4. Berberis ſibirica. *Siberian Berberry.*
Lin. ſyſt. 343. *Murr. in comm. got.* 1784. 37. *t.* 6. *Pall. it.* 2. 737. *t.* P. *f.* 2.

Peduncles one-flowered ſolitary nodding, ſpines palmate.]

DESCRIPTIONS, *&c.*

1. The Common Berberry is a ſhrub riſing to the height of eight or ten feet. [The ſtems are upright and branched, ſmooth and ſlightly grooved, brittle, with a large white pith,] and covered with a whitiſh or aſh-coloured bark which is yellow on the inſide. Both ſtems and branches are armed with ſharp thorns, which commonly grow by threes. [Linneus affirms, that the firſt leaves of the preſent year change into theſe thorns the next; this however is denied by others. The firſt leaves are obovate, ſerrate-ciliate, not jointed. The ſtipules are terminated on each ſide by a capillary tooth. Stem-leaves alternate; the loweſt ſubpinnatifid with ſpiny teeth. The ſecondary leaves are in pairs; they are oblong and ſerrate: and between the lowermoſt leaves and the thorns ſmaller leaves are concealed[a]. Flowers in pendulous racemes towards the ends of the branches, with a bracte to each pedicel. Corolla yellow; petals frequently ſerrate about the edge, at the baſe of each are two orange-coloured dots, which are probably the nectaries. Anthers roundiſh, yellow. Stigma greeniſh.] Berries at firſt green, but when ripe turning to a fine red colour: [they are ſuperior, of an ovate-cylindric form, and have a brown pervious teat at top; the cell of the ſtone is larger than the ſeeds, and has a raiſed ſtreak on one ſide from the hole downwards. There are uſually two, rarely three ſeeds, free or looſe except at bottom, where they are faſtened to a very minute tubercle; they are oblong, thicker at top, blunt, ſmooth, of a pale teſtaceous colour, and hard. The cotyledons or ſeed-lobes are of an elliptic form[b].

It is a native of the Eaſtern countries, and now of moſt parts of Europe in woods, coppices, and hedges. In England, chiefly in a chalky ſoil, as particularly about Saffron Walden in Eſſex.] The flowers appear in may, and the fruit ripens in ſeptember.

There are many varieties of this ſhrub. Mr. Miller mentions three: 1. Berberis ſine nucleo. *Bauh. pin.* 454. 2. Berberry without ſtone. 2. Berberry with white fruit. 3. B. orientalis procerior fructu nigro ſuaviſſimo. *Tournef. cor.* 1. The firſt of theſe, he ſays, is certainly accidental, becauſe the ſuckers, when tranſplanted, commonly produce fruit with ſtones; and it is the age of the plant which occaſions this variation. 2. The variety with white fruit ſeldom bears: the leaves are of a lighter green colour, and the bark is whiter than in the common Berberry. 3. The third only differs in the colour and flavour of the fruit. He makes the Canada Berberry to be a diſtinct ſpecies; and ſays that the leaves are much broader and ſhorter than thoſe of the common ſort, and that the fruit is black when ripe.

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[a] Linn. ſpec.

[b] Gærtner.

[Other varieties are ſcarcely worth recording: as one without any aril; and another with ſimple ſpines, native of Syria, mentioned by Rauwolff[c]. It is not uncommon to find ſome of the ſpines ſimple in the Common Berberry.

The leaves of this ſhrub are gratefully acid. The ſmell of the flowers is offenſive when near, but pleaſant at a certain diſtance. The berries are ſo very acid, that birds ſeldom touch them. The Berberry however is cultivated for the ſake of theſe, which are pickled and uſed for garniſhing diſhes; and, being boiled with ſugar, form a moſt agreeable rob or jelly; they are uſed likewiſe as a ſweetmeat, and are put into ſugar-plums or comfits. The roots boiled in lye yield a yellow colour: and in Poland they dye leather of a fine yellow with the bark of the root. The inner bark of the ſtems alſo will dye linen of a fine yellow, with the aſſiſtance of alum. Kine, ſheep, and goats are ſaid to eat it; horſes and ſwine to refuſe it[d].

The fruit of the Berberry is conſidered as a mild reſtringent acid, agreeable to the ſtomach, and of efficacy, (like other vegetable acids) in hot bilious diſorders, and in a putrid diſpoſition of the humors. According to Proſper Alpinus, the Egyptians employ a diluted juice of the berries in ardent and peſtilential fevers. Their method is to macerate them in about twelve times their quantity of water, and let them ſtand for about twenty-four hours, and then to add a little fennel-ſeed. The liquor is then preſſed out and ſtrained, and ſweetened with ſugar, or ſyrup of citrons, roſes, *&c.* and given plentifully as a drink. A concrete ſimilar to cream of tartar may be obtained from the juice, by mixing it with lemon juice, in the proportion of two pounds of Berberry juice and two ounces of lemon juice, and digeſting them in a ſand-heat for two days; and then gently evaporating the filtered liquor to one half, and ſetting it in a cellar for ſome days. The tartar incruſtates the ſides of the veſſel, and is a grateful medicine in febrile diſorders. In fact it is the eſſential ſalt of the Berberry. The berries of this ſhrub are alſo made into an agreeable jelly, by boiling them with an equal weight of fine ſugar to a proper conſiſtence, and then ſtraining it. The leaves themſelves of the Berberry are acid, and have been ſometimes employed for nearly the ſame purpoſes as the fruit: they have alſo been uſed as an ingredient in ſalads. The inner yellow bark, which is auſtere and bitteriſh, has been ſometimes uſed with ſucceſs as a gentle purgative in the jaundice, taken in the form of a decoction, in ale or other liquors. In this manner it was uſed with ſucceſs by the celebrated Mr. Ray.

Inſects of various kinds are remarkably fond of the flowers of Berberry. Linneus obſerved long ſince, that when bees in ſearch of honey touch the filaments, the anthers approximate to the ſtigma, and explode the pollen.

Dr. Smith has given the following particular account of this curious phænomenon:

The ſtamens of ſuch flowers as are open, bend back to each petal, and ſhelter themſelves under their concave tips. No ſhaking of the branch has any effect upon them; but if the inſide of the filaments be touched with a ſmall bit of ſtick, they inſtantly ſpring from the petal, and ſtrike the anther againſt the ſtigma. The outſide of the filament has no irritability, nor has the anther itſelf any; as may eaſily be proved by touching either of them with a blunt needle, a fine briſtle, a feather, or any thing which cannot injure the ſtructure of the part. If a ſtamen be bent to the ſtigma, by means of a pair of ſciſſars applied to the anther, no contraction in the filament is produced. From all this it is evident, that the ſpring of the ſtamens, is owing to an high degree of irritability in the ſide of the filament next the germ, by which, when touched, it contracts, that ſide becomes ſhorter than the other, and conſequently the filament is bent towards the germ.

This irritability is perceptible in ſtamens of all ages; in flowers only ſo far expanded as to admit a briſtle; and in old flowers ready to fall off.

If the germ be cut off, the filaments will ſtill contract, and nothing being in their way, will bend over quite to the oppoſite ſide of the flower.

After irritation, the ſtamens will return to their original place. On being touched they will contract with the ſame facility as before: and this may be repeated three or four times.

The purpoſe, which this curious contrivance of nature anſwers, is evident. In the original poſition of the ſtamens, the anthers are ſheltered from rain by the concavity of the petals. Thus probably they remain, till ſome inſect coming to extract honey from the baſe of the flower, thruſts itſelf between the filaments, and almoſt unavoidably touches them in the moſt irritable part: thus the impregnation of the germ is performed; and as it is chiefly in fine ſunny weather that inſects are on the wing, the pollen is alſo in ſuch weather moſt fit for the purpoſe of impregnation[e].

This ſhrub has lately acquired an ill name for a very miſchievous effect, which, if true, ſhould induce every huſbandman to extirpate it from the vicinity of his corn lands. It is affirmed, that ears of wheat which grow near it never fill, and that its influence in this reſpect has been known to extend three or four hundred yards[f].

Mr. Macro, a very reſpectable farmer at Barrow in Suffolk, planted a Berberry buſh in his garden, on purpoſe to aſcertain the fact. He ſet wheat round it three ſucceeding years, and it was all ſo completely mildewed, that the beſt of the little grain it produced, was only about the ſize of thin rice, and that without any flour. He adds, that ſome, which he ſet on the oppoſite ſide of his garden, one of the years, produced very good grain, although the ſtraw was a little mildewed[g]. There are other accounts from practical men correſponding with this of Mr. Macro's. We can ſcarcely however yield our aſſent to an appearance ſo ſtrange and ſo wholly unaccountable, till the fact has been examined more accurately. The Berberry is ſo common in the hedges about Saffron Walden in Eſſex, and many miles round that place, where corn grows frequently up to the very hedge, that we can ſcarcely ſuppoſe ſuch an intereſting effect to have eſcaped obſervation. The celebrated Duhamel long ſince looked upon the mildewing power of Berberry as totally void of foundation; and Monſ. Brouſſonet, who has bent his attention particularly to agriculture, aſſures us of the ſame thing, from his own obſervation[h].]

2. This never riſes more than three or four feet high in England. It ſends out many ſtalks from the root, which are ſtrongly armed with ſpines at every joint; the leaves are produced without order, and are ſhaped like thoſe of the narrow-leaved Box-tree; the flowers come out from between the leaves, each upon a ſlender peduncle, but theſe are not ſucceeded by fruit in England.

[Stem and branches angular, purple, ſmooth, prickly. Lower prickles in threes, reflex; upper ones ſolitary, horizontal. Leaves in bundles, unequal, attenuated into the petioles, ovate, obtuſe, quite entire, ſmooth, ſpreading. Flowers in racemes. The corolla has two minute glands at the baſe. Stigma capitate, flat[i]. Native of the iſland of Crete or Candia, and alſo of Japan. Cultivated in 1759, by Mr. Miller. It flowers in april and may[k].

3. Leaves reſembling thoſe of the Holm-oak, ſtiff, on very ſhort petioles, quite entire at the baſe, but having two or three ſerratures on each ſide towards the middle, and terminated by a ſpine, as is alſo the point of the leaf, very ſmooth, and more glaucous beneath. Stipules palmate. Racemes terminating, very ſhort: but the pedicels much prolonged.

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[c] Haller from Bradl. & Rauw.

[d] Withering.

[e] Smith in philoſ. tranſ. vol. 78. 1. 158.

[f] Withering.

[g] Young's Annals, 7. 188.

[h] Engliſh Botany, 49.

[i] Thunberg.

[k] Hort. kew.

Found in the Terra del Fuego by Sparrman. The inhabitants there uſe the wood for bows, on account of its great elaſticity.

4. This is a ſmall ſhrub ſcarcely a ſpan in height. Branches numerous, ſtiff, upright, covered with a gray or dirty yellow bark, except at the ends, which are green. Stipules palmate-ſpiny, on the older branches, thick, very ſtiff, alternate, of a dirty yellow colour; the upper ones ſmaller and leſs divided, ſometimes only into three; the lower ones ſemilunar, divided into parts from ſeven to thirteen. Petiole very ſhort, upright, three-nerved. Leaves commonly ovate, ſome of the lower ones roundiſh, the uppermoſt elliptic, ſerrate-ſpiny, with a ſinus between the ſerratures, the ſpines very ſhort, parallel, pale, directed forwards, twenty-one or even twenty-ſix in number, narrowed and entire at the baſe, in a bunch at the axil of the ſtipule, where there is one, otherwiſe proceeding from a naked bud, alternate except the upper leaves, which form a terminating bundle: they are ſomewhat glaucous, and paler underneath. Petioles often longer than the leaves, but on the young leaves ſhorter, ſemicylindric, broader at the baſe, winged with a membrane ending on each ſide forwards in a ſoft ſpreading briſtle. Flower conglobate, on a nodding, cylindric peduncle, thicker at the top. Calyx reddiſh-yellow. Corolla yellow: petals ovate, bifid at the end, narrowed at the claw. Filaments half the length of the corolla, into the bottom of which they are inſerted: anthers twin, incumbent. Berry obovate, red. The old leaves become ſpines, as in the common ſort. Native of Siberia, where it was obſerved by Pallas[1].]

PROPAGATION AND CULTURE.

1. The common ſort is generally propagated by ſuckers, which are put out in great plenty from the root; but theſe plants are very ſubject to ſend out ſuckers, in greater plenty than thoſe which are propagated by layers; therefore the latter method ſhould be preferred. The beſt time for laying down the branches is in the autumn, when their leaves begin to fall; the young ſhoots of the ſame year are the beſt for this purpoſe; theſe will be well rooted by the next autumn, when they may be taken off, and planted where they are deſigned to remain. Where this plant is cultivated for its fruit, it ſhould be planted ſingle, (not in hedges, as was the old practice) and the ſuckers every autumn taken away, and all the groſs ſhoots pruned out: by this method the fruit will be much fairer, and in greater plenty, than upon thoſe which are ſuffered to grow wild. A few of theſe ſhrubs may be allowed to have place in wilderneſſes, or plantations of ſhrubs, where they will make a pretty variety, and the fruit will be food for the birds; but they ſhould not be planted in great quantities, near walks which are much frequented, becauſe their flowers emit a very ſtrong diſagreeable odour.

1. β. The Canada ſort was more common in the Engliſh gardens ſome years paſt, than at preſent. This may be propagated in the ſame way as the common ſort, and is equally hardy.

2. The Box-leaved ſort is at preſent very rare in England; and while young, the plants being ſomewhat tender, are killed by ſevere froſt.

This ſort may be propagated by laying down the branches in the ſame manner as the firſt; but when the young plants are taken off, they ſhould be planted in pots, and ſheltered under a frame in the winter, till they have obtained ſtrength, when they may be turned out of the pots, and planted in a warm ſituation.

[BERGERA. (*From Chriſt. Joh. Berger, Prof. at Kiel.*) *Auth. D. Koenig. Lin. gen. Schreb. n.* 718.
Claſſ. 10. 1. Decandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, very ſmall, acute, ſpreading, permanent.
Cor. *Petals* five, oblong, bluntiſh, ſpreading.
Stam. *Filaments* ten, five alternately ſhorter. *Anthers* round.
Pist. *Germ* roundiſh, ſuperior. *Style* filiform, club-ſhaped. *Stigma* turbinate, ſhining, with tranſverſe grooves.
Per. *Berry* ſubglobular, one-celled.
Seeds two.

ESSENTIAL CHARACTER.

Cal. five-parted. *Pet.* five. *Berry* ſubglobular, one-celled, with two ſeeds.

SPECIES.

1. Bergera Koenigii.
Linn. mant. 563.

DESCRIPTION, &c.

This is a very leafy tree, with the bark of Alder. Leaves alternate, petioled, unequally pinnate: leaflets alſo alternate, petioled, ovate-lanceolate, rhomboid, narrower on one ſide, ſmooth, ſubſerrate on the forward ſide. Corymbs terminating, compound, ſhorter than the leaves, ſpreading. Bractes preſſed cloſe to the pedicels, ſolitary, lanceolate, ſmall, caducous. Racemes upright, on ſhort roundiſh pedicels; bractes lanceolate, permanent. Native of the Eaſt-Indies[a].

[BERGIA. (*From Peter Jonas Bergius, M. D. Profeſſor of Natural Hiſtory at Stockholm: author of* Deſcriptiones Plantarum ex Capite Bonæ Spei. Stockh. 1767. 8°.)
Lin. gen. Reich. n. 631. *Schreb.* 791. *Juſſ.* 301.
Claſſ. 10. 4. Decandria Pentagynia.
Nat. order of *Succulentæ. Caryophylleæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, ſpreading: *leaflets* lanceolate, permanent.
Cor. *Petals* five, oblong, ſpreading, the length of the calyx.
Stam. *Filaments* ten, briſtle-ſhaped, of middling length. *Anthers* roundiſh.
Pist. *Germ* roundiſh, ſuperior. *Styles* five, very ſhort, approximating. *Stigmas* ſimple, permanent.
Per. *Capſule* ſimple, ſubglobular, mucronate, with five little ſwellings, five-celled, five-valved: *valves* ovate, flat, opening along the furrows, permanent, ſpreading very widely.
Seeds numerous, minute.

ESSENTIAL CHARACTER.

Cal. five-parted. *Pet.* five. *Capſ.* one, globular with ſwellings, five-celled, five-valved; valves reſembling petals. *Seeds* very many.

SPECIES.

1. Bergia capenſis.
Lin. ſyſt. 431. *Reich.* 2. 386. *ſuppl.* 243. *mant.* 241.
Pola-tsjira. *Rheed. mal.* 9. 153. *t.* 78.
Leaves lanceolate or elliptic, flowers in whorls.
2. Bergia glomerata.
Lin. ſyſt. 431. *ſuppl.* 243.
Leaves obovate crenulate, flowers glomerate.

DESCRIPTIONS, &c.

1. This has the ſtature of Ammannia. Stem extremely ſimple, half a foot high, the thickneſs of a pigeon's quill, erect, ſmooth, rather ſucculent. Leaves oppoſite, ſubpetioled, ſomewhat obtuſe, very finely ſerrate, ſmooth, ſpreading. Flowers ſubſeſſile, very copious, and much crowded. It is a native of Tranquebar in the Eaſt-Indies, and therefore is miſnamed *capenſis*[b]. The valves of the capſule continuing after it is ripe, form a kind of five-petalled wheel-ſhaped flower[c].

2. This differs from the foregoing in having minute, glomerate, crenulate leaves; minute glomerate flowers; and a more diffuſed branching ſtem. It was found at the Cape of Good Hope by Bergius[d].]

Bermudas Cedar. See *Juniperus.*
Bermudiana. See *Siſyrinchium.*
Bernardia. See *Adelia.*
Berry-bearing Alder. See *Rhamnus Frangula.*

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[1] Murray.

[a] Koenig in Linn. mant. [b] Linn. mant. [c] Linn. ſyſt. [d] Linn. ſuppl.

[BERTIERA: (*So named by Aublet, from Monſ. Bertier of the kingdom of France.*)

Lin. gen. Schreb. n. 304. *Aubl.* 69. *Juſſ.* 200.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Contortæ* Lin. *Rubiaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* turbinate; five-toothed.

Cor. one-petalled. *Tube* ſhort: mouth villoſe. *Border* five-cleft: clefts ovate, acute, ſpreading.

Stam. *Filaments* five, very ſhort, inſerted into the tube beneath the orifice. *Anthers* linear, erect.

Piſt. *Germ* roundiſh, inferior, crowned by a gland. *Style* filiform. *Stigma* two-plated.

Per. *Berry* globoſe, crowned by the teeth of the calyx, two-celled.

Seeds very many, roundiſh, affixed to the diſſepiment.

ESSENTIAL CHARACTER.

Cal. turbinate, five-toothed. *Cor.* tube ſhort with a villoſe mouth. *Berry* globoſe, inferior, two-celled, many-ſeeded.

SPECIES.

1. Bertiera guianenſis.
   Aublet. guian. 1. 180. *t.* 69.

DESCRIPTION, &c.

This is a ſhrub ſix or ſeven feet in height, the thickneſs of the human arm: branches oppoſite, knotty, tomentoſe. Leaves oppoſite, ovate, acuminate, tomentoſe underneath. Petioles ſhort, convex beneath, channelled above. Stipules ſtem-claſping, two-lobed; lobes oblong, acute, oppoſite. Flowers in terminating racemes, oppoſite or alternate, with a pointed bracte or two at the baſe. Corolla white. Found by Aublet, in the wood of Aroura in Guiana, flowering and fruiting in the month of june[a].]

BESLERIA. (*So named by Plumier after Baſil Beſler, an apothecary at Nuremberg, editor, with the aſſiſtance of Jungermann, of a ſumptuous work entitled* Hortus Eyſtettenſis, 1613. *The garden belonged to Conrad a Gemmingen, a biſhop, and the plates were engraved at his expenſe.*)

Lin. gen. n. 755. *Reich.* 813. *Schreb.* 1012. *Plum.* 5. *Jacqu. amer.* 187. *Juſſ.* 121. *Gærtn. t.* 52.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ. Scrophulariæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted, acuminate, erect, looſe, with reflected tops.

Cor. monopetalous, ringent. *Tube* the length of the calyx, roundiſh, gibbous on one ſide at the baſe, and at the top: *border* five-cleft; diviſions roundiſh; the lowermoſt largeſt; the two upper leſs divided.

Stam. *Filaments* four, within the tube of the corolla, of which two are a little ſhorter. *Anthers* oblong, twin, hanging down on each ſide.

Piſt. *Germ* globular, ſitting on a glandular body which embraces it and is permanent, cordate where the corolla is gibbous: *ſtyle* ſubulate, erect: *ſtigma* bifid, obtuſe.

Per. *Berry* ſubglobular, one-celled: *partition,* two oppoſite ſemiovate laminas, not cohering. *G.*

Seeds numerous, round, very ſmall, neſtling, fixed to the inner ſurface of the berry.

ESSENTIAL CHARACTER.

Cal. five-parted. *Berry* ſubglobular, many-ſeeded.

SPECIES.

1. Beſleria melittifolia.
   Lin. ſpec. 862. *Reich.* 3. 144. *Plum. gen.* 29. *ic.* 48.
   Peduncles branching, leaves ovate.
2. Beſleria lutea.
   Lin. ſpec. 863. *Reich.* 3. 144. *Jacqu. amer.* 187. *edit.* 2. *pict.* 92. *Gærtn. fruct.* 1. 241. *Plum. gen.* 29. *ic.* 49. *f.* 1.
   Eriphia. *Brown. jam.* 270.
   β. B. &c. fl. luteo, major. *Plum. gen.* 29.
   Peduncles ſimple crowded, leaves lanceolate.
3. Beſleria criſtata.
   Lin. ſpec. 863. *ſyſt.* 559. *Reich.* 3. 144. *Jacqu. amer.* 188. *t.* 119. *pict.* 93. *t.* 180. *Plum. gen.* 29. *ic.* 50.
   Peduncles ſimple, ſolitary, calyxes ſerrate-creſted.

[4. Beſleria bivalvis.
   Lin. ſyſt. 559. *ſuppl.* 280.
   Calyxes bivalve torn.

5. Beſleria biflora.
   Forſt. florul. n. 236. Cyrtandra biflora. *Forſt. gen.* 3. *n.* 1.
   Peduncles two-flowered, involucre caducous inflated, leaves ovate quite entire.

6. Beſleria cymoſa.
   Forſt. florul. n. 237.—C. cymoſa. *Forſt. gen.* 3. *n.* 2.
   Peduncles cymed, pedicels with little bractes, leaves ovate crenate.]

DESCRIPTIONS, &c.

1. The firſt ſort has a ſmooth woody ſtalk which is jointed; at each joint are placed two ovate nerved leaves oppoſite, which are crenate on their edges; the flowers come out from the wings of the leaves, upon ſhort branching foot-ſtalks, each ſuſtaining ſix or eight flowers, which ſtand each upon a ſeparate ſmaller foot-ſtalk.

Native of South America.

2. The ſecond ſort riſes with a ligneous ſtem ſix or ſeven feet high, dividing toward the top into many irregular branches, with ſpear-ſhaped ſerrate leaves, which have many tranſverſe veins; the flowers come out at the wings of the leaves, in large cluſters, each having a ſeparate foot-ſtalk; theſe are ſmall, tubulous, and of a pale yellow colour.

[Native of Martinico, Jamaica, &c.

3. This ſhrubby plant, very different in its habit from the foregoing, climbs up trees, to which it adheres by means of roots thrown out from the joints. The twigs are round, hirſute and long. Leaves ovate, acute, ſerrate, hirſute, wrinkled, veined, petioled, oppoſite, two inches long. Peduncles one-flowered, axillary, bent down, almoſt the length of the leaves. Calyx bright ſcarlet. Corolla yellow. Stamens from a common membrane, faſtened to the tube of the corolla, and cleft longitudinally at the gibbous part of it; in the fiſſure there is a rudiment of a fifth filament quite free from the membrane. Before the diſperſion of the pollen the filaments are upright, but afterwards they are ſtrangely interwoven as in Martynia. A yellow gland embraces the germ, as in moſt of this claſs and order, but it is more conſpicuous in this genus, in Columnea, Creſcentia, Bignonia, and a few others.

Native of Martinico, &c. in moiſt mountainous woods[a].

4. Stem herbaceous, very long, weak, creeping, hairy, round. Leaves oppoſite, petioled, veined, hairy, nerved, a hand's breadth in length. Peduncles lateral, oppoſite, ſhorter than the leaves, two from each axil, one-flowered. Berry oval, with a hard two-celled nucleus. It reſembles the third ſpecies much in the leaves and calyx, but is very different in the fruit, and in the defect of the five-leaved perianth. It was obſerved at Surinam by Dahlberg[b].

5. Native of the iſland of Otaheite.

6. Native of the iſland of Tanna[c].]

PROPAGATION AND CULTURE.

Theſe plants grow naturally in the warm parts of America. The ſeeds ſhould be ſown on a hot-bed early in the ſpring; and when the plants are come up half an inch high, they ſhould be each tranſplanted into a ſmall pot filled with light freſh earth, and plunged into a hot-bed of tanners bark, obſerving to water and ſhade them until they have taken root; after which time they ſhould have air and water in proportion to the warmth of the ſeaſon, and the heat of the bed in which they are placed. When the plants have filled theſe ſmall pots with their roots, they ſhould be ſhaken out of them, and their roots trimmed, and put into larger pots filled with light freſh earth, and plunged into the hot-bed again; where they ſhould have a large ſhare of air in warm weather, and muſt be frequently watered. With this management the plants will thrive very well in ſummer, but in winter they muſt be removed into the ſtove, where they muſt be placed in a temperate warmth, and ſhould be often, but ſparingly, watered. The ſecond year theſe plants will flower, and ſometimes they will perfect their ſeeds in this country; but they muſt be conſtantly preſerved in the ſtove, for they will not live in the open air.

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[a] Aublet.

[a] Jacquin.

[b] Linn. ſuppl.

[c] Forſter.

BETA. (*From the form of the letter* Βῆτα, *which it has when it ſwells with ſeed.*)

Lin. gen. 310. *Reich.* 338. *Schreb.* 436. *Tournef.* 286. *Gærtn. t.* 75. *Juſſ.* 85.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Holoraceæ*. *Atriplices* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved, concave, permanent; diviſions ovate-oblong, obtuſe.

COR. none.

STAM. *Filaments* five, ſubulate, oppoſite to the leaves of the calyx, and of the ſame length with them. *Anthers* roundiſh.

PIST. *Germ* in a manner below the receptacle. *Styles* two, very ſhort, erect. *Stigmas* acute.

PER. *Capſule* within the bottom of the calyx, one-celled, deciduous.

SEED ſingle, kidney-form, compreſſed, involved in the calyx.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* none. *Seed* kidney-form, within the ſubſtance of the baſe of the calyx.

SPECIES.

1. Beta vulgaris. *Red Garden Beet.*
Lin. ſpec. 322. *ſyſt.* 262. *Reich.* 623. *mat. med.* 74. *hort. cliff.* 83. *upſ.* 56. *Mill. dict. n.* 3. *Plenck, ic. t.* 169.

α. B. rubra vulgaris. *Bauh. pin.* 118. *Raii hiſt.* 204. *n.* 2. *Ger. emac.* 318. *n.* 2. *Park. theat.* 751. *f.* 3. *Common red Beet.*

β. B. rubra major. *Bauh. pin.* 118. *Blackw. t.* 235. *Ger.* 251. *n.* 3. *emac.* 319.——B. italica. *Park. par.* 490. *Raii hiſt.* 205. *Great red Beet.*

γ. B. rubra, radice rapæ. *Bauh. pin.* 118. *Raii hiſt.* 204. *n.* 4.——romana rubra, Rapoſa dicta. *Park. par.* 489. *Turnep-rooted red Beet.*

δ. B. lutea major. *Bauh. pin.* 118. *Raii hiſt.* 204. *n.* 5.—ſyriaca. *Park. theat.* 752. *n.* 3. *Yellow-rooted Beet.*

ε. B. pallide virens major. *Bauh. pin.* 118. *Green-leaved red Beet.*

Flowers heaped; leaflets of the calyx toothed at the baſe.

2. Beta Cicla. *White Garden Beet.*
Lin. ſyſt. 262. *Reich.* 623. *mat. med.* 74. *Plenck, ic. t.* 170.
B. hortenſis. *Mill. dict. n.* 2.
B. vulgaris ζ, η. *Lin. ſpec.* 322.
B. alba. *Ger.* 251. *n.* 1. *emac.* 318. *n.* 1. *Raii hiſt.* 204.
B. communis alba. *Park. par.* 489. 1.
B. alba vel palleſcens, quæ Cicla offic. *Bauh. pin.* 118.—& B. communis viridis, *ejuſd.*

Flowers three-fold; leaflets of the calyx unarmed at the baſe.

3. Beta maritima. *Sea-Beet.*
Lin. ſpec. 322. *ſyſt.* 262. *Reich.* 623. *Hudſ. angl.* 108. *With.* 257. *Lightf. ſcot.* 150.
B. ſylveſtris maritima. *Bauh. pin.* 118. *Park. theat.* 750. 2. *Raii ſyn.* 157. *hiſt.* 204. *Ger. emac.* 318. 2. *fig.* (according to *Lightf.* and *With.*)—and, communis ſ. viridis. *Bauh. pin.* 118. (according to *Ray.*)

Flowers double or twin; leaflets of the calyx even, not toothed.

[4. Beta patula. *Spreading Beet.*
Ait. hort. kew. 1. 315.

Flowers heaped, all the leaves linear-lanceolate, branches divaricated.]

DESCRIPTIONS, &c.

1. Garden Red Beet has large, thick, ſucculent leaves, which are for the moſt part of a dark red, or purple colour. The roots are large and deep red, and on theſe circumſtances their goodneſs depends; for the larger they grow, the more tender they will be, and the deeper their colour, the more they are eſteemed.

[Native of the ſea-coaſt of the ſouthern parts of Europe [a].

α. Leaves ſhorter than in the white Beet, more or leſs red, ſometimes ſo dark as to have the name of black Beet (*B. nigra.*) Root white [b].

β. "Leaves very great and red, as is all the reſt of the plant, as well root, as ſtalk, and flowers full of a purple juice tending to redneſs; the midribs of the leaves are very broad and thick, like that of the cabbage-leaf, and they are equal in goodneſs with the leaves of cabbage, being boiled. It was brought unto me by that courteous merchant maſter Lete; and grew with me in 1596 to the height of eight cubits, and did bring forth his rough ſeeds very plentifully. Theſe, though taken from a plant of one colour, bring forth plants of many and variable colours, as the worſhipful gentleman maſter John Norden can teſtify [c]."

γ. Stem higher than the common red Beet. Root thick, ſwelling like the Navew, and ſometimes like the Carrot, within and without of a high blood red [d].

δ. Leaves paler than in the white Beet, of a greeniſh yellow colour [e]. The root is of a fine high yellow, ſweet and well taſted.

All theſe are only ſeminal varieties. The Beet is very ſubject to change, and to degenerate, at leaſt in our climate. I cannot but be inclined to the opinion of Linneus, expreſſed in the *Hortus Cliffortianus*, and *Species Plantarum*, that the *Cicla* is not ſpecifically different from the *vulgaris*: and that both are probably derived from the *maritima*, cultivated on a rich ſoil, in ſouthern climes.

The roots of red Beet are boiled, ſliced, and eaten cold, by themſelves, or in ſalads; are uſed as garniſh to diſhes, and as a pickle. The green-leaved ſort is moſt eſteemed; the roots being the largeſt, and moſt tender.

Martial has juſtly marked the Beet for its fatuity. It is ſaid to be prejudicial to the ſtomach, and to afford little nouriſhment.

Taken in quantity it tends to looſen the belly. The juice both of the roots and leaves is ſaid to be a powerful errhine, occaſioning a copious diſcharge of mucus without provoking ſneezing. A good ſugar may be obtained from the juice of the freſh roots [f].

It was cultivated in 1656, by Mr. John Tradeſcant, jun. [g]]

2. The root of this ſort ſeldom grows larger than a man's thumb: the ſtalks grow erect, and have oblong ſpear-ſhaped leaves, growing cloſe to the ſtalk: the ſpikes of flowers are axillary, long, and have narrow leaves placed between the flowers. The lower leaves are thick and ſucculent, and their foot-ſtalks are broad. For theſe it is cultivated; the leaves being boiled as Spinach, or put into ſoups, [and the ſtalks and midrib of the leaf being ſtewed and eaten as Aſparagus.

A large variety of this has lately been introduced from abroad, under the titles of *Racine de diſette*, *Root of Scarcity*, and *Mangel Wurzel*. It is much cultivated in many parts of the continent, not only in gardens, but in the fields; being much more in eſteem, and perhaps really better than with us, where it ſeems to degenerate. Its qualities, and the quantity of its produce, have been much magnified, in common with moſt other things newly introduced. The leaf and root are ſaid to be excellent food for man and beaſt: it is affirmed not to be liable to deſtruction by inſects; nor to be affected by drought, *&c.* The leaves are recommended as equal in quality to Spinach: and being from thirty to forty inches long, and from twenty-two to twenty-five broad, exceed it greatly in quantity. They may alſo be gathered every twelve or fifteen days during the ſeaſon.

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[a] Hort. kew. [b] Ray. [c] Gerard's herbal. [d] Ray. [e] Parkinſon. [f] Ray and Lewis. [g] Hort. kew.

The roots have an earthy taſte; and are mawkiſhly ſweet, either boiled, fried, or in ſalad. They weigh ten or twelve pounds when tranſplanted; but when left in the ground where they were ſown have weighed as high as twenty-four pounds.

The ancients called the white Beet *Cicla* or rather *Sicla*, by contraction from *Sicula*, Sicilian Beet; as we call the Savoy Cabbages, *Savoys*.]

Mr. Miller mentions three varieties of this: the White, the Green, and the Swiſs or Chard Beet: [by the laſt of theſe he probably intended the ſame as the modern Mangel Wurzel, or Racine de Diſette. He affirms, that they vary from one to another in culture, as he has often experienced, but that they never alter to the firſt or third.

An anonymous writer in the Gentleman's Magazine (v. 58. 2. p. 872.) informs us, that three varieties appeared from ſeeds procured from Dr. Lettſom. 1. With leaves and ſtem dark green; which was the moſt common.—2. With ſtem and leaves of a lighter colour; which he takes to be the white Beet.—3. With ſtem and veins of the leaves red; which he ſays is the red Beet.—All of them have flowers in cluſters from two to three; piſtils from two to five; a leaf growing from the baſe of the flowers; the ſegments of the calyx equal, hunched, and membranaceous at the edge[h]. Few plants flowering the firſt year, he concludes it to be biennial; as indeed all the garden ſorts are, if not the wild Sea Beet alſo, although Linneus ſets it down as annual, and Ray as perennial.

Dr. Lettſom, who took much pains to introduce the Mangel Wurzel, informs us, that on his own land, which was not favourable to its growth, the roots upon an average, weighed full ten pounds, and if the leaves were calculated at half that weight, the whole product would be fifteen pounds of nutritious aliment upon every ſquare of eighteen inches[i].

3. This differs from the others, according to Linneus, in flowering the firſt year; in having oblique or vertical leaves; and in the leaflets of the calyx being equal, not toothed: according to Ray, in having a perennial root. This is probably the original parent of all the Garden Beets: Mr. Miller however affirms,] that he has brought the ſeeds from the places where they grow naturally, many times, and has cultivated the plants with care, but could never find any of them to vary from the parent plant in the characters.

It is a native of Holland and Great Britain on the ſea coaſt and in ſalt marſhes; [it is alſo found plentifully about Nottingham.

4. Stem ſhort, hardly a foot high, very branching: branches long, divaricate. Calycine leaflets dilated at the baſe, but not toothed. It flowers in auguſt. Native of the iſland of Madeira. Mr. Francis Maſſon. Introduced in 1788[k].]

PROPAGATION AND CULTURE.

1. The Red Beet is frequently ſown with Carrots, Parſneps, or Onions, by the kitchen gardeners near London, who draw up their Carrots or Onions when they are young, whereby the Beets will have room to grow, when the other crops are gathered; but where the crops are not timely removed from them, it will be a better method to ſow them ſeparately. This ſort requires a deep light ſoil, for as their roots run deep in the ground, ſo in ſhallow ground they will be ſhort and ſtringy. The ſeeds ſhould be ſown in march, and muſt be treated in the ſame manner as the former ſort; but the plants ſhould not be left nearer than a foot diſtance, or in good land a foot and a half, for the leaves will cover the ground at that diſtance. The roots will be fit for uſe in the autumn, and continue good all the winter; but in the ſpring, when they begin to ſhoot, they will be hard and ſtringy. A few roots may be left for ſeed, or ſome of the faireſt roots tranſplanted to a ſheltered ſpot of ground, where they may be defended from ſtrong winds, which frequently break down their ſtalks, if they are not well ſupported, eſpecially when the ſeeds are formed; which becoming heavy as it increaſes in bulk, is apt to weigh down the ſlender ſtalks upon which they grow. The ſeed will ripen in ſeptember, when the ſtalks ſhould be cut off, and ſpread on mats to dry, and afterwards threſhed out and cleared, and put up in bags for uſe.

2. The ſecond ſort, which is cultivated in gardens for its leaves, is commonly ſown by itſelf, and not mixed with other crops. This is ſown the beginning of march, upon an open ſpot of ground, not too moiſt; the ſeeds ſhould be ſown thinly, becauſe the plants require room to ſpread; for when they are too cloſe, the leaves being ſmall and full of fibres, will be unfit for the purpoſes deſigned. When the plants have put out four leaves, the ground ſhould be hoed, as is practiſed for Carrots, carefully cutting up all the weeds, and alſo the plants where they are too near each other, leaving them at leaſt four inches aſunder: if this is performed in dry weather, all the preſent weeds will be deſtroyed; but as young weeds will ſoon appear, in three weeks or a month's time, the ground ſhould be a ſecond time hoed over, to cut up the weeds, and thin the plants to a greater diſtance; for by this time they will be paſt danger, and ſhould not be left nearer than ſix inches, if regard is had to the goodneſs of their leaves: and if it is of the Swiſs kind, with broad leaves, the plants muſt not be nearer than nine or ten inches. If the ſecond hoeing is well performed, and in dry weather, the ground will remain clean a month longer, when it ſhould be hoed over a third time; which, if properly done, will deſtroy all the weeds; ſo that after this, the plants will ſpread and prevent the weeds from growing, therefore will want but little cleaning for a conſiderable time, and the leaves will ſoon be fit for uſe, when the outer large leaves ſhould be firſt gathered, leaving the ſmall inner leaves to grow larger; ſo that a ſmall ſpot of ground will ſupply a moderate family, and will furniſh a new ſupply of leaves for two years, provided the plants are not permitted to run up to ſeed, for after that, their leaves will not be good: therefore thoſe who are curious in their herbs, muſt ſow a freſh ſpot of ground annually, becauſe theſe plants naturally run up the ſecond year; and although the roots may be continued longer, by cutting off the ſtalks when they begin to ſhoot, yet the leaves will not be ſo large or tender upon theſe roots, as upon the young plants.

[The Mangel Wurzel is recommended to be ſown on good ground, in march or april, and as ſoon as the plants are the ſize of a gooſe-quill, to be tranſplanted in rows, eighteen inches diſtant, and eighteen inches apart in the rows. Sow very thin, and cover the ſeed an inch only: it will continue in the ground about a month. In tranſplanting, the root is not to be ſhortened, but the leaves cut at the top: then ſet the plant with a dibber, ſo that the upper part of the root ſhall appear half an inch out of the ground. After once hoeing, they will take care of themſelves, and ſuffocate every kind of weed. Some ſeed may be ſown every month, till the beginning of july for a ſucceſſion[l].

The roots however will be larger, and the leaves more abundant, if the plants are permitted to ſtand where the ſeed is ſown. It is better therefore to treat this plant as Mr. Miller has directed for the Swiſs Beet, allowing it ſufficient room to ſpread, and therefore ſetting out the plants, at the laſt hoeing, from a foot to eighteen inches aſunder.]

Betel or Betle. See *Piper*.

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[h] See alſo pp. 1043, 1044 of the ſame volume.

[i] Gentleman's magazine, vol. 58. 2. p. 1042. See alſo Abbé Commerell's and Dr. Lettſom's pamphlets.

[k] Hort. kew.

[l] Tranſ. Soc. Arts, vol. 5.

BETONICA. (*Corrupted from Veltonica, which is derived from the Vettones, an ancient people of Spain.*)
Engl. *Betony.* Fr. *Betoine.*
Lin. gen. n. 718. *Reich.* 776. *Schreb.* 973. *Tournef.* 96. *Juſſ.* 114.
Claſſ. 14. 1. Didynamia Gymnoſpermia.
Nat. order of *Verticillatæ*, or *Labiatæ*.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubular, cylindric, five-toothed, awned, permanent.

COR. monopetalous, ringent: *tube* bent in, cylindric: *upper lip* roundiſh, entire, flat, erect; *lower* trifid: *middle diviſion* broader, roundiſh, emarginate.

STAM. *Filaments* four, ſubulate, the length of the throat; two ſhorter, inclined to the upper lip. *Anthers* roundiſh.

PIST. *Germ* four-parted. *Style* form, ſituation and ſize of the ſtamens. *Stigma* bifid.

PER. none. *Calyx* foſtering the ſeeds in its boſom.

SEEDS four, ovate.

ESSENTIAL CHARACTER.

Cal. awned. *Cor.* upper lip aſcending, flattiſh; tube cylindric.

SPECIES.

1. Betonica officinalis. *Wood Betony.*
Lin. ſpec. 810. *Reich.* 3. 53. *ſuec. n.* 515. *hort. cliff.* 310. *upſ.* 164. *mat. med.* 149. *Hudſ. angl.* 258. *With.* 611. *Curtis lond.* 3. 33. *Lightf. ſcot.* 311. *Relh. cantabr. n.* 437. *Hall. helv. n.* 264. *Scop. carn. n.* 729. *Pollich pal. n.* 562. *Krock. ſileſ. n.* 936. *Villars dauph.* 2. 379. *Allion. pedem. n.* 128. *Riv. t.* 28. *Blackw. t.* 46. *Fl. dan.* 726. *Sabb. hort. t.* 82. *Mor. hiſt. ſ.* 11. *t.* 5. *f.* 1. *Pet. herb. t.* 32. *f.* 6. *Ger. emac.* 714. *Park.* 614. 1. *Raii hiſt.* 550. *Cam. epit.* 681.
β. B. alba. *Bauh. pin.* 235. *Hall.* β. *Ger.* 577. 2.
γ. B. minima alpina helvetica. *Tourn. Hall.* γ. *Lightf.* β. *Mor. f.* 4. *Park.* 614. *f.* 3. *Raii hiſt.* 550.
Spike interrupted; helmet of the corolla entire; middle diviſion of the lower lip emarginate; calyxes ſmoothiſh.

2. Betonica orientalis. *Oriental Betony.*
Lin. ſpec. 811. *Reich.* 3. 54. *Tournef. cor.* 13.
Spike entire, middle diviſion of the lip of the corolla quite entire.

3. Betonica alopecuros. *Fox-tail Betony.*
Lin. ſpec. 811. *ſyſt.* 535. *Reich.* 3. 54. *Jacqu. vind.* 251. *auſtr.* 1. *t.* 78. *Crantz. auſtr.* 256. *Krock. ſileſ. n.* 937. *Villars dauph.* 2. 381. *Allion. pedem. n.* 129. *Mill. dict. edit.* 7. *n.* 7.
Sideritis alopecuros. *Scop. carn. n.* 711. *t.* 28.
Horminum alpinum luteum, betonicæ ſpica. *Raii hiſt.* 547.—minus album, &c. *Bauh. pin.* 239. *prodr.* 114.
Spike leafy at the baſe, helmet of the corolla bifid.

4. Betonica hirſuta. *Hairy Betony.*
Lin. ſyſt. 535. *Reich.* 3. 55. *mant.* 248. *Murr. comm. gott.* 1779. *vol.* 2. 13. *t.* 3. *Hall. helv. n.* 265. *Villars dauph.* 2. 380.
B. alpina. *Mill. dict. n.* 3.
B. Monierii. *Obſ.* 146. *Gouan. illuſtr.* 36. *Allion. pedem. n.* 130.
B. alpina incana purpurea. *Barr. ic.* 340.
B. fol. hirſutis, flor. purpureis ampliſſimis. *Mentz. pug. Zanon. t.* 30. *p.* 46.
Spike leafy at the baſe, helmet of the corolla entire.

[5. Betonica heraclea.
Lin. ſyſt. 535. *Reich.* 3. 55. *mant.* 83.
Spike with woolly calyxes, teeth filiform; leaves lanceolate naked.]

6. Betonica ſtricta. *Daniſh Betony.*
Ait. hort. kew. 2. 299.
B. danica. *Mill. dict. n.* 2.
Spike oblong; helmet of the corolla entire, middle diviſion of the lower lip notch-waved; calyxes hairy.

7. Betonica incana. *Hoary Betony.*
Mill. dict. n. 5. *Ait. hort. kew.* 2. 299.
Spike interrupted; helmet of the corolla bifid, middle diviſion of the lower lip notched; tube tomentoſe bent in.

DESCRIPTIONS, &c.

The ſpecies of this genus are herbaceous, fibrous-rooted, hardy, perennial plants. The ſtems are ſimple, or but little branched. The flowers are in whorls, forming a terminating ſpike.

1. Common Wood Betony has an upright ſtem, a foot high or more, not branched, or but very little in the wild ſtate, hairy, channelled, the corners rounded. Root-leaves on long petioles, oblong-heart-ſhaped, obtuſe, wrinkled, crenate, with few hairs, but dotted all over with ſmall hollow points, the edge ciliate. Stem-leaves ſubſeſſile, lanceolate, ſerrate. Bractes numerous, lanceolate, ciliate, ſhorter than the calyx. Flowers in whorls, forming a ſhort ſpike at the top of the ſtem, the lowermoſt remote: there are about fourteen flowers in a whorl; in ſome ſeventeen or eighteen. Calyx coloured, ſeſſile, almoſt upright, villoſe within, having long hairs between the five long-pointed ſegments; the two upper teeth are recurved. Corollas purple, varying to fleſh-colour and white: tube downy, longer than the calyx: upper lip commonly entire, but ſometimes cloven at the end: lower ſcalloped or crenulate: filaments villoſe; anthers blackiſh[a].

Native of woods, heaths and paſtures among buſhes; flowering from the beginning of july to ſeptember.

Betony, ſays Linneus, was formerly much uſed in medicine, but it is diſcarded from modern practice. When freſh it intoxicates. The leaves when dry excite ſneezing. Sheep eat it, but goats refuſe it. The leaves and flowers, according to Lewis, have an herbaceous, roughiſh, and ſomewhat bitteriſh taſte, with a weak aromatic flavour. An infuſion or light decoction of them may be drank as tea; or a ſaturated tincture in rectified ſpirit may be given in laxity and debility of the viſcera. The ſneezing quality of the dried leaves ſeems to be owing only to the rough hairs on them. The roots are bitter and very nauſeous: in a ſmall doſe they vomit and purge violently. This plant dyes wool of a very fine dark yellow colour.

β. It is not uncommon with a white flower, in ſubalpine paſtures. Gerard remarked it near Hampſtead;] and Mr. Miller ſays, he often found it in Kent.

[γ. There is a ſmall mountainous variety not unfrequent, with a ſpike nearly globular; the leaves and flowers are ſmaller: but all theſe differences are owing to ſituation.]

2. Leaves very long, narrow, hairy, neatly crenated on their edges. Flowers in very cloſe thick ſpikes at the top of the ſtalks: they are larger, and of a lighter purple than thoſe of the common ſort. It was firſt diſcovered by Tournefort in the Levant: and was cultivated by Mr. Miller in 1739[b].

3. This has the appearance of common Betony, but the leaves are altogether heart-ſhaped, hirſute and ſerrate. The ſtem is a foot high, hirſute, obtuſely quadrangular, and has two or three pairs of leaves; thoſe immediately under the whorls are entire, broad, with the ends bent down. The whorls have from ſixteen to twenty flowers, forming a ſhort ſpike. The flowers ſmell like Elder. The calyx is ſeſſile, villoſe, pentangular; the teeth equal and acuminate: under each a ſmall lanceolate bracte. The corollas are pale yellow: the upper lip oval, drawn out into a bifid point: the lower lip trifid, with the middle ſegment quite entire and bent upwards; the tube is flattened, and of the ſame length with the calyx. Filaments lanuginous. Germs ſmooth and ſhining.

Scopoli will not allow this to be a Betony, becauſe the germs are covered with a crown of villoſe hairs[c].

It is a native of the mountains of Savoy, Piedmont, Auſtria, Carniola, Sileſia, and Provence: and was cultivated in 1759, by Mr. Miller[d].

4. This reſembles the foregoing, but is more ſtout, luſty and hairy, with a ſhorter, thicker ſpike.

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[a] Curtis, Withering.
[b] Hort. kew.
[c] Scopoli.
[d] Hort kew.

The helmet of the corolla is entire, not bifid; and the corolla is purple, not yellow; the ſpike is ovate, and not interrupted, as it is in that. Bractes between the flowers oblong; the larger ones ſerrate, the ſmaller only ſubciliate, not ovate. It has a pair or two of petioled leaves, beſides the ſeſſile pair under the ſpike, as in that[e].

Ray, who cultivated it ſome years in his garden at Cambridge, ſays that it differs from the firſt ſort, in having leaves twice or thrice as large; a ſtronger ſmell approaching to a ſtink; a firmer and loftier ſtem; thicker and longer ſpikes of purple flowers.]

Mr. Miller affirms, that it ſeldom riſes more than four inches high in the wild ſtate, and when cultivated in a garden not above ſeven or eight; that the leaves are much broader at the baſe than thoſe of the common ſort, and very different in ſhape, being triangular, and blunt at the end; the ſpikes are very ſhort and cloſe, and theſe differences are conſtant.

[Native of the Alps, Apennines, and Pyrenees; and cultivated by Mr. Miller, in 1739[f].

5. Stem and leaves almoſt ſmooth. Spike largiſh, woolly. Involucres filiform, the length of the calyx. Teeth of the calyx filiform, ſoft, the length of the tube. Corollas yellow; upper lip ſcarcely longer than the calyx; lower trifid, with the middle ſegment larger than the two others and rounded. Stamens nearly the length of the upper lip[g]. Native of the Levant.]

6. This differs greatly from our common ſort, the lower leaves being much broader and heart-ſhaped; thoſe upon the ſtalks are ſpear-ſhaped, and rounded at the end; the ſtalks are larger, ſtand upright, and are terminated by thicker ſpikes of flowers. Native of Denmark. [Cultivated by Mr. Miller in 1759[h].]

7. The leaves of this ſort are broader, and not ſo long as thoſe of the common ſort, and are hoary; the ſtalks are ſhorter and much thicker, as are alſo the ſpikes of flowers, than thoſe of the common Betony; the flowers are larger and fleſh-coloured. Native of Italy. [Cultivated by Mr. Miller in 1759[i].]

PROPAGATION AND CULTURE.

All the ſorts may be propagated by ſeeds, or parting the roots. They require a ſhady ſituation and a moiſt ſtiff ſoil, in which they will thrive better than in rich ground. The beſt time to tranſplant and ſeparate the roots is in the autumn, but the ſeeds ſhould be ſown in the ſpring upon a ſhady border, and when the plants come up, they will require no other care but to keep them clean from weeds, and to thin them where they are too cloſe.

Theſe all of them flower in may and june, and the ſeeds ripen in auguſt.

Betonica aquatica. See *Scrophularia*.

———— Pauli. See *Veronica*.

BETŬLA. (*From* bitumen, *according to ſome* (Plin. l. 16. c. 18.) : *from* batuere, i. e. cædere, q. Batula, *according to others.*)

Lin. gen. n. 1052. *Reich.* 1147. *Schreb.* 1419. *Tournef.* 350. *Juſſ.* 409. *Gærtn. t.* 90.—— Alnus. *Tournef.* 359. *Gærtn. t.* 90.

Engl. *Birch* and *Alder*. Fr. *Bouleau* & *Aune*.

Claſſ. 21. 4. Monoecia Tetrandria.

Nat. order of *Amentaceæ*.

GENERIC CHARACTER.

* *Male flowers* in a cylindric ament.

Cal. *Ament* imbricate on every ſide, looſe, cylindric; conſiſting of three-flowered *ſcales*, in each of which are two very minute ſcales, placed at the ſides. Three equal floſcules, fixed to the diſk of each ſcale of the calyx.—*Perianth* in each one-leafed, ſmall, entire, three or four-parted; *diviſions* ovate, obtuſe.

Cor. none.

Stam. *Filaments* to each four (or three or two) very ſmall. *Anthers* twin.

* *Female flowers* in an ament of the ſame plant.

Cal. *Ament* cylindric or roundiſh, imbricate; with two-flowered *ſcales*.

Cor. none.

Pist. *Germ proper* ovate compreſſed, very ſmall, two-ſeeded. *Styles* two ſetaceous. *Stigmas* ſimple.

Per. none. *Ament* under each ſcale cheriſhing the ſeeds of two florets.

Seeds ſolitary, ovate.

Obs. Betula T. *has the fruits in cylindric aments: ſcales three-forked: ſeeds with a double lateral wing.* Alnus T. *has them in a roundiſh ſtrobile: ſcales roundiſh: ſeeds angular, without wings.*

ESSENTIAL CHARACTER.

Male. *Cal.* one-leafed, three-cleft, three-flowered. *Cor.* four-parted.

Fem. *Cal.* one-leafed, ſubtrifid, two-flowered. *Seed* with a winged membrane on each ſide.

SPECIES.

1. Betula alba. *Common Birch-tree.*

Lin. ſpec. 1393. *Reich.* 4. 125. *mat. med.* 200. *hort. cliff.* 442. 1. *lapp.* 341. *ſuec.* 859. *amæn.* 1. *p.* 2. *Hudſ. angl.* 416. *With.* 1065. *Lightf. ſcot.* 572. *Evelyn, p.* 96. *fig. Hunt. Evel.* 218. *Hall. helv. n.* 1628. *Pallas roſſ.* 61. *Scop. carn. n.* 1171. *Leers herborn. n.* 730. *Pollich pal. n.* 898. *Allion. pedem. n.* 1973. *Villars dauph.* 2. 788. *Duham. arb.* 1. 100. *t.* 39. *Blackw. t.* 240. *Trag.* 1113. *Matth.* 142. *Dod.* 836. *Camer. epit.* 68. *Lob. ic.* 2. 190. *Bauh. hiſt.* 1. 149. *Ger.* 1295. *emac.* 1478. *Park.* 1408. *Raii hiſt.* 1410.

β. B. pendula. *Weeping Birch.*

γ. B. alba dalecarlica. *Lin. ſuppl.* 416.

Leaves ovate acuminate ſerrate.

2. Betula nigra. *Black Virginia Birch-tree.*

Lin. ſpec. 1394. *Reich.* 4. 126. *Duham. arb.* 3. *Gærtn. fruct.* 2. 54. *t.* 90. *Gron. virg.* 188: 146. *Pluk. alm.* 67. *Raii dendr.* 12. *n.* 2. *Ait. hort. kew.* 3. 336.

Leaves rhomb-ovate acute doubly ſerrate, pubeſcent underneath, entire at the baſe; ſcales of the ſtrobiles villoſe, ſegments linear equal.

3. Betula lenta. *Canada Birch.*

Lin. ſpec. 1394. *Reich.* 4. 126. *Gron. virg.* 115: 146. *Duham. arb. n.* 2.

Leaves cordate oblong acuminate ſerrate.

4. Betula nana. *Smooth Dwarf Birch.*

Lin. ſpec. 1394. *Reich.* 4. 127. *lapp. n.* 342. *t.* 6. *f.* 4. *ſuec.* 860. *hort. cliff.* 422. *amæn.* 1. *p.* 4. *t.* 1. *Hudſ. angl.* 416. *With.* 1066. *Lightf. ſcot.* 575. *t.* 25. *Hall. helv. n.* 1629. *Fl. dan. t.* 91. *Pallas roſſ.* 63. *t.* 40. D—G.

Leaves orbiculate crenate.

[5. Betula pumila. *American* or *hairy Dwarf Birch.*

Lin. ſyſt. 849. *Reich.* 4. 127. *mant.* 124. *Jacqu. hort.* 2. *t.* 122.

B. nana. *Kalm it.* 2. 263.

Leaves obovate crenate.

6. Betula Alnus. *Alder.*

Lin. ſpec. 1394. *Reich.* 4. 127. *ſuec. n.* 861. *Hudſ. angl.* 416. *With.* 1067. *Lightf. ſcot.* 576. *Pollich pal. n.* 899. *Pallas roſſ.* 64. *Leers herborn. n.* 731. *D'Aſſo aragon. n.* 923. *Ait. hort. kew.* 3: 338.]

Alnus. *Lin. lapp.* 340. *hort. cliff.* 441. *Gærtn. fruct.* 2. 54. *t.* 90. *Hall. helv. n.* 1630. *Mill. dict. edit.* 7. *Loeſ. pruſſ.* 10. *t.* 1. *Hunt. Evelyn.* 233. *Ger.* 1294. *emac.* 1477. *Park.* 1409. *Raii hiſt.* 1409. *Cam. epit.* 68.

α. glutinoſa. *Common Alder.*

Leaves undivided.

β. A. laciniata. *Cut-leaved Alder.*

Ait. hort. kew. 3. 338. 10 β. *Duham. arb.* 42. *n.* 4.

Leaves pinnatifid.

Peduncles branched; leaves roundiſh-wedge-form very obtuſe glutinous; axils of the veins villoſe underneath.

[7. Betula incana. *Hoary Alder.*

Lin. ſyſt. 849. *ſuppl.* 417. *Hall. helv. n.* 1631. *Villars dauph.* 2. 790. *Pallas roſſ.* 64. *Du Roy harbecc.* 1. 109. *Gmel. ſib.* 1. 171. *n.* 24. 2.

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[e] Linn.

[f] Hort. kew.

[g] Linn.

[h] Hort. kew.

[i] Ibid.

Betula Alnus incana. *Lin. ſpec.* 1394. *Reich.* 4. 127.
B. viridis. *Villars dauph.* 2. 789.
Alnus fol. incano. *Bauh. pin.* 428. *Raii hiſt.* 1410.
A. incana & hirſuta. *Bauh. hiſt.* 1. *P.* 2. *p.* 154.
α. B. glauca. *Glaucous-leaved Alder.*
Leaves glaucous beneath, petioles red.
β. B. angulata. *Elm-leaved Alder.*
Leaves green beneath, petioles green.
Peduncles branched; leaves roundiſh elliptic acute pubeſcent underneath; axils of the veins naked; ſtipules lanceolate.

8. Betula populifolia. *Poplar-leaved Birch.*
Ait. hort. kew. 3. 336.
Leaves deltoid drawn out to a long point unequally ſerrate very ſmooth; the ſcales of the ſtrobiles having roundiſh ſide lobes; petioles ſmooth.

9. Betula papyracea. *Paper Birch.*
Ait. hort. kew. 3. 337.
Leaves ovate acuminate doubly-ſerrate, veins hirſute underneath.

10. Betula excelſa. *Tall Birch.*
Ait. hort. kew. 3. 337.
Leaves ovate acute ſerrate; ſcales of the ſtrobiles having the ſide lobes rounded; petioles pubeſcent ſhorter than the peduncle.]

11. Betula oblongata. *Turky Alder.*
Ait. hort. kew. 3. 338. *Mill. dict. edit.* 7. *n.* 2.
A. fol. oblongo viridi. *Bauh. pin.* 428.
α. foliis oblongis. *Oblong-leaved Turky Alder.*
β. fol. ellipticis. *Oval-leaved Turky Alder.*
Peduncles branched; leaves oval obtuſiſh glutinous; the axils of the veins naked underneath.

[12. Betula ſerrulata. *Notch-leaved Alder.*
Ait. hort. kew. 3. 338.
Peduncles branched; leaves obovate acute; veins and their axils villoſe underneath; ſtipules oval obtuſe.

13. Betula criſpa. *Curled-leaved Alder.*
Ait. hort. kew. 3. 339.
Peduncles branched; leaves ovate acute ſomewhat waved; veins hairy underneath; axils naked; ſtipules roundiſh-ovate.

14. Betula daurica.
Pallas itin. 3. 224. *t.* kk. *f.* 4. ab. *fl. roſſ.* 60. *t.* 39. *Gmel. ſib.* 1. 167. α 2.
Leaves ovate acuminate ſerrate, hairy on the nerve.

15. Betula fruticoſa.
Pallas itin. 3. *app.* 758. *n.* 133. *t.* kk. *f.* 1, 2, 3. *fl. roſſ.* 62. *t.* 40. A, B, C. *Gmel. ſib.* 1. 167. *var.* 3. *t.* 36. *f.* 2.
Leaves rhomboid-ovate, equally ſerrate, ſmooth.

DESCRIPTIONS, *&c.*

1. The common Birch tree is known at firſt ſight, by the ſilvery colour of its bark, or rather *epidermis*, or outer thin covering to the bark; the ſmallneſs of the leaves in compariſon with other timber trees; and the lightneſs and airineſs of the whole appearance. It is of a middling or rather inferior ſize among other foreſt trees. Branches alternate, ſubdivided, very pliant and flexible, covered with a reddiſh brown or ruſſet, ſmooth bark, generally dotted with white. Leaves alternate, bright green, ſmooth, ſhining beneath, with the veins croſſing like the meſhes of a net; the petioles are half an inch or more in length, ſmooth, grooved above; and at the baſe are ovate green glands. The male aments or catkins appear in autumn, keep on during the winter, and unfold their flowers when the females appear in ſpring; they are ſituated at the ends of the twigs, commonly two together, ſeſſile, cylindric, blunt, long, narrow and pendulous; the ſcales ſeparating the flowers are roundiſh, acuminate, yellowiſh brown, and ſmooth: the female aments appear in ſpring at the ends of the ſhorter branches; they are ſolitary, at firſt upright, but afterwards nodding a little, cylindric or rather ovate, blunt, on pedicels near a quarter of an inch in length, ſhorter and thicker than the male aments; the ſcales have from two to four flowers in each, they are lanceolate, blunt, green and ſmooth. Germs two, ſometimes more, compreſſed; ſtyles and ſtigmas reddiſh[a]. Native of Europe, from Lapland to the ſubalpine parts of Italy; and of Aſia, chiefly in mountainous ſituations; flowering with us in april and may.

β. The twigs are erect in young trees, but being very ſlender and pliant are apt to become pendent in old ones; hence a variety no leſs beautiful than the weeping Willow.

γ. There is a remarkable variety mentioned, in the Supplement of the younger Linneus, to be found in Dalecarlia; deſcribed to have leaves almoſt palmate, with the ſegments toothed.

Other varieties, of a trifling nature, being chiefly ſlight differences in the ſhape of the leaves, are given by Linneus, in his Flora Suecica, from Linder—

1. With a rounder leaf, and pendent branches.
2. With a white broader acuminate leaf.
3. Brittle, with a blackiſh woolly leaf.
4. Saxatilis, torminalis, with an oblong leaf.
5. Dwarf Birch. Thal. hercyn. 20. Mapp. alſat. 139.

The moſt common names of the Birch tree are, in Greek Σημυδα; in Latin *Betula* or *Betulla*; in German *Birke*; in Dutch *Berk*; in Daniſh and Scotch *Birk*; in Swediſh *Biörk* or *Börk*; in French *Bouleau*; in Italian *Betulla*, *Maio* or *Maiella*; in Spaniſh *el Abedul*, *la Betulla*; in Portugueze *Betula*, *Betulla*; in Ruſſian *Beréſa*; in Poliſh *Brzoza*.

Though Birch, ſays the excellent Evelyn, be of all other the worſt of timber, yet has it its various uſes: as for the huſbandman's ox-yoaks; alſo for hoops, ſmall ſcrews, paniers, brooms, wands, bavin-bands, and wythes for faggots; and claims a memory for arrows, bolts, ſhafts (our old Engliſh artillery); alſo for diſhes, bowls, ladles, and other domeſtic utenſils, in the good old days of more ſimplicity, yet of better and truer hoſpitality. In New England our northern Americans make Canoes, Boxes, Buckets, Kettles, Diſhes, which they ſew and join very curiouſly with thread made of Cedar roots; and divers other domeſtical utenſils, as Baſkets, Bags, with this tree, whereof they have a blacker kind[b]; and out of an excreſcence or fungus from the bole, boiled beaten and dried in an oven they make excellent Spunck or Touchwood, and Balls to play withal; and being reduced to powder, it is an infallible remedy in the Hæmorrhoids. They make alſo not only this ſmall ware, but even ſmall-craft, Pinnaces of Birch, ribbing them with white Cedar, and covering them with large flakes of Birch-bark, ſew them with thread of Spruce-roots, and pitch them; as it ſeems we did even here in Britain, as well as the Veneti[c]. Alſo for fuel: in many of the Moſſes in the weſt-riding of Yorkſhire, are often dug up Birch-trees, that burn and flame like Fir and Candle-wood; and Pliny ſays, the Gauls extracted a ſort of bitumen out of Birch. Great and ſmall Coals are made by the charring of this wood; as of the tops and loppings Mr. Howard's new Tan. The inner white cuticle and ſilken bark, which ſtrips off of itſelf almoſt yearly, was anciently uſed for writing-tables, before the invention of paper: and there is a Birch-tree in Canada, whoſe bark will ſerve to write on, and may be made into books, and of the twigs very pretty baſkets. With the outward thicker and coarſer part of the common Birch are divers houſes in Ruſſia, Poland, and thoſe poor northern tracts covered, inſtead of ſlates and tile; nay in Sweden, the poor people grind the very bark, to mingle with their bread-corn. 'Tis affirmed by Cardan, that ſome Birch-roots are ſo very extravagantly veined, as to repreſent the ſhapes of beaſts, birds, trees, *&c.* Of the whiteſt part of the old wood, found commonly in doating Birches, is made the ground of our *effeminate farined Gallants ſweet powder*; and of the quite conſumed and rotten, is gotten the beſt mould for the raiſing of divers ſeedlings of the rareſt plants and flowers; to ſay nothing here of the magiſterial faſces, for which anciently the cudgels were uſed by the Lictor, for lighter faults, as now the gentler rods by our tyrannical pædagogues[d].

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[a] Pollich.

[b] B. nigra, n. 2.

[c] Lucan's Pharſalia.

To this ample, and in ſome parts quaint account by our venerable planter, we may properly add the information of more modern times.

The wood of our Birch is very white: women's ſhoe-heels and pattens, and packing-caſes are made of it. It is planted along with haſel, to make charcoal for forges. In the northern parts of Lancaſhire they make a great quantity of beſoms with the twigs for exportation[e].

The bark is of great uſe in dying wool yellow, and particularly in fixing fugacious colours. For this purpoſe it is beſt to uſe it dry, and to diſbark trees of eighteen or twenty years growth, at the time when the ſap is flowing. The trees ſhould ſtand, and be cut down the following winter. The Black American Birch may be applied equally well to the ſame purpoſe[f].

The highlanders of Scotland uſe the bark for tanning leather, and for making ropes: and ſometimes they burn the outer rind inſtead of candles. With the fragments dexterouſly braided, the Laplanders make themſelves ſhoes and baſkets; they uſe large thick pieces ſet out, with a hole in the middle to fit the neck, for a ſurtout to keep off the rain. The Ruſſians, Poles, and Norwegians cover their houſes with it, laying turf three or four inches thick over. In Kamtſchatka they make hats and drinking cups of it.

The wood was formerly uſed by the Scotch highlanders for their arrows; but now by the wheelwright, and for moſt ruſtic implements; by the turner for trenchers, bowls, ladles, *&c.* and when of a proper ſize it will make tolerable gates, rails, *&c.* In France it is generally uſed for wooden ſhoes. It affords good fuel, ſome of the beſt charcoal; and the ſoot is a good lamp-black for printer's ink. The ſmall branches ſerve the highlanders for hurdles, and ſide fences to their houſes. Moxa is made of the yellow fungous excreſcences of the wood, which ſometimes ſwell out from the fiſſures. The leaves afford good fodder to horſes, kine, ſheep and goats. The ſeeds are the favourite food of the Siſkin or Aberdevine; and this tree furniſhes food to a variety of inſects.

The vernal ſap of the Birch tree is well known to have a ſaccharine quality, and to make a wholeſome diuretic wine. In the beginning of march, while the ſap is riſing, and before the leaves ſhoot out, bore holes in the bodies of the larger trees, and put foſſets therein made of Elder ſticks with the pith taken out, ſetting veſſels under to receive the liquor. If the tree be large, you may tap it in four or five places at a time; and thus from ſeveral trees you may draw ſeveral gallons of juice in a day. If you do not get enough in one day, bottle up cloſe what you have, till you get ſufficient for your purpoſe, but the ſooner it is boiled the better. Boil the ſap as long as any ſcum riſes, ſkimming it all the time. To every gallon of liquor put four pounds of ſugar, and boil it afterwards half an hour, ſkimming it well; then put it into an open tub to cool, and when cold tun it into the caſk; when it has done working, bung it up cloſe, and keep it three months; then either bottle it off, or draw it out of the caſk when it is a year old[g].

The Birch, ſays our ancient Gerard, ſerveth well to the decking up of houſes and banquetting rooms, and for beautifying of ſtreets in the Croſſe or Gangweek, and ſuch like.

If this tree ſerves ſuch purpoſes no longer, it deſerves however to be planted in parks and ornamental woods, to increaſe the variety; and its fragrant ſmell after rain juſtly entitles it to a place in the wilderneſs[h]. The ſtem being ſtraight, the bark ſmooth and white, and the foliage neat, the Birch has a pictureſque appearance when properly placed in ornamental plantations; either in the openings here and there, to ſhow the foliage and hanging down of the twigs, or within to diſplay its ſilvery bark through the gloom[i].

But from what has been ſaid, the Birch, though in the loweſt eſteem as a timber tree, may yet deſerve to be cultivated, not merely as an ornament, but for its various uſes;] eſpecially ſince it will grow to advantage upon barren land, where better trees will not thrive: it will flouriſh in moiſt ſpringy land, or in dry gravel and ſand, where there is little ſurface: upon ground which produced nothing but moſs, theſe trees have ſucceeded ſo well as to be fit to cut in ten years after planting, when they have been ſold for near ten pounds the acre ſtanding, and the after produce has been conſiderably increaſed; and as the woods near London have been grubbed up, the value of theſe plantations has advanced in proportion: therefore thoſe perſons who are poſſeſſed of ſuch poor land, cannot employ it better, than by planting it with theſe trees, eſpecially as the expenſe of doing it is not great.

2. [The Black Virginia Birch has the larger ſerratures of the leaves deeper and more remote, and beſides theſe it has very ſmall, fine, crowded ones; the baſe from an obtuſe angle is quite entire. The twigs are pubeſcent, and the petioles villoſe[k]. The branches are ſpotted, and more ſparingly ſet on the tree than in our common ſort. The leaves are broader and grow on longer petioles. It arrives at a much greater ſize, for it grows upwards of ſixty feet in height, and is equally hardy with the European white Birch. It has been hitherto propagated chiefly for ornamental plantations; but it is to be hoped that it will be admitted alſo among our foreſt trees[l]. It was introduced in 1736, by Peter Collinſon, Eſq.[m]

There are ſeveral varieties of this ſpecies, as 1. Broad-leaved Virginian Birch. 2. Poplar-leaved Virginian Birch. 3. Paper Birch. 4. Brown Birch, *&c.*

3. The leaves of the Canada Birch are ſmooth, very finely and ſharply ſerrate. The female catkins are ovate, ſeſſile, with acuminate entire ſcales[n]. It grows ſixty feet and more in height. The liquor flowing from its wounds is uſed by the inhabitants of Kamtſchatka without previous fermentation; with the wood they build ſledges and canoes; and they convert the bark into food by ſtripping it off when green, and cutting it into long narrow pieces, like Vermicelli, drying it, and ſtewing it with their Caviar[o]. It was cultivated in 1759, by Mr. Miller[p]. Of this there are alſo ſeveral varieties.

4. The European Dwarf Birch is an upright ſhrub, ſeldom above two or three feet high. Trunk hard and ſtiff, with a roughiſh bark like that of the Elm, of a ruſſet, or blackiſh purple colour. Branches ſlender ſpreading ſtraight ſcattered tapering woolly ſomewhat gummy at the ends. Leaves commonly three from each bud, but frequently ſingle and alternate, rather more in breadth than length, having from ten to fourteen notches about the edge, entire at the baſe, ſmooth, gloſſy, veined on both ſides: petioles very ſhort, ſmooth and compreſſed. Sometimes the leaves are ſeſſile or nearly ſo. Stipules in pairs, ovate, concave, upright, ciliate, brown, permanent. Catkins oval erect ſeſſile half an inch long. Styles purple[q].

Native of the northern parts of Europe; flowering in may.]

Mr. Miller ſays, it is preſerved in ſome curious gardens for the ſake of variety, but is of no uſe here. [It is however of ſignal uſe in the œconomy of the Laplanders. The branches furniſh them with their bed and their chief fuel; and the ſeeds are the food of the Ptarmigan, which makes a conſiderable part of their ſuſtenance. The Moxa alſo is prepared from it, which they conſider as an efficacious remedy in all painful diſeaſes[r].

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[d] Silva edit. 4. 1706. fol. B. 1. c. 17. p. 89. [e] Withering. [f] Dambourney. [g] Lightfoot. [h] Boucher.

[i] Gilpin's for. ſcen. 1. 66. [k] Linn. [l] Hunter. [m] Hort. kew. [n] Linn. [o] Hunter. [p] Hort. kew. [q] Withering, Lightfoot. [r] Hunter & Linn. lapp.

The leaves, according to Linneus, dye a better yellow than the common Birch.

5. This reſembles the foregoing, but ſeems diſtinct in having leaves not orbiculate but obovate, more deeply notched, pubeſcent underneath. The female catkin has a different appearance from having wrinkled ſcales[s]. It is a native of North America; and was introduced in 1762, by Mr. James Gordon[t].

6. The common Alder appears generally as a ſhrub; it will however grow to a conſiderable tree, thirty-five or forty feet in height. The bark is blackiſh, in old trees full of clefts. The wood is red and brittle. The leaves are of a dark green colour, and a roundiſh figure, reſembling thoſe of the Haſel, crenate, ſmooth, in the common ſort viſcid to the touch; the nerves on the under ſide have ſpongy balls at the angles of their ramifications, as in the leaves of the lime-tree; the petioles are grooved above, and near an inch long; at the baſe of theſe are lanceolate, blunt ſtipules. The male catkins are cylindrical, appear in the autumn, and continue to the ſpring. The females are of a ſhort conical form, like a ſmall fir cone[u].

Many botaniſts, and among others Linneus himſelf, have ſeparated the Alder from the Birch; but Linneus, in his later works, has joined them in the ſame genus; convinced, as he ſays, by the ſecond and third ſpecies, that nature has placed no limits between them. Gærtner however keeps them diſtinct, and ſays that they differ not only in the fruit, but in the flower. In the Birch, the male catkin has ternate ſcales, the middle one larger and ovate, the two ſide ones narrower, lanceolate, all concave. Corolla none. Stamens twelve, inſerted in the middle of the ſcale. The female is alſo a catkin, compoſed of horizontal ſcales, widening outwards from a narrow beginning, three-lobed at the tip, two or three-flowered at the baſe. There is no calyx or corolla. Germ compreſſed, ſurrounded with a membranaceous wing, two-celled, with a ſingle rudiment of a ſeed in each. Styles two. Seed (like that of the Elm) cordate, one-celled. In the Alder, the male catkin has the primary ſcales larger and cordate, to each of which three ſmaller, ſecondary ones are annexed, which bear the corolla; this is wheel-ſhaped and four-parted. Stamens four, with two-celled anthers. The female is a ſtrobile, of an ovate-globular form, compoſed of ſuberoſe ſcales, from a narrow beginning widening into a retuſe tranſverſely oblong border, which is four-lobed on the upper edge; each has two flowers. There is no calyx or corolla. Germ compreſſed, two-celled. Styles two. Pericarp a compreſſed, two-celled nut, covered with a bony hard ſhell; in each cell a ſmooth, pale-coloured, lens-ſhaped, rounded ſeed, obliquely acuminate on the outſide at top.

Native of Europe from Lapland to Gibraltar, and of Aſia from the White Sea to mount Caucaſus, in wet and boggy grounds, and on the banks of rivers; flowering with us in march and april.

Mr. Miller, probably intending to remove the article *Alnus* to that of *Betula*, has entirely omitted the former in the eighth folio edition of his dictionary. In the ſeventh edition he makes three ſpecies of the Alder.]

1. Alnus obverſe ovatis rugoſis. *Alder with obovate wrinkled leaves.* A. rotundifolia glutinoſa viridis. *Bauh. pin.* 428. *Common,* or *round-leaved Alder.*

2. A. foliis ovato-lanceolatis, marginibus dentatis. *Alder with ovate-lanceolate leaves, indented on their edges.* A. folio oblongo viridi. *Bauh. pin.* 428. *The long-leaved Alder.* See n. 11.

3. A. pumila folio rotundo ſerrato. *Dwarf Alder with a round ſerrate leaf.* A montana, lato criſpo glutinoſo folio, ferrato. *Bocc. muſ.* 2. 138. (See the varieties under the next ſpecies.)

1. The firſt is our common Alder. 2. The ſecond is B. oblongata, n. 11. 3. The third grows naturally on the Alps and Apennines; it is a very humble ſhrub, ſeldom riſing more than a foot high, the branches always trailing on the ground.

[Other varieties are—4. The White. 5. The Black. 6. The Dwarf American.

There is a long-leaved Alder from America, which grows to thirty feet in height, and merits a place in all plantations. The branches are ſlender, ſmooth, numerous, and dark brown or purple. The leaves are long and free from the clammineſs of the common ſort: they ſometimes continue on the tree even in december, and it has then the appearance of an evergreen[x].

The moſt common names of the Alder are in Greek Κληϑρη; in Latin *Alnus* (q. ab amne alātur, aut q. alat herbas); in German *Erle, Erlenbaum* or *Eller*; in Dutch *Els, Elzeboom*; in Daniſh *Ell, Elle, Elletræe, Eln*; in Swediſh *Al, Ahl*; in Engliſh *Alder, Aller, Oller, Owler*; in Scotch *Eller*; in Italian *Ontano, Alno*; in Spaniſh *Aliſo, Alamo negro, Negrillo*; in Portugueze *Alemo*; in Ruſſian *Olcha*; in Poliſh *Olſza.*

= arn

The wood of the Alder is valuable for piles, pipes, pumps, ſluices, and in general for all works intended to be conſtantly under water. It is ſaid to have been uſed under the Rialto at Venice; and we are told that the moraſſes about Ravenna were piled with it, in order to lay the foundations for building upon[y]. In Flanders and Holland it is raiſed in abundance for this purpoſe. It ſerves alſo many domeſtic and rural uſes, as for cart-wheels, ſpinning-wheels, milk-veſſels, bowls, ſpoons, ſmall trays, trenchers, and other turnery ware, troughs, handles of tools, clogs, pattens, wooden heels. The roots and knots furniſh a beautiful veined wood for cabinets. The Scotch highlanders often make chairs of it, which are very handſome, and the colour of mahogany. The wood which has lain in bogs is black like ebony. It is very generally planted for coppice wood, to be cut down every ninth or tenth year for poles. And the branches make good charcoal.

The bark is uſed by dyers, tanners, and leather-dreſſers; alſo by fiſhermen for their nets. Both this and the young ſhoots dye yellow, and with a little copperas a yellowiſh gray, very uſeful in the demi-tints, and ſhadows of fleſh in tapeſtry. The ſhoots cut in march will dye a cinnamon colour; and a fine tawny, if they be dried and powdered. The freſh wood yields a dye the colour of rappee ſnuff. The catkins dye green. The bark is uſed as a baſis for blacks: an ounce of it dried and powdered, boiled in three quarters of a pint of water, with an equal quantity of logwood, with ſolution of copper tin and biſmuth, ſix grains of each, and two drops of ſolution of iron vitriol, will dye a ſtrong deep *boue-de-Paris.* The leaves have been ſometimes employed in tanning leather. The Laplanders chew the bark, and dye their leathern garments red with their ſaliva. The whole tree is very aſtringent.

The Alder makes good hedges by the ſides of ſtreams and ditches, and in all wet moraſſy ſoils; and ſerves to keep up the banks: but if it be planted in a low meadow, it is ſaid that the ground ſurrounding it will become boggy; whereas if Aſh be planted, the roots of which penetrate a great way, and run near the ſurface, the ground will become firm and dry. The ſhade of Alder ſeems to be no material impediment to the growth of graſs. The boughs cut in ſummer, ſpread over the land, and left during the winter to rot, are found to anſwer as a manure, clearing the ground in march of the undecayed parts, and then ploughing it. The freſh gathered leaves are covered with a glutinous liquor, in which fleas are ſaid to entangle themſelves, as birds do in birdlime. Linneus ſays, that horſes, cows, ſheep, and goats eat it, but that ſwine refuſe it. The tongues of horſes feeding upon it are turned black, and it is ſuppoſed by ſome perſons not to be wholeſome for them[z].

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[s] Linn.

[t] Hort. kew.

[u] Lightf. & Pollich.

[x] Hunter's Evelyn.

[y] Ibid.

7. The hoary or ſilver-leaved Alder is totally diſtinct from the common ſort, both in the ſtructure of its parts, and its œconomical uſes[a]. It never attains the ſize of that, and is commonly ſhrubby: the trunk is ſcarcely thicker than the human arm: the wood is white and of a cloſer texture. Branches and twigs even, teſtaceous, hoary, diverging at half a right angle. Leaves not round but ovate, drawn out at the end, unequally ſerrate with very ſharp toothlets, ſometimes doubly-ſerrate with very obſcure inciſions, very ſmooth and ſomewhat glutinous even beneath, except at the diviſions of the nerves, where they have a cloſe thick pubeſcence. The male catkins are ſeſſile at the ends of the branches, uſually by threes; they are two inches long, the thickneſs of a ſwan's quill, and the ſcales ferruginous. Female catkins one on each ſide, having two or three bundles between the ſhining brown-teſtaceous ſcales, coming out with a leaf or two, alternate on the peduncles; when in flower they are of a browniſh green colour, and of an oblong cylindric form; when ripe they are ſmaller than thoſe of the common Alder, not divaricate, and in other reſpects different[b].

Native of the alpine and ſubalpine parts of Switzerland, Dauphiné, in eaſtern Siberia, in the iſlands beyond Kamtſchatka, *&c.* It was introduced here in 1780, by Mr. John Buſh[c].

Varieties of the Hoary Alder are—1. The Cut-leaved. *Bauh. hiſt. Duham. Reich. Haller* II.—2. Dwarf Alpine. *Bauh. pin. Bocc. muſ. Reich. Miller, n.* 3. *Haller* γ.—3. Long-leaved. *Bauh. pin. Haller* δ.—4. Roſe-flowered; with petal-like bractes produced from the male catkin. *Haller* β.

8. Native of North America. Cultivated in 1750, by Archibald Duke of Argyle[d].

9. This is alſo a native of North America; and was cultivated at the ſame time by the ſame noble planter[e].

10. Native of the ſame country. Introduced about 1767, by Mr. James Gordon[f].]

11. The leaves are longer, narrower, and not ſo glutinous as the common ſort; they are alſo not ſo rough, and are of a thinner conſiſtence. It is very common in Auſtria and Hungary, whence Mr. Miller received the ſeeds, [and cultivated it in 1759[g].

12. Native of Penſylvania. Cultivated in 1759, by Peter Collinſon, Eſq.[h]

13. Native of Newfoundland and Hudſon's Bay. Introduced in 1782, by the Hudſon's Bay Company[i].

14. This ſpecies, when young, is ſcarcely to be diſtinguiſhed from our common Birch, but by the leaves. It does not grow ſo tall, and the trunk does not exceed a foot in diameter. The bark is gray, cleft longitudinally, and divides into brown ſcales, that have the appearance of being burnt. The branches are more ſubdivided and more upright. The leaves are harder, commonly ſmaller, on ſhorter petioles, unequally ſerrate. Stipules lanceolate, gray, ſubpubeſcent, deciduous. Male catkins at the ends of the twigs of the foregoing year, two or three together, larger than in the common Birch. Females from the ſame twigs, lateral, thicker; with larger and more rounded ſcales: the ſeed alſo is a little larger, but the membrane which ſurrounds it is narrower. It differs from the Black American Birch in having ſmaller ſtipules, and the leaves leſs frequently, and never doubly ſerrate. The wood of this tree is hard, yellower than that of the common ſort, and in old trees marbled with brown and gray towards the middle; it is tougher, and therefore more fit for cart timber and the uſe of the wheelwright; it is alſo uſed for making charcoal. Native of Dauria[k].

15. This is always ſhrubby, riſing with ſeveral ſtems from the ſame root, in boggy places not an inch thick, nor higher than a man; but on mountains it attains the thickneſs of the human arm, and grows to a much loftier ſtature; it is however conſtantly much branched from top to bottom, and of a very different habit from the common Birch. The cuticle is aſh-coloured with tranſverſe ſtripes. The wood is not ſo white, and is waved tranſverſely. The twigs are almoſt covered with the little reſinous dots, which are found more or leſs in the other ſpecies. The buds are more copious, and always alternate. There are commonly two leaves from the ſame bud, they are lengthened out and entire towards the petiole, and towards the end, which is very ſharp, unequally ſerrate; they are ſofter than in the common ſort, and decay ſooner. The male catkins ſeſſile at the ends of the twigs, frequently unaccompanied with any leaf, more than an inch in length, hanging down. Females lateral, from the leaf-buds, ſolitary, alternate, upright, ſmall, commonly peduncled, and accompanied by a ſmall leaf; form cylindric, and longer than thoſe of Betula nana; ſcales narrowed at the baſe, three-forked at the end, the middle ſegment longeſt, the ſide ones obliquely truncate. There are three ſeeds to each ſcale, of the ſame ſize and form as in Betula nana.

Abundant in marſhes, and on rocky mountains, and in the cold ſubalpine regions of Eaſtern Siberia, eſpecially towards the lake Baikal[l].]

PROPAGATION AND CULTURE.

1. The beſt method to cultivate the Birch tree, is to furniſh yourſelf with young plants from the woods where they naturally grow, and are generally found there in great plenty; but in places where there are no young plants to be procured near, they may be raiſed from ſeeds, which ſhould be carefully gathered in the autumn, as ſoon as the ſcales under which they are lodged begin to open, otherwiſe they will ſoon fall out and be loſt: the ſeeds being ſmall, ſhould not be buried deep in the ground; a quarter of an inch is ſufficient.

Mr. Miller recommends autumn as the beſt ſeaſon for ſowing them: [but Mr. Boutcher directs, that having ſpread the ſeeds thin on a loft floor till dry, they ſhould be mixed with looſe ſand, and kept in an airy place till the beginning of march; when they ſhould be ſowing on freſh light land, trenched or dug the preceding autumn, made very looſe, raked fine, and divided into beds three feet and a half wide. No earth ſhould be thrown over them, but they ſhould be clapped in with the back of a ſpade. If the weather be dry and froſty, a little peas-haulm may be thrown over the beds for three or four weeks, till the ſeeds begin to vegetate. Then, the ground being kept clean, three or four gentle waterings may be given at noon in april, which may be repeated to the middle of june in mild evenings. The following march they may be removed into the nurſery, in rows two feet and a half diſtant, and ten or twelve inches aſunder, to ſtand there two years; or three, if they have made little progreſs. In which caſe, after the ſecond year's growth, cut ſuch as are leaſt thriving or crooked, cloſe to the ground, in march.]

Mr. Miller recommends the ſeeds to be ſown in the ſhade, and adds that in ſuch a ſituation, the plants will thrive better than when they are expoſed to the full ſun; for in all places where there are any large trees their ſeeds fall, and the plants come up well without care; ſo that if the young plants are not deſtroyed by cattle, there is generally plenty of them in all the woods where there are any of theſe trees. Theſe wild plants ſhould be carefully taken up, ſo as not to deſtroy their roots. The ground where they are to be planted, will require no preparation; all that is neceſſary to be done, is to looſen it with a ſpade or mattock, in the places where the plants are to ſtand, making holes to receive their roots, covering them again when the plants are placed,

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[z] Linn. Withering, Lightf. Dambourney.

[a] Linn. ſuppl. Hall. Du Roy, Pallas.

[b] Pallas, Hall.

[c] Hort. kew.

[d] Ibid.

[e] Ibid.

[f] Ibid.

[g] Ibid.

[h] Ibid.

[i] Ibid.

[k] Pallas, roſſ.

[l] Pallas, roſſ.

placed, and cloſing the earth hard to the roots. If the plants are young, and have not much top, they will require no pruning; but where they have buſhy heads, they ſhould be ſhortened to prevent their being ſhaken and diſplaced by the wind. When the plants have taken root, they will require no other care, but to cut down the great weeds which would over-hang the plants; which may be done with a ſickle, being careful not to cut or injure the young trees. This need not be repeated oftener than two or three times in a ſummer the two firſt years, after which time the plants will be ſtrong enough to keep down the weeds, or at leaſt be out of danger from them.

Theſe may be planted any time from the middle of october till the middle of march, when the ground is not frozen; but in dry land the autumn is the beſt ſeaſon, and the ſpring for moiſt. The diſtance which they ſhould be planted, is ſix feet ſquare, that they may ſoon cover the ground, and by ſtanding cloſe, they will draw each other up; for in ſituations where they are much expoſed, if they are not pretty cloſe, they will not thrive ſo well.

If the plants take kindly to the ground, they will be fit to cut in about ten years; and afterward they may be cut every ſeventh or eighth year; if they are deſigned for the broom-makers only; but where they are intended for hoops, they ſhould not be cut oftener than every twelfth year.

The expenſe of making theſe plantations in places where the young plants can be eaſily procured, will not exceed forty ſhillings per acre, and the after expenſe of cleaning about twenty ſhillings a year more; ſo that the whole will not be more than three pounds, and if the land ſo planted be of little value, the proprietor cannot make better uſe of his money; for when the wood is cut, it will repay the expenſe with intereſt, and a perpetual ſtock upon the ground. I have ſeen ſeveral of theſe plantations made upon land which would not let for one ſhilling per acre, which has produced from ten to twelve pounds an acre, clear of the expenſe in cutting, and this every twelfth year. The broom-makers are conſtant cuſtomers for Birch, in all places within twenty miles of London, or where it is near water carriage; in other parts the hoop-benders are the purchaſers; but the larger trees are often bought by the turners, and the wood is uſed for making ox-yokes, and other inſtruments of huſbandry.

[When coppices of Birch are wanted for the broom-maker, the plants from the nurſery or the woods ſhould be ſet five feet aſunder: in eight years they will be ready to cut, when an acre will be worth about ten pounds: after this they may be cut every ſix years. For hoops, *&c.* they may be cut every twelfth year, and will be worth twelve pounds and upwards. Where the land will admit of the plow, a crop of corn is the beſt preparation[m].]

2, 3, *&c.* The American ſorts may be propagated by ſeeds in the ſame manner as the firſt, and are equally hardy. As theſe grow more vigorouſly than the common ſort, and thrive on the moſt barren ground, they may be cultivated to great advantage in England.

[The varieties of the different ſpecies may be continued by layers. Cuttings alſo ſet in a moiſt ſhady border the beginning of october, will frequently grow; but this not being a ſure method, and the other an eaſy one, this ſcarcely deſerves to be put in practice[n].]

4, 5. Being plants of no uſe here, are not cultivated, except in botanic gardens.

6. The Alder, delighting in a very moiſt ſoil, where few other trees will thrive, is a great improvement to ſuch lands. It is propagated by layers, cuttings, or truncheons about three feet in length. The beſt time for planting truncheons is in february or the beginning of march; they ſhould be ſharpened at one end, and the ground muſt be looſened with an iron crow before they are thruſt into it, that the bark may not be torn off. They muſt be planted at leaſt two feet deep, to prevent their being blown out of the ground by ſtrong winds, after they have made their ſhoots. The plantations ſhould be cleared at firſt of tall weeds; but when the trees have made good heads, they will require no farther care.

If you raiſe them by layers, this operation muſt be performed in october, and by the october following they will have taken root ſufficiently to be tranſplanted. They ſhould be ſet at leaſt a foot and half deep in the ground; and their tops muſt be cut off to about nine inches above the ſurface, which will occaſion them to ſhoot out many branches.

[In other countries the Alder is raiſed from ſeeds, but I do not know that it is practiſed in England[o].]

The diſtance theſe trees ſhould be placed, if deſigned for a coppice, is ſix feet ſquare; [or they may be planted at firſt a yard ſquare, and at ſeven years end, when they are felled for poles, every other ſtool may be taken away,] and if the ſmall lateral ſhoots be taken off in the ſpring, it will very much ſtrengthen the upright poles, provided a few ſmall ſhoots be left at certain diſtances upon the body to detain the ſap, for the increaſe of its bulk.

Theſe trees will alſo thrive exceedingly on the ſides of brooks; and may be cut for poles every fifth or ſixth year. They may alſo be planted for hedges, in moiſt ground, where they thrive very faſt, and may be trained into very thick cloſe hedges, to the height of twenty feet and upwards. [They may alſo be uſed for ſecuring the banks of rivers, by planting truncheons very cloſe, or croſſwiſe.] The leaves being large, and of a deep green, have a good effect, and the trees make a much better figure than moſt other aquatic trees; ſo that where the beauty of ſuch plantations is conſidered, theſe ſhould be preferred to other trees uſually planted in ſwampy grounds.

[In planting Alders for coppices, it is much better to raiſe them from young trees than from truncheons. To obtain a quantity of theſe, plant ſuckers, and head them down for ſtools: lay the ſhoots the ſucceeding autumn, and in twelve months they will have taken root; then remove and plant them in rows: in one or two years they may be planted where they are to remain. If the coppice is to be on boggy or watery ground, they may be removed from the nurſery, and planted three feet aſunder in holes previouſly prepared. Here they may ſtand ſix or ſeven years, when half the trees may be taken away, and the reſt cut down for ſtools. Every nine or tenth year will afford a fall for poles[p].

7. Hoary Alder, growing naturally in dry ſandy ſoils, may perhaps be cultivated with the Birch, where land is of little value, as an underwood, and may be propagated either by layers or cuttings; as well as by ſeeds, where they can be obtained.

BETULA americana. See *Burſera.*

BETULUS. See *Carpinus.*

BEURERIA and BEURRERIA. See *Calycanthus* and *Ehretia.*

BICUCULLATA. See *Fumaria.*]

BIDENS. (*So named from the ſeed being terminated by two teeth or awns.*)

Lin. gen. n. 932. *Reich. n.* 1012. *Schreb.* 1267. *Tournef. t.* 262. *Juſſ.* 188. *Dill. elth.* 43. 47. *Gærtn. t.* 167. Ceratocephalus. *Vaill. act. gall.* 1720. *f.* 47, 48, 49.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ oppoſitifoliæ.—Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* imbricate, erect; *leaflets* often equal, oblong, channelled-concave.

COR. *Compound* uniform, tubular: *corollules* hermaphrodite, tubular.—*Proper* one-petalled, funnel-form; *border* five-cleft, erect.

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[m] Hunter's Evelyn.

[n] Ibid.

[o] Ibid.

[p] Ibid.

Stam. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

Pist. *Germ* oblong. *Style* ſimple, the length of the ſtamens. *Stigmas* two, oblong, reflex.

Per. none. *Calyx* unchanged.

Seeds ſolitary, obtuſe, angular. *Down* with two or more awns, oblong, ſtraight, acute, rough-hooked backwards.

Rec. flat, chaffy: *chaffs* deciduous, flattiſh.

Obs. *In moſt of the ſpecies an expanding five-leaved calycle ſurrounds the compound flower.*

Verbeſina *differs from* Bidens *only in having a ray. Sometimes the corolla has one or two radial florets.* Reich.

ESSENTIAL CHARACTER.

Cal. imbricate. *Cor.* ſometimes but ſeldom with a floſcule or two in the ray. *Seed* crowned with erect, ſcabrous awns. *Recept.* chaffy.

SPECIES.

[1. Bidens tripartita. *Trifid Water-Hemp-Agrimony* or *Bur-Marygold.*
Lin. ſpec. 1165. *Reich.* 3. 703. *ſuec. n.* 726. *lapp.* 294. *hort. cliff.* 339. 1. *Gærtn. fruct.* 2. 412. *Hudſ. angl.* 355. *With.* 882. *Curtis lond.* 4. 57. *Lightf. ſcot.* 461. *Hall. helv. n.* 121. *Scop. carn. n.* 1090. *Pollich pal. n.* 774. *Gron. orient.* 255. *Blackw. t.* 519. *Mor. hiſt. ſ.* 6. *t.* 5. *f.* 20. *Pet. herb. t.* 20. *f.* 7. *Ger. emac.* 711. 1. *Park.* 595. 7. *Bauh. hiſt.* 3. 1073. *Raii hiſt.* 360. *n.* 1. *ſyn.* 187. 1.
β. Conyza paluſtris, fol. tripartito diviſis. *Loeſ. pruſſ.* 53. *ic.* 10.
Leaves trifid, calyxes ſomewhat leafy, ſeeds erect.

2. Bidens minima.
Lin. ſpec. 1165. *Reich.* 3. 703. *Retz. obſ.* 1. 28. *n.* 94. *fl. ſcand. n.* 888. *Hudſ. angl.* 1. β. *Curtis lond.* 3. 55. *With.* 883. γ. *Lightf.* 463. β. *Fl. dan. t.* 312. *Pollich pal. n.* 775.
Verbeſina minima. *Dill. giſſ.* 167. & *app.* 66. *Raii ſyn.* 188. *t.* 7. *f.* 2.
Leaves lanceolate ſeſſile, flowers and ſeeds erect.]

3. Bidens nodiflora. *Seſſile-flowered Bidens.*
Lin. ſpec. 1165. *Reich.* 3. 704. *Dill. elth. t.* 44. *f.* 52.
Leaves oblong quite entire one-toothed, ſtem dichotomous, flowers ſolitary ſeſſile.

[4. Bidens tenella.
Lin. ſpec. 1166. *Reich.* 3. 704. *amæn.* 6. *afr.* 47.
Leaves linear, peduncles capillary, calyxes moſtly four-leaved, ſeeds erect fivefold.

5. Bidens cernua. *Drooping Water-Hemp-Agrimony,* or *Bur-Marygold.*
Lin. ſpec. 1165. *ſyſt.* 732. *Reich.* 3. 704. *ſuec.* 727. *Hudſ. angl.* 356. *With.* 883. *Curtis lond.* 3. 55. *Lightf. ſcot.* 462. *Hall. helv. n.* 120. *Scop. carn. n.* 1089. *Leers herborn. n.* 635. *Pollich pal. n.* 776. *Fl. dan.* 841. *Mor. hiſt. ſ.* 6. *t.* 5. *f.* 22. *Pet. herb. t.* 20. *f.* 6. *Loeſ. pruſſ. n.* 54. *f.* 11. *Ger.* 574. *Bauh. hiſt.* 2. 1074. *Raii hiſt.* 361. *n.* 2, 3. *ſyn.* 187. 2.
β. *Hudſ. angl.* 356. *With.* 883. *Fl. dan. t.* 841. *Barr. ic.* 1209. *Mor.* 6. 5. 22.
Coreopſis Bidens. *Lin. ſpec.* 1281.
Leaves lanceolate ſtem-claſping, flowers nodding, ſeeds erect.]

6. Bidens frondoſa. *Smooth-ſtalked Bidens.*
Lin. ſpec. 1166. *Reich.* 3. 704. *Gærtn. fruct.* 2. 412. *Berkh. diſſ. t.* 5. *f.* 5.
Chryſanthemum, &c. *Mor. hiſt.* 3. 17. *ſ.* 6. *t.* 5. *f.* 21.
Leaves pinnate ſerrate marked with lines ſmooth, ſeeds erect, calyxes leafy, ſtem poliſhed.

[7. Bidens piloſa. *Hairy Bidens.*
Lin. ſpec. 1166. *ſyſt.* 732. *Reich.* 3. 705. *hort. cliff.* 399. 2. *upſ.* 255. *Dill. elth. t.* 43. *f.* 51. *Swartz obſ.* 296. *Thunb. jap.* 307. *Gærtn. fruct.* 2. 412. *Lour. cochinch.* 488.
β. B. chinenſis.
Agrimonia Molucca. *Rumph. amb.* 6. 38. *t.* 15. *f.* 2.
Leaves pinnate ſomewhat hairy, ſtem with bearded joints, calyxes with a ſimple involucre, ſeeds diverging.

8. Bidens bipinnata. *Hemlock-leaved Bidens.*
Lin. ſpec. 1166. *Reich.* 3. 705. *Lour. cochinch.* 488.
Chryſanthemum. *Herm. par. t.* 123. *Mor. hiſt.* 17. *n.* 24. *ſ.* 6. *t.* 7. *f.* 23.
Leaves bipinnate gaſhed, calyxes involucred, corollas half-radiated, ſeeds diverging.]

9. Bidens nivea. *Snowy Bidens.*
Lin. ſpec. 1167. *Reich.* 3. 706. *Dill. elth. t.* 47. *f.* 55. *Swartz obſ.* 296.
β. *Dill. elth. t.* 47. *f.* 55. 3.
γ. *Dill. elth. t.* 46. *f.* 54.
Leaves ſimple cordate-ovate, acuminate, branches trichotomous, ſerrate, flowers hemiſphærical, peduncles elongated.

[10. Bidens verticillata.
Lin. ſpec. 1167. *Reich.* 3. 706. *hort. cliff.* 399. 4.
Leaves oblong entire, lower ones entire, upper ones oppoſite, flowers verticilled.]

11. Bidens ſcandens.
Lin. ſpec. 1167. *Reich.* 3. 706. *hort. cliff.* 399. 5. *Swartz obſ.* 297. *Brown. jam.* 317. 2.
B. fruteſcens. *Mill. dict. n.* 4.
Leaves oppoſite ovate acuminate ſerrate, ſtem climbing ſhrubby, flowers panicled, ovate.

12. Bidens bullata. *Various-leaved Bidens.*
Lin. ſpec. 1167. *Reich.* 3. 706. *Arduin. ſpec.* 2. 37. *t.* 18. *Mich. flor.* 120. *Hall. gott.* 383.
Leaves ovate ſerrate; lower ones oppoſite, upper ones ternate, the middle larger.

[13. Bidens hirſuta.
Swartz prodr. 110. *Sloan. jam.* 1. 257. Eupatorium.
Leaves oppoſite ovate-lanceolate entire tomentoſe-hirſute, ſtem-climbing ſhrubby, peduncles oppoſite diverging many-flowered.

14. Bidens odorata.
Cavan. hiſp. 9. *n.* 12. *t.* 13.
Stem four-cornered branching very much; leaves connate bipinnate, pinnules wedge-trifid ſmooth, ſeeds rugged.

DESCRIPTIONS, *&c.*

Moſt of the ſpecies are herbaceous annuals; ſome however are ſhrubs. Leaves generally oppoſite, ſome pinnate. Flowers axillary or terminating.

1. Root annual. Stem from one to three feet high, upright, branched; the branches oppoſite, roundiſh, moderately grooved, reddiſh, ſolid, ſmooth to appearance, but ſlightly rough to the touch. Leaves ſmooth, trifid and ſometimes quinquefid, deeply ſerrate; the uppermoſt undivided, either indented at the edge or entire, and not unfrequently edged with hairs. Flowers yellow, terminating, drooping a little. Leaflets of the calyx in a double row, unequal; ſeveral ſmall, lanceolate leaves, generally entire, but edged with hairs, ſurround the flowers like an involucre; the inner leaflets are ovate, pointed, ſtreaked with blackiſh lines; the margins entire, yellow: they approach to the nature of the florets, which are ſometimes ſurrounded with ſemifloſculous rays[a]. Receptacle convex, much ſhorter than the calyx, covered with oblong blunt concave chaffs, ſimilar and equal to the calycine leaflets. Seeds wedge-oblong, three-ſided, flatted a little, ſmooth, livid, having two awns ariſing from two of the oppoſite angles, and generally a ſhorter one from the middle of the back; they are hooked or barbed downwards[b].

This ſpecies is obviouſly diſtinguiſhed from the fifth by its trifid leaves, a character more to be depended on than the uprightneſs of its flowers. It is alſo much more common, with us at leaſt. That is generally found in water; this more frequently occurs on the borders of ponds, rivulets, *&c.* where it flowers in auguſt and ſeptember[c].

This plant dyes a deep yellow. The yarn or thread muſt be firſt ſteeped in alum water, then dried and ſteeped in a decoction of the plant, and afterwards boiled in the decoction[d].

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[a] Curtis, Lightf.
[b] Gærtner, Lightf. Curt.
[c] Curtis.
[d] Linn. Hall. Lightf. &c.

Since it is found by a chemical analyſis to poſſeſs much the ſame qualities as *Verbeſina Acmella*, it is probable that it might have the ſame good effects in expelling the ſtone and gravel.

The ſeeds have been ſometimes known to deſtroy gold-fiſh, by adhering to their gills and jaws [e].

2. Dillenius firſt marked this for a diſtinct ſpecies. Haller thought it to be no more than a variety of the *cernua*, in which he has been followed by all our Britiſh botaniſts. Mr. Lightfoot obſerves that the flowers are ſometimes nodding, and takes it to be either an autumnal ſeedling from an early plant of the *cernua*, or to be rendered dwarfiſh by accident. They appear to Dr. Stokes to run into one another, or rather to be the ſame ſpecies, differing only in ſize and the number and inclination of the flowers. Mr. Woodward has often ſeen it mixed abundantly with the *cernua*; and in the dry ſummer of 1779 many plants of this appeared in a pond then much dried up, and on the borders of which the *cernua* always grew in great plenty. Mr. Curtis obſerves, that ſometimes in very dry ſeaſons, the *cernua* is found in ſo dwarf a ſtate as not to exceed two or three inches in height; that Dillenius finding it in that ſtate, deſcribed and figured it in his edition of Ray's ſynopſis, as a diſtinct ſpecies, and that Linneus, relying probably on his authority, adopted it as ſuch in his Species Plantarum.

Hence we may preſume that our plant is nothing more than a ſtarved variety of the fifth ſpecies: but Retzius cautions us not to take a dwarf variety of *B. tripartita* for *B. minima* of Linneus. He remarks, that the firſt, which has a tender undivided ſtalk terminated by a ſingle flower, has a ſimple root, ſerrate leaves, and a leafy calyx with ſeveral leaflets; whereas the true *minima* has a creeping root, leaves either entire or crenate only, and there are only two leaves under the calyx. Whether theſe diſtinctions are ſufficient to conſtitute a ſpecific difference muſt be ſettled by a more accurate examination. After all, varieties both of the *tripartita* and *cernua* ſeem to have been confounded together, and with this, if it be really diſtinct, which I much doubt.

3. This is an annual plant, riſing with ſtems eight or nine inches high, roundiſh, rough with white hairs purple at the baſe. Branches divided, ſpreading. Leaves petioled, ovate (in the garden), angular-toothed, rather blunt, ſmooth above, hairy along the veins underneath; the petioles are broadiſh. Peduncles terminating, reſembling the ſtem, the length of the leaves. Calyx cylindrical, ſurrounded with oblong leaves, longer than the calyx, ſpreading. Florets few, quadrifid, ſome quinquefid, yellow [f]. Native of the Eaſt-Indies. It was cultivated at Eltham by Dr. Sherard, in 1732 [g].

4. Stem filiform, purpliſh, ſubtrichotomous, ſix or ſeven inches in height. Leaves oppoſite or in threes, entire, rugged. Peduncles terminating, naked, one-flowered. Calyx oblong. Florets generally five. Awns of the ſeeds ſmoothiſh. It is an annual, and a native of the Cape of Good Hope [h].

5. Root annual. Stem from one to two feet high or more, upright, branched, a little hairy, purpliſh dotted with red, round at bottom, ſtriated at top; the branches oppoſite, and nearly upright. Leaves oppoſite, moderately connate, undivided, or with diſtant ſerratures, ſpreading, ſmooth on both ſides. Peduncles ſtriated. Flowers yellowiſh green, finally drooping, generally radiate. Calyx conſiſting of about ſeven leaves, linear-lanceolate, finely ſerrate at the edge, ribbed, turning back, and longer than the corolla. There are eight corollets in the circumference, hermaphrodite like the central ones, but with the tube more tumid and depreſſed: in places overflowed for a long time, they change into ligulate neutral corollets. Receptacle pyramidal, four-cornered. Seeds with four awns, two of which larger; the prickles pointing downwards [i].

This flowers a month later than the *tripartita*, and in this ſtate has a ſtrong ſmell not very diſagreeable [k].

Native of moſt parts of Europe.

β. Haller obſerves, that *Coreopſis Bidens* of Linneus differs in no reſpect from *Bidens cernua*, except in having radiate florets in the circumference, and that theſe are wanting in ſome ſpecies of *Senecio*. Hence Dr. Stokes concludes, that *Bidens* and *Coreopſis* form one genus. Mr. Woodward has frequently obſerved both naked and radiate flowers on the ſame plant [l].

Found at Ditchingham in Norfolk, and Tarporley in Cheſhire: frequent in Ireland.]

6. This riſes about three feet high, ſending out many horizontal branches. [The lower pair of leaves ternate, or pinnate with five leaflets.]. The flowers are produced at the ends of the branches in ſmall cluſters; they are yellow, [and floſculous with a conical diſk. Peduncles longer than the leaves. Seeds not diverging, only half as wide as they are long [m]; large, ovate-oblong, compreſſed, having callous dots thinly ſprinkled over them, crenulate, cinnamon-coloured; crowned with two ſtrong, divaricated awns with reverſed prickles [n].] It grows naturally in Virginia, Maryland, and Canada, where it is often a troubleſome weed. [It was cultivated in 1752, by Mr. Miller [o].

7. The three outer leafiets are united in this. The diſk of the flower is conical. The middle ſeeds are longeſt, and when they are ripening they diverge [p]. The ſeeds are linear, compreſſed, ſtriated, ſmooth, ſublucid, black. Awns two to five, briſtle-ſhaped, rugged, one-fourth of the length of the ſeeds [q]. Native of America; and the iſland of Tongatabu in the South Seas.

β. The plant of China and other parts of the Eaſt reſembles the American very much, but the leaflets are diſtinct, and the ſeeds have always four awns. The ray alſo of the flower is white and minute [r]. The American ſort was cultivated in 1732 at Eltham, by Dr. Sherard [s].

8. The flowers of this are ſometimes wholly deſtitute of ray, but ſometimes there are one or two barren florets [t]. The ſeeds have three awns, the middle one longeſt, according to Linneus; but Willich ſays, they have only two awns. It is an annual plant; a native of Virginia; and was cultivated here in 1699 [u]. According to Loureiro, it is alſo a native of China and Cochinchina.

9. Stem two feet high, branched very much, bluntly four-cornered, upright, ſomewhat rugged: branches oppoſite, decuſſated, patulous, four-cornered, rugged. Leaves oppoſite, nerved, wrinkled and rugged, on longiſh petioles. Terminating branches trichotomous, elongated; the final peduncles longer, with ſolitary hemiſphærical white flowers. Florets numerous. Scales of the calyx ovate, convex, pubeſcent, ſhorter than the chaffs of the florets, which are very many. Anthers blueiſh. Seeds oblong, acuminate at the baſe, truncate at the top, four-cornered, crowned with three very ſhort briſtles. Chaffs on the receptacle oblong, ſharp, membranaceous, longer than the calyx, after flowering rigid, patulous. Native of Jamaica, in elevated paſtures, and on the ſea coaſt of the ſouthern parts [x].] Mr. Miller ſays it grows naturally in South Carolina, and alſo at Campeachy. [It was cultivated at Eltham in 1732, by James Sherard, M.D. [y]

10. Stems procumbent, a ſpan long, ſimple, with alternate leaves on the lower half, and oppoſite leaves on the upper half. A ſolitary branch ſhorter than the ſtem iſſues from each axil of the alternate leaves, uſually quite ſimple, leafed in the ſame manner with the ſtem. Alternate leaves lanceolate-ovate, blunt, ending gradually in the petioles, quite entire except that the loweſt have ſometimes a little notch or

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[e] Lightf.
[f] Linn.
[g] Hort. kew.
[h] Linn. amæn.
[i] Curtis, Wither. Leers, Gærtn.
[k] Curtis.
[l] Withering.
[m] Linn.
[n] Gærtnet.
[o] Hort. kew.
[p] Linn.
[q] Gærtner.
[r] Linn.
[s] Hort. kew.
[t] Linn.
[u] Hort. kew.
[x] Swartz.
[y] Hort. kew.

two, beneath white with down, above ſmooth and green. Oppoſite leaves ſmaller, not ending in the petioles, but where they begin to contract they ſoon ſpread out again towards the baſe and become ventricoſe; they are ſeſſile and embrace each other at the baſe, cloſely involving two equal flowers. Scales of the calyx equal, diaphanous, weak. Florets numerous. Seeds ſlender, compreſſed at top, attenuated towards the baſe, crowned with two briſtles ſpreading horizontally. Native of Vera Cruz in South America[z].

11. This is a weakly branched ſhrub, generally riſing to the height of five or ſix feet or more, but requires the ſupport of the neighbouring buſhes to keep it upright[a]. Stem round and ſomewhat rugged. Branches long, round, divaricate. Leaves petioled, ſomewhat angular at the baſe, nerved, wrinkled, dark green, ſmooth on both ſides; nerves beneath ſubvilloſe. Peduncles terminating, oppoſite, decuſſated, ſhortiſh, ſubtriflorous; flowers peduncled, white, ovate or conical. Calyx conical, with ovate, acute, minute ſcales. Border of the corollets recurved. Anthers black: pollen fulvous. Seeds wedge-ſhaped, oblong, crowned with two awns. Chaffs of the receptacle arched at the tip, including the florets, keeled at the back. Native of Jamaica, on the cooler mountains[b]; alſo of Vera Cruz[c].] Mr. Miller received it from Carthagena in New Spain.

12. [Stem upright, two feet high. Leaves thick, villoſe, almoſt bullate; the lower ones ſimple, the upper ſubternate, ſubſeſſile. Flowers axillary and terminating, ſolitary, ſubſeſſile, yellow: calyxes ſurrounded at the baſe with ovate-oblong ſpreading leaves, five together. Seeds crowned with two awns, ciliate backwards[d]. Native of America. Now found wild in Italy. Cultivated in 1759, by Mr. Miller[e]. Annual.

13. Native of Jamaica. Annual.

14. Root annual. Stem four feet high, with oppoſite branches. Leaves oppoſite, ſmooth. Flowers terminating and axillary, ſolitary, ſweet-ſmelling, on elongated peduncles. Calyx calycled; ſegments deep, lanceolate, with a ſcarioſe border, ſomewhat reflex; the outer ones ſhorter, ciliate at the tip. Corolla radiate, florets five ovate, three or five-cleft at the end, white, with purple veins underneath, commonly barren. Central florets numerous, yellow, with a brown anther, ending in five ſharp ſegments. Receptacle flat, with ſhort chaffs. Seeds blackiſh, with two teeth; the central ones long and four-cornered; thoſe of the ray ſhorter, broader; all of them rugged at the corners. This ruggedneſs ariſes from very ſmall tubercles diſpoſed longitudinally; theſe end in minute prickles turned upwards, but they are too ſmall to be ſeen by the naked eye. Native of Mexico. It flowered at Madrid in november 1791[f].]

PROPAGATION AND CULTURE.

1, 2, 5. The firſt, ſecond and fifth ſorts, being common weeds in many parts of Europe, are ſeldom cultivated in our gardens, but readily propagate themſelves by ſeeds, in wet ſituations.]

3, 4, 7, 12. Muſt be ſown upon a moderate hot-bed in the ſpring, and afterwards treated like other hardy annual plants, planting them into the full ground the latter end of may. They will flower in june, ſoon after which the plants will decay.

6, 8. Are eaſily propagated by ſeeds ſown in the ſpring, in an open ſituation; where, if they be permitted to ſcatter, the plants will come up the following ſpring, and two or three of them may be tranſplanted where they are to grow, and after they are rooted will require no farther care. Being annual plants, they decay ſoon after the ſeeds are ripe.

9, 10, 11, 13, 14. Are propagated alſo by ſeeds, which ſhould be ſown on a hot-bed in the ſpring; and when the plants are fit to remove, they muſt be each planted into a ſeparate ſmall pot, plunged into a freſh hot-bed, and treated as other tender plants from the ſame countries; in autumn they muſt be placed in the bark-ſtove. They will moſtly abide ſome years with proper management.

Bidens. See *Coreopſis, Elephantopus, Spilanthus, Verbeſina, Zinnia.*

Bidenti ſimilis. See *Siegeſbeckia.*

Bifólium. See *Ophrys.*

Bigarella. See *Prunus.*

BIGNONĬA. (*So named by Tournefort, in compliment to Ablé Bignon, librarian to Louis XIV.*)

Engl. *Trumpet-flower*, or *Scarlet Jaſmine.*

Lin. gen. n. 759. *Reich.* 817. *Schreb.* 1018. *Tournef.* 72. *Juſſ.* 139. *Gærtn. t.* 52.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ.—Bignoniæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, erect, cup-form, five-cleft.

Cor. monopetalous, campanulate: *tube* very ſmall, the length of the calyx; *throat* very long, ventricoſe beneath, oblong-campanulate; *border* five-parted, the *two upper diviſions* reflex, *lower* patulous.

Stam. *Filaments* four ſubulate, ſhorter than the corolla; two longer than the other two. *Anthers* reflex, oblong, as it were doubled.

Pist. *Germ* oblong: *ſtyle* filiform, ſituation and form of the ſtamens: *ſtigma* capitate.

Per. *Silique* two-celled, two-valved: *partition* membranaceous, parallel, thickened at the ſutures.

Seeds very many, imbricate, compreſſed, membrane-winged on both ſides.

Obs. Catalpa *has only two perfect ſtamens, and three very ſmall rudiments of ſtamens, with a five-leaved calyx. Four however, and even all five perfect, have been obſerved by Cyrilli. The form of the* Silique *in this genus is indeterminate. The* ſeeds *are always winged, though ſome on one ſide only.*

ESSENTIAL CHARACTER.

Cal. five-cleft, cup-form. *Cor.* throat bell-form, five-cleft, ventricoſe beneath. *Silique* two-celled. *Seeds* membrane-winged.

SPECIES.

1. Bignonia Catalpa. *Common Catalpa-tree.*
Lin. ſpec. 868. *Reich.* 3. 155. *hort. cliff.* 317. 1. *Ait. hort. kew.* 2. 346. *Duham. arb.* 1. 104. *t.* 41. *Cateſb. car.* 1. 49. *t.* 29.
Leaves ſimple, cordate; ſtem erect; ſeeds winged with membranes.

[2. Bignonia tomentoſa.
Lin. ſyſt. 563. *Thunb. jap.* 252.
Leaves ſimple cordate tomentoſe beneath; flowers axillary panicled.]

3. Bignonia ſempervirens. *Carolina yellow Jaſmine.*
Lin. ſpec. 869. *Reich.* 3. 155.
Gelſeminum. *Park.* 1465. *n.* 5. *Raii hiſt.* 1769. *Cateſb. car.* 1. *t.* 53.
Syringa. *Pluk. alm. t.* 112. *f.* 5.
Leaves ſimple lanceolate, ſtem twining.

4. Bignonia unguis.
Lin. ſpec. 869. *Reich.* 3. 156.
Apocyno affine. *Sloan. jam.* 1. 208. 5.
Clematis. *Plum. amer. t.* 94. *Pluk. alm. t.* 163. *f.* 2.
Leaves conjugate; tendril very ſhort bowed three-parted.

5. Bignonia æquinoctialis.
Lin. ſpec. 869. *Reich.* 3. 156. *Sabb. hort.* 2. *t.* 85. *Plum. ſpec.* 5. *ic.* 55. *f.* 1.
Leaves conjugate, cirrhoſe; leaflets ovate-lanceolate; peduncles two-flowered; ſiliques linear.

6. Bignonia paniculata.
Lin. ſpec. 869. *ſyſt.* 563. *Reich.* 3. 156. *Jacqu. amer.* 183. *t.* 116. *pict.* 91. *t.* 175. *Plum. ſpec.* 5. *ic.* 56. *f.* 1.
Leaves conjugate, cirrhoſe; leaflets cordate-ovate; flowers racemed; peduncles three-flowered.

7. Bignonia crucigera.
Lin. ſpec. 869. *Reich.* 3. 157. *vir. cliff.* 60. *hort. cliff.* 317. 3. *Gron. virg.* 1. 73. 2. 95. *Plum. ic.* 48. *t.* 58.
Pſeudo-Apocynum. *Mor. hiſt.* 3. 612. *n.* 6. *ſ.* 15. *t.* 3. *f.* 16.

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[z] Linn. cliff.
[a] Browne.
[b] Swartz.
[c] Linn. cliff.
[d] Linn.
[e] Hort. kew.
[f] Cavanilles.

Leaves conjugate, cirrhoſe; leaflets cordate; ſtem muricated.

8. Bignonia capreolata. *Four-leaved Trumpet-flower.*
Lin. ſpec. 870. *ſyſt.* 563. *Reich.* 3. 157. *vir. cliff.* 59. *hort. cliff.* 317. *Breyn. ic.* 33. *t.* 25. *Duham. arb.* 1. 104. *t.* 40. *Cateſb. car.* 2. 82.
Clematis. *Bocc. ſic.* 31. *t.* 15. *f.* 3. *Zan. hiſt.* 74. *t.* 2. *ed.* 2. 49. *t.* 33. *Raii hiſt.* 1329.
Leaves conjugate, cirrhoſe; leaflets cordate-lanceolate; bottom leaves ſimple.

9. Bignonia pubeſcens.
Lin. ſpec. 870. *Reich.* 3. 157.
Leaves conjugate cirrhoſe; leaflets cordate-ovate pubeſcent beneath.

10. Bignonia triphylla. *Three-leaved Trumpet-flower.*
Lin. ſpec. 870. *Reich.* 3. 157.
Leaves ternate; leaflets ovate, acuminate: ſtem ſhrubby, erect.

11. Bignonia pentaphylla. *Hairy five-leaved Trumpet-flower.*
Lin. ſpec. 870. *Reich.* 3. 158. *hort. cliff.* 497. 6.
Leaves digitate; leaflets quite entire, obovate.

12. Bignonia Leucoxylon. *Smooth five-leaved Trumpet-flower, White-wood,* or *Tulip-flower.*
Lin. ſpec. 870. *Reich.* 3. 158. *Swartz obſ.* 233. *Pluk. alm. t.* 200. *f.* 4. *Brown. jam.* 263. *n.* 1. *Sloan. jam.* 2. 62. *n.* 47. *Raii dendr.* 114. 2.
Leaves digitate; leaflets quite entire, ovate, acuminate.

[13. Bignonia radiata. *Ray-leaved Trumpet-flower.*
Lin. ſpec. 871. *Reich.* 3. 158. *Feu. peruv.* 2. 731. *t.* 22.
Leaves digitate; leaflets pinnatifid.]

14. Bignonia radicans. *Rooting,* or *Aſh-leavd Trumpet-flower.*
Lin. ſpec. 871. *Reich.* 3. 158. *hort. cliff.* 317. 4. *upſ.* 178. *Gron. virg.* 73. 94. *Duham. arb.* 1. 103. 1. *Sabb. hort.* 2. *t.* 84.
Pſeudo-gelſeminum ſiliquoſum. *Riv. mon.* 101.
Pſeudo-Apocynum. *Mor. hiſt.* 3. 612. *n.* 1. *ſ.* 15. *t.* 3. *f.* 1. *Park.* 1679. & 385. *n.* 6.
Gelſeminum hederaceum indicum. *Corn. can. t.* 103. *Raii hiſt.* 1768.
β. B. fraxini fol. coccineo fl. minore. *Cateſb. car.* 1. *t.* 65. *Mill. fig.* 43. *t.* 65. *Duham. arb.* 1. 103. 2.
Leaves pinnate; leaflets gaſhed: ſtem with rooting joints.

15. Bignonia ſtans. *Branching-flowered Trumpet-flower.*
Lin. ſpec. 871. *Reich.* 3. 159. *Jacqu. amer. pict.* 91. *t.* 176. *Brown. jam.* 264. 3. *Plum. ſpec.* 5. *ic.* 54. *Sloan. jam.* 2. 63. *n.* 49.
B. fruteſcens. *Mill. dict. n.* 3.
Leaves pinnate; leaflets ſerrate; ſtem erect firm; flowers racemed.

[16. Bignonia grandiflora.
Lin. ſyſt. 564. *Thunb. jap.* 253. *Kæmpf. ic. ſel.* 21.
Leaves pinnate; leaflets ovate, acuminate, ſerrate; ſtem twining; calyx ſemiquinquefid.

17. Bignonia chelonoides.
Lin. ſyſt. 564. *ſuppl.* 282.
Padri. *Rheed. mal.* 6. 47. *t.* 26.
Leaves unequally pinnate; leaflets ovate quite entire acuminate pubeſcent, corollas bearded, with the rudiment of a fifth ſtamen.

18. Bignonia ſpathacea.
Lin. ſyſt. 564. *ſuppl.* 283.
Nür Pongelion. *Rheed. mal.* 6. 53. *t.* 29.
Leaves unequally pinnate; leaflets ovate, rough with hairs, calyx one-leafed ſpathed, corolla ſalver-ſhaped.

19. Bignonia peruviana.
Lin. ſpec. 871. *Reich.* 3. 159. *hort. cliff.* 317. 5.
Leaves decompound; leaflets gaſhed; ſtem with tendrils at the joints.

20. Bignonia indica. *Indian Trumpet-flower.*
Lin. ſpec. 871. *Reich.* 3. 159. *fl. zeyl.* 236. *Lour. cochinch.* 379.
Palega pajaneli. *Rheed. mal.* 1. *p.* 77. *t.* 43. *Raii hiſt.* 1741.
β. Pajaneli. *Rheed.* 79. *t.* 44. *Raii hiſt.* 1741. *n.* 2.
Leaves bipinnate; leaflets quite entire ovate acuminate.]

21. Bignonia cærulea.
Lin. ſpec. 872. *Reich.* 3. 160. *Cateſb. car.* 1. *t.* 42.
Leaves bipinnate; leaflets lanceolate entire.

22. Bignonia longiſſima. *Wave-leaved Trumpet-flower.*
Ait. hort. kew. 2. 347. *Jacqu. amer.* 182. *t.* 176. *f* 78. *Swartz prodr.* 91. *Brown. jam.* 264. 2. *Plum. ic.* 47. *t.* 57.
B. Quercus. *Lamarck encycl.* 1. 417.
Leaves ſimple oblong acuminate, ſtem erect, ſeeds woolly.

23. Bignonia echinata.
Gærtn. fruct. 1. 240. *t.* 52. *Jacqu. amer.* 183. *t.* 176. *f.* 52. *Aublet guian.* 2. 648. *t.* 263, 264. *Swartz prodr.* 91.
Climbing; lower leaves ternate, upper bijugous cirrhoſe; fruits echinate.

24. Bignonia pentandra.
Lour. cochinch. 379.
Leaves bipinnate, ſtamens five with two anthers on each, calyx fleſhy coloured five-toothed.

25. Bignonia alliacea.
Swartz prodr. 91. *Aublet guian.* 659. 14. *Barr. gall. æquin.* 23.
Leaves conjugate, leaflets elliptic entire coriaceous, peduncles five-flowered axillary, calyxes entire.

26. Bignonia caſſinoides.
Vahl. ſymb. 2. 68. *Lamarck encycl.*
Leaves ſimple elliptic coriaceous, raceme terminating.

27. Bignonia bijuga.
Vahl. ſymb. 2. 69.
Leaves abruptly pinnate bijugous, leaflets elliptic quite entire.

DESCRIPTIONS, *&c.*

The Bignonias are trees or ſhrubs inhabitants of the hot climates of the Eaſt and Weſt Indies, and eminently beautiful. The leaves are oppoſite, in ſome ſpecies unequally pinnate or ternate, in others conjugate, with a two-leaved petiole between the leaflets frequently furniſhed with a tendril for climbing. Flowers in panicles, large and handſome, of various colours, red blue yellow or white.

The calyx ſhould be obſerved, whether it be ſimple or double; the corolla, whether it be regular or irregular; the ſtamens, whether they be fertile or barren; the fruit, whether it be bony or capſular, in form of a ſilique or ovate [a].

There are many ſpecies, particularly from Braſil, which are not yet ſufficiently known to be ſettled here. *Bignonia ſempervirens* does not belong to this genus, but to that of *Liſianthus.*]

1. The Catalpa is a deciduous tree, riſing with an upright ſtem, covered with a ſmooth brown bark, to the height of thirty or forty feet: it ſends out many ſtrong lateral branches, having very large, heart-ſhaped (or ovate) leaves on them, placed oppoſite at every joint. The flowers are produced in large branching panicles towards the end of the branches; they are of a dirty white colour, with a few purple ſpots, and faint ſtripes of yellow on their inſide: the tube of the corolla is much ſhorter, and the upper part more ſpreading than in the fourteenth ſort; the ſegments alſo are deeper cut, and waved on their edges. [Two ſtamens have anthers, and two are without [b].] The flowers are ſucceeded by long taper pods; but theſe have not as yet been produced in England. Mr. Mark Cateſby found it growing naturally on the back of South Carolina, at a great diſtance from the Engliſh ſettlements, and brought it into England about the year 1726. It is now not uncommon in our nurſeries and plantations. [This tree has a good effect, when it ſtands in the middle of large openings, where it can freely ſend forth its ſide branches, and ſhow itſelf to advantage. The leaves however come out extremely late in our climate;] and it requires a ſheltered ſituation, for where it is much expoſed to ſtrong winds, the large leaves are often torn and rendered unſightly, and many times their branches are ſplit and broken by the wind. It flowers in auguſt, and is known in the nurſeries by its Indian name *Catalpa.*

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[a] Juſſieu.

[b] Linn.

[The branches dye wool a kind of cinnamon colour. Thunberg mentions, that the Japoneſe lay the leaves on parts of the body affected with pains, ſuppoſing them to be beneficial to the nerves; and that a decoction of the pods is eſteemed ſerviceable in the aſthma.

2. This is a tree, with oppoſite petioled leaves, the lower ones heart-ſhaped, the upper ovate, acute, five-nerved, entire, pubeſcent above, tomentoſe beneath, a hand or more in breadth; the upper ones leſs: petioles a finger's length or longer. Panicle firſt trichotomous, then dichotomous. Peduncles, pedicels and calyxes tomentoſe. Native of Japan[c].]

3. This riſes with ſlender ſtalks, which twiſt themſelves round the neighbouring plants, and mount to a conſiderable height; the leaves come out ſingle and oppoſite to each other at every joint; they remain green through the year. The flowers come out from the wings of the leaves at every joint, ſometimes but two, at other times four at each joint; theſe ſtand erect, are trumpet-ſhaped, yellow, and have a very ſweet ſcent; and in the countries where they naturally grow, they are ſucceeded by ſhort taper pods, filled with ſmall winged ſeeds.

It grows naturally in South Carolina, where it ſpreads over the hedges, and at the ſeaſon of flowering, perfumes the air to a great diſtance; it alſo grows in ſome parts of Virginia, but not in ſo great plenty. The inhabitants there call it Yellow Jaſmine, I ſuppoſe from the ſweet odour of its flowers.

[It was cultivated in 1640, by Parkinſon[d]. Cateſby ſays, that the flowers ſmell like thoſe of the Wall-flower; and that it always loſes its leaves in winter.]

4. This has ſlender ſtems which require ſupport. The leaves are ſmall, ovate, entire, and placed oppoſite at every joint; at the ſame places come out the tendrils, by which the plants faſten themſelves to whatever grows near them; the flowers are axillary, and ſhaped like thoſe of the Foxglove. They are not ſucceeded by pods in this country. Native of the Weſt-Indies.

5. This has very weak ſlender branches, which put out tendrils at the joints, with four leaves, two on each ſide oppoſite; they are waved on their edges, of a bright green, and continue through the year; the branches ramble very far where they have room; the flowers are large, yellow, and produced at the joints of the ſtalks, but they are ſucceeded by pods in this country. Mr. Miller received it from La Vera Cruz in New Spain.

6. This riſes with woody ſtems, which put out tendrils at the joints. The leaves come out on each ſide the branches, upon pretty long footſtalks, two at each joint oppoſite; they are entire, and have a fine hairy down on their under ſide. The flowers grow in looſe ſpikes at the end of the branches; they are tubulous, and do not ſpread much at the top; their colour is violet, and they ſmell very ſweet. [The calyx has a double border; the outer flat, white, ſlightly five-cleft, the inner erect, narrow[e].]

The ſeed-veſſels are hard, woody, and open in four parts.

It was ſent to Mr. Miller from La Vera Cruz, by Dr. Houſtoun. [Obſerved about Carthagena, by Jacquin.

7. Stem twining, rugged, when cut tranſverſely repreſenting a croſs, whence the trivial name[f].] It riſes to the tops of the talleſt trees, ſending out many branches, which have four narrow borders or wings running longitudinally, ſo as to reſemble a ſquare ſtalk. The leaves are produced by pairs on each ſide the branches; they are ſmooth and on ſhort foot-ſtalks. The flowers are in ſmall cluſters from the axils; they have pretty long tubes, ſpread open at the top, and are of a pale yellow colour: they are ſucceeded by flat pods a foot in length. It was ſent to Mr. Miller from Campeachy.

8. This has woody ſtems which riſe to a great height, climbing on the trees which grow near it, faſtening to their branches by its claſpers, and ſending out many branches, which have leaves on them growing by fours, two on each ſide, growing oppoſite at the joints, and covered on their under ſide with a ſoft hairy down, of a yellowiſh colour. The flowers are produced in looſe panicles at the ends of the branches; they are ſhaped like thoſe of the Fox-glove, are of a pale yellow colour, and are ſucceeded by flat pods, a foot long.

[Linneus ſays, that the peduncles are one-flowered, and heaped; the calyxes bell-ſhaped and entire.]

It was ſent to Mr. Philip Miller from Campeachy, by Mr. Robert Millar. [Native of Virginia and Carolina, and cultivated here in 1730[g].]

9. This has very ſlender trailing ſtalks, which muſt be ſupported; the branches faſten themſelves by their tendrils to whatever plants are near them, and extend to a great diſtance. The leaves are oblong, and green all the year; they are often ſingle at bottom, but upwards are placed by pairs oppoſite at each joint. The flowers are axillary, yellow, and ſhaped like thoſe of the Fox-glove. Theſe appear in auguſt, but are not ſucceeded by pods in this country. It grows naturally in Virginia, and ſeveral other parts of America.

10. This has a woody ſtem, covered with an aſh-coloured bark, and riſes to the height of ten feet; ſending out many ſide branches, with trifoliate leaves placed oppoſite at each joint. The flowers come out at the extremity of the branches in looſe panicles, and are of a dirty white colour. Theſe are ſucceeded by flat narrow pods. It was ſent to Mr. Miller from La Vera Cruz, by Dr. Houſtoun.

11. This riſes with an upright ſtem near twenty feet high, ſending out many lateral branches, covered with a white bark. The leaves come out oppoſite at the joints upon long footſtalks; they are compoſed of five oval ſtiff leaflets joined at their baſe, where they are narrow, but widen towards the top, where they are rounded and obtuſe; they are of a pale green, inclining to white on their under ſide; the flowers are produced at the ends of the branches four or five together, on very ſhort peduncles; they are narrow at bottom, but the tube enlarges upwards, and at the top ſpreads open wide; they are of a pale blueiſh colour, and ſmell ſweet. The pods are taper and crooked, about four inches long, with wings of a ſilver colour. It was ſent to Mr. Miller from Jamaica by Dr. Houſtoun, [and therefore was introduced here before 1733[h].

12. The trunk of this tree is of a middling ſize, with upright ſtiff branches. Leaves terminating, having five and ſometimes ſeven or eight leaflets, which are broad-lanceolate, nerved, veined and ſmooth. Flowers ſolitary, terminating, large, roſe-coloured. Calyx two-lipped; upper lip rounded; lower bifid, with ovate, ſharp teeth. Corolla irregular; tube long, narrow, a little ſwelling at bottom; border two-lipped, upper lip ſhorter, bifid, lower larger, trifid; all the ſegments rounded, waved, ſomewhat villoſe. Anthers vertical, black. Silique very long, pendulous, cylindric-linear[i].

Sir Hans Sloane ſays, that this tree is as large as any in the iſland of Jamaica, having a very great ſtraight trunk covered with a ſmooth whitiſh bark, and a very hard white wood. The petioles are three or four inches long. The leaves fall off for ſome weeks, and then the flowers come out of the ends of the twigs, ſeveral together on peduncles an inch in length: they are white, like thoſe of Stramonium, and fall off very ſoon. The pod is five or ſix inches long, browniſh, ſquare, and marked with ſeveral eminent lines.

According to Browne, it grows to a conſiderable ſize, when raiſed in a kind ſoil, and is generally looked upon as a good timber-wood; but when its growth is not luxuriant, it is only fit for cattle-yokes, and ſuch other ſmall conveniences as require a tough yielding wood. The juice and tender buds of this tree, are ſaid to be an antidote againſt the poiſonous juice of the Manchineel: they are indeed bitter, and may ſerve to prevent excoriations or bliſters for a time, and thereby protract the operation of that cauſtic juice, until a part of its virulency wears off, or other aſſiſtance can be obtained; but emulſions and oily medicines will be always found to anſwer much better.]

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[c] Thunberg. [d] Hort. kew. [e] Linn. [f] Ibid.

[g] Hort. kew. [h] Ibid. [i] Swartz.

Mr. Miller ſays, that it riſes with an upright ſtem to the height of forty feet, in the natural country of its growth; and that the ſeeds are diſperſed by the wind to the neighbouring lands, where the plants come up in great plenty. This and the foregoing ſort have been generally confounded, but the growing plants are extremely different; for the under leaves of this are ſometimes compoſed of five, at other times of four oval leaves; and on the upper part of the branches they come out ſingle, placed by pairs oppoſite; theſe are as large as thoſe of the Bay-tree, and of equal thickneſs, rounded at their end; each has a long foot-ſtalk, whereas thoſe of the former join at their baſe to one centre. The flowers of this ſort are produced ſingle at the wings of the leaves, have a narrow tube near two inches long, but ſpread open very wide at the top, where they are cut into five unequal ſegments, which are fringed on their borders: the corolla is white, and has an agreeable odour.

[It was cultivated in 1759, by Mr. Miller[k],] who ſays that he received it from Barbadoes by the title of White Wood.

[13. Stem three inches high. Leaves compoſed of ſeven or nine leaflets, each ſegment of which is unequally crenate; the middle leaflet is three inches and a half in length, the lateral ones are proportionally ſhorter. Petioles from two to ten inches in length. The corolla is pale yellow, with red dots; the tube is two inches in length. Native of Peru, in very dry ſand[l].]

14. This has rough ſtems, which ſend out many trailing branches, putting out roots at their joints, and thereby faſtening themſelves to the trees in their natural places of growth, and climbing to a great height: in Europe, where it is generally planted againſt walls, it ſtrikes into the mortar of the joints ſo ſtrongly as to ſupport the branches, and will riſe to the height of forty or fifty feet. Leaves oppoſite at every joint, compoſed of four pairs of leaflets, terminated by an odd one; they are ſerrate, and end in a long, ſharp point. The flowers are produced at the ends of the ſhoots of the ſame year, in large bunches; they have long ſwelling tubes, ſhaped ſomewhat like a trumpet, whence this plant has the appellation of Trumpet-flower. The corolla is of an orange colour, and opens at the beginning of auguſt.

[It was cultivated here in 1640[m].

β. The ſeeds of this were ſent from Carolina in 1724, by Mr. Cateſby; and ſince that time, great numbers of plants have been raiſed, from ſeeds ſent to England from the ſame country. All theſe retain their difference; and there is an old plant of each ſort growing near together in Chelſea garden, and producing flowers every year, remarkably different in ſize and colour. The ſhape and ſize alſo of the leaves are very different[n].

15. This is an upright ſhrub, from four to eight feet in height, little branched, with a ſlender, but firm and woody trunk. Leaves oppoſite, petioled; leaflets ſubſeſſile, elongate-lanceolate, acuminate, veined. Racemes terminating, upright. Flowers yellow with red lines on the inſide of the tube. Siliques half a foot in length; with winged ſeeds[o].

Native of all the ſugar iſlands in the Weſt-Indies, chiefly in a dry, rocky or gravelly ſoil.]

Mr. Miller ſays, that he received this ſort firſt in 1729, from La Vera Cruz, where Dr. Houſtoun found it in great plenty; ſince which time he received the ſeed from the iſland of Bermuda, by the title of Candle-wood.

[16. Stem ſhrubby, climbing, four-cornered, with joints ſwelling a little, ſmooth. Leaves ſharply ſerrate, ſmooth. Flowers axillary and terminating, ſolitary, peduncled, large. Calyx five-cornered, cut half way into five ſegments, ſmooth: ſegments lanceolate, acute. Corollas purple, the ſize of a roſe. It differs from the *radicans* in having a ſtem not at all rooting, a larger flower, and a ſemiquinquefid calyx. Native of Japan[p].

17. This is a large tree, with a whitiſh aſh-coloured bark. Leaves ſpreading, petioled, with about five pairs of oppoſite, petioled leaflets. Panicle terminating; pedicels oppoſite, dichotomous. Flowers ſolitary, from the diviſions. Calyx hoary. Border of the corolla a little arched, rough with hairs, red, five-cleft: the two upper ſegments reflex, two-parted, toothletted and curled, yellow with red dots; lower ſegments rough with hairs, curled at the edge; diſk waved, white; veins red: throat rough with hairs. The rudiment of a fifth ſtamen inſerted into the tube of the corolla, decurrent, barren: anthers two-parted. Siliques linear, flat, bent, ſtreaked. The freſh flowers immerſed in water give it a pleaſant odour, and in the Eaſt-Indies, of which it is a native, they ſprinkle it over the temples in a morning, to correct the ſtagnant air[q].

18. This is a large tree. Leaves ſcattered, often oppoſite, with three pairs of lobes; leaflets ſubcordate, the inner ones often cordate, quite entire. Flowers on the top of the ſtem, axillary, peduncled. Calyx opening longitudinally by its upper ſide, oblong, ſubcoriaceous, ſmooth, deciduous. Corolla white, border flat, five-folded, repand, and unequally toothed. The rudiment of a fifth ſtamen. Silique linear, flat, ſtreaked, having ſmall ſwellings on the ſurface. Seeds linear, waved, winged at the top.

The ſtructure of the flower differs from that of the other ſpecies; but ſince it is a tree with four didynamous ſtamens, and has a pod filled with winged ſeeds, it is clearly of this genus.

The timber is aſh-coloured, or red, ſmooth, and much uſed for a variety of utenſils in India.

Native of Malabar, Java, and Ceylon, in woods near waters[r].

19. This climbs by tendrils which come out from the joints of the branches. Each petiole is trifid, and each diviſion ſupports a pinnate leaf of fine leaflets on very ſmall petioles. Each leaflet is ovate and unequally gaſh-ſerrate. Native of America[s].

20. This is a large tree, with aſcending branches. Leaflets ſmooth, oppoſite. Flower large, red, in erect, terminating racemes. Calyx a creſcent-ſhaped, thick, coloured, woolly ſpathe. Corolla ringent; with a large, curved, ſwelling tube; the upper lip truncate; the lower longer; three-parted; ſegments ovate, waved, almoſt equal. Anthers large and pendulous. Style longer than the ſtamens. Stigma ſpathulate. Silique very long, compreſſed, curved a little, woolly, four-celled, with a rectangular partition. Seeds two-lobed; lobes orbiculate, coaleſcent, having a membranaceous wing protended laterally: they are diſpoſed in various ſtrata in each cell, but are not imbricate[t].

Native of the Eaſt-Indies, and Cochinchina. Introduced in 1775, by Dan. Charles Solander, LL.D.[u]

A variety occurs near Mozambique in Africa, which has a ſmall arboreous ſtem, bipinnate leaves like the Indian, peduncles many-flowered, terminating, ſilique ſmooth, curved, compreſſed, a foot long; with oblong, two-lobed ſeeds, in three rows in each cell[x].]

21. The twenty-firſt ſort grows naturally in the Bahama iſlands, from whence Mr. Cateſby ſent the

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[k] Hort. kew.

[l] Feuillée.

[m] Hort. kew. from Parkinſon.

[n] Miller's figures.

[o] Jacquin.

[p] Thunberg.

[q] Linn.

[r] Ibid.

[s] Linn. cliff.

[t] Loureiro.

[u] Hort. kew.

[x] Loureiro.

ſeeds in 1724, and many of the plants were raiſed in the gardens near London. This, in the country where it grows naturally, riſes to the height of twenty feet, ſending out many lateral branches, with compound winged leaves, each having eleven alternate wings, with ſpear-ſhaped ſmall lobes, which grow alternate, and are entire; at the ends of the branches the flowers are produced in very looſe panicles; the foot-ſtalks branching into three or four, each ſuſtaining a ſingle blue flower, with a long ſwelling tube, cut into five unequal ſegments at the top, where it ſpreads open. The flowers are ſucceeded by oval ſeed-veſſels, which are large, flat, two inches over.

[22. This is an elegant, upright tree, forty feet high and upwards. Leaves quite entire, waved, ſhining, oppoſite or ternate, two inches long, on a ſlender petiole an inch in length, moſtly at the ends of the twigs. Racemes terminating, panicled, weak, with about forty flowers, ſmelling ſweet, whitiſh; with two fertile, and three barren ſtamens. Siliques very ſlender, roundiſh, two feet long, frequently covering the whole head of the tree. Seeds linear, acuminate at both ends, cloathed with wool[y].

Native of the Weſt-Indies. This beautiful tree is now cultivated in many parts of Jamaica, eſpecially in the low lands and ſavannas, where it ſeems to thrive very luxuriantly. It grows to a conſiderable ſize, and is generally looked upon as an excellent timber tree. Its numerous flowers, and ſlender ſiliques, add a peculiar grace to its growth[z].

It is known in Jamaica by the name of *French Oak*; and in the French Weſt-India iſlands, it is called *Chêne noir*.

23. This is a rambling ſhrub, climbing to the tops of trees by its very long and numerous branches. Leaves oppoſite; leaflets ovate, acuminate, ſmooth, quite entire, from four to ſix inches in length[a]. Peduncles axillary, two inches long, corymbed, having ſeveral parcels which are oppoſite, and compoſed of three, four or five flowers. There is a ſcale or ſtipule at the baſe of each parcel and pedicel. Corolla fleſh-coloured[b]. Silique elliptic-oblong, very ſlightly compreſſed, marked with an obſcure longitudinal groove on the middle of the ſides, and at each edge with the rounded, protuberant termination of the partition, muricated all over with ſhort, ſubulate prickles, confluent at the baſe. Partition flat, coriaceous, thickened at the edge. Seeds very numerous, flatted, with a very wide, membranaceous, diaphanous veiny wing ſurrounding them, in a double row within each cell[c]. Native of the Weſt-Indies, Carthagena, Guiana.

24. This is a middle-ſized tree, with aſcending branches. Leaflets ovate, acuminate, quite entire, ſmooth. Flowers large, in upright, terminating racemes. Calyx tubular, five-cornered, obſcurely five-toothed, permanent. Corolla of a red colour, ringent; tube thick, equal, ſhort; upper lip concave, bifid, lower trifid; all the ſegments ovate, curled, almoſt equal. Filaments five, unequal, placed on the middle of the tube, with two oblong pendulous, equal anthers on each. Germ bluntly four-cornered: ſtyle ſubulate, longer than the ſtamens: ſtigma ſpathulate. Silique two feet long, curved, attenuated to both ends. Seeds oblong, compreſſed, two-lobed, with a thin membranous wing on each ſide. Native of Cochinchina, near rivers[d].

Loureiro has another ſpecies, under the name of *B. longiſſima*, which he thus deſcribes.—It is a ſmall tree, nine feet in height, with ſpreading branches. Leaves ovate-lanceolate, quite entire, ſmooth. Flowers large, terminating. Calyx none. Corolla white, funnel-ſhaped; tube very long and ſlender; border wide, the ſegments ovate, curved, almoſt equal, but the upper one ſhorteſt. Filaments inſerted into the mouth of the tube: anthers oblong, two-celled, two on each filament. Style almoſt equal to the corolla; ſtigma ſpathulate. Silique long, compreſſed, hooked, two-valved, four-celled. Seeds very many, compreſſed, oblong, two-lobed, in ſeveral rows. Native of Cochinchina, by rivers.

This is not the *longiſſima* of Jacquin (n. 22.). Loureiro obſerves, that it agrees with the *Lignum equinum* of Rumphius (vol. 3. p. 73. t. 46.), or *B. ſpathacea* of the younger Linneus, in the length and form of the corolla, but not in the ſpathaceous calyx, and pinnate leaves: but Retzius has well obſerved, that Rumphius's plant is not the ſame with Linneus's. It is indeed very different from the Nür-Pongelion of the Hortus Malabaricus.

Loureiro alſo remarks, that the three Aſiatic ſpecies which he has deſcribed can by no means be adapted to the generic character formed by Linneus from the American ſpecies, except in the fruit; and even that is not always two-celled in the Aſiatic ſpecies.

25. The ſtrong ſmell of Garlick betrays this plant from afar; hence its trivial title, and its name in French *Liane a l'Ail*[e]. It is a native of the Weſt-Indian iſlands, and the foreſts of Cayenne and Guiana.

26. This ſpecies has the appearance of an *Echites*. The branches are covered with an aſh-coloured bark, are alternately compreſſed above, and dilated under the leaves. Theſe are oppoſite, two inches long, very ſmooth, ſhining, marked with many nerves but without veins, a little reflex at the edge, ending in a ſhort point, and quite entire. Petiole very ſhort. Raceme upright, an inch long, containing five or ſix flowers. Calyx bifid, with oblong, ſmooth ſegments. Corolla large, ſmooth, two inches in diameter. Native of Rio Janeiro[f].

27. Branches alternately compreſſed above, covered with an aſh-coloured bark and ſmooth. Leaves four inches long or more: leaflets an inch and half in length, the inner ones ſmaller, acuminate but not much, blunt, veined, ſomewhat coriaceous, ſmooth on both ſides, ſhining. Common petiole channelled: partial very ſhort, edged with the decurrent baſe of the leaf. Raceme terminating. Peduncle jointed, compreſſed, broader at top: pedicels filiform, very ſhort. Calyx bell-ſhaped, with the edge almoſt entire, and broader than the tube of the corolla. Native of Madagaſcar[g].]

PROPAGATION AND CULTURE.

Theſe are exotic trees or ſhrubs, and may be raiſed from ſeeds ſown on a moderate hot-bed in the ſpring. They ſhould be ſoon inured to the open air, to prevent their being drawn up weak. They may alſo be increaſed by cuttings, and ſome of them by layers.

1. The ſeeds of the Common Catalpa tree are annually brought over from South Carolina. The ſeedling plants ſhould be placed abroad the beginning of June in a ſheltered ſituation till autumn, when they ſhould be placed under a common frame to ſcreen them from froſt in winter; but in mild weather they muſt be fully expoſed to the open air. The following ſpring theſe may be taken out of the pots, and planted in a nurſery-bed, in a warm ſituation, where they may remain two years to get ſtrength, and afterwards planted in the places where they are deſigned to remain. Theſe plants, when young, are frequently injured by froſt, for they ſhoot pretty late in the autumn, ſo that the early froſts often kill the extremity of their branches; but as the plants advance in ſtrength, they become more hardy, and are ſeldom injured but in very ſevere winters. It is late in the ſpring before theſe trees come out, which has often cauſed perſons to believe they were dead; and ſome have been ſo imprudent, as to cut them down on that ſuppoſition, before the tree was well known.

It may alſo be propagated by cuttings, which ſhould be planted in pots in the ſpring before the trees begin to puſh out their ſhoots, and plunged into a moderate hot-bed, obſerving to ſhade them from the ſun in the middle of the day, and refreſh them occaſionally with water, which muſt not be given to them in too great plenty. In about ſix weeks theſe will have taken root, and made ſhoots above, ſo ſhould have plenty of air admitted to them conſtantly, and hardened by degrees to bear the open air, into which they ſhould be removed, and treated in the ſame manner as the ſeedling plants, and the ſpring following planted out into a nurſery-bed, as is before directed.

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[y] Jacquin. [z] Browne. [a] Jacquin. [b] Aublet. [c] Gærtner. [d] Loureiro.

[e] Aublet. [f] Vahl. [g] Ibid.

The Catalpa delights in a rich moiſt ſoil, where it will make great progreſs, and in a few years produce flowers.

3. The plants of this ſort, when young, are impatient of cold, ſo muſt be ſheltered in the winter until they have obtained ſtrength, when they ſhould be planted againſt a warm wall, and in winter protected from froſt by coverings of mats, and the ground about their roots covered with tan. With this management I have had them flower very well in the Chelſea garden.

4, 5. Will live in the open air, if they be planted againſt a wall that has a ſouth aſpect, and ſheltered in very ſevere froſt.

6, 7, 8. 10, 11, 12. Are tender, and will not thrive in this country, unleſs they be kept in the bark ſtove.

9. When this ſort is planted in the full ground againſt a wall, the roots ſhould be covered in the autumn with ſome old tanners bark to keep out the froſt in winter; and in very ſevere froſt, the branches ſhould be covered with mats, to prevent their being deſtroyed. With this management I have had the plants flower well in Chelſea garden.

12. Will take root from cuttings planted during ſummer in pots, and plunged into a bark bed. It has flowered ſeveral years in the Chelſea garden, in auguſt.

14. This ſort is ſo hardy, as to thrive in the open air; but as the branches trail, they muſt be ſupported, it is therefore uſually planted againſt walls or buildings, where, if the branches have room, it will ſpread to a great diſtance, and riſe very high; it is therefore very proper for covering of buildings, which are unſightly. It may alſo be trained up againſt the ſtems of trees, where it may be ſo managed, as to make a fine appearance when in flower.

It is propagated by ſeeds, but the young plants ſo raiſed do not flower in leſs than ſeven or eight years; therefore thoſe which are propagated by cuttings or layers from flowering plants, are moſt eſteemed, becauſe they will flower in two or three years after planting. The old plants alſo ſend out many ſuckers from the roots, which may be taken off, and tranſplanted where they are to remain, for theſe plants will not tranſplant ſafely if they are old.

The neceſſary culture for theſe plants after they are eſtabliſhed, is to cut away all the ſmall weak ſhoots of the former year in winter, and ſhorten the ſtrong ones to about two feet long, that young ſhoots may be obtained for flowering the following ſummer; theſe plants are of long duration. There are ſome in gardens which have been planted more than ſixty years, which are now very vigorous, and produce flowers in plenty every ſeaſon.

15. Is propagated by ſeeds ſown on a hot-bed, and the plants afterward tranſplanted into ſeparate ſmall pots, filled with light freſh earth, and plunged into a freſh hot-bed; in the autumn they muſt be removed into the bark-ſtove, and during the winter ſhould have but little water, but in ſummer they muſt be frequently refreſhed with it, but not given in too great plenty. The plants ſhould conſtantly remain in the bark-ſtove, and be treated in the ſame manner as other tender plants from hot countries. The third year from ſeed they will flower, but they do not produce ſeeds in England.

The other ſorts have not yet been cultivated in England.

BIHAI. See *Strelitzia.*
BILANUS. See *Cratæva.*
[BILBERRY. See *Vaccinium.*
BILIMBI. See *Averrhoa.*]

BIND-WEED. See *Convolvulus.*
[BINDWITH. See *Clematis.*
BIPINNULA. See *Arethuſa.*]
BIRCH-TREE. See *Betula.*
[BIRD CHERRY. See *Prunus Padus.*
BIRD PEPPER. See *Capſicum.*
BIRD'S-EYE. See *Adonis.*
———-FOOT. See *Ornithopus.*
————- TREFOIL. See *Lotus.*
BIRD'S-TONGUE. See *Senecio.*
BIRTHWORT. See *Ariſtolochia.*]

BISCUTELLA. (*Dimin. from bis and ſcutum; the fruit reſembling a double ſhield.*) *Buckler-Muſtard,* or *Baſtard Mithridate Muſtard.*

Lin. gen. 808. *Reich.* 872. *Schreb.* 1084. *Juſſ.* 239. *Gærtn. t.* 141. Thlaſpidium *Tournef.* 101.

Claſſ. 15. 1. Tetradynamia Siliculoſa.

Nat. order of *Siliquoſæ, Cruciformes* or *Cruciferæ.*

GENERIC CHARACTER.

CAL. *Perianth* four-leaved; *leaflets* ovate, acuminate, gibbous at the baſe, coloured, deciduous.

COR. Four-petalled, cruciform, *Petals* oblong, obtuſe, ſpreading.

STAM. *Filaments* ſix, the length of the tube of the corolla; two oppoſite ſhorter. *Anthers* ſimple.

PIST. *Germ* compreſſed, orbiculate, emarginate. *Style* ſimple, permanent. *Stigma* obtuſe.

PER. *Silicle* erect, compreſſed flat, ſemibifid with roundiſh lobes, two-celled: *partition* lanceolate, ending in a rigid ſtyle; *cells* two-valved, affixed to the partition, on its ſtraight margin.

SEEDS ſolitary, roundiſh, compreſſed, in the middle of the cell.

OBS. *The two outer leaflets of the calyx in ſome ſpecies have a tubular-concave melliferous prominent baſe.*

ESSENTIAL CHARACTER.

Silicle compreſſed flat, rounded above and below two-lobed. *Cal.* leaflets gibbous at the baſe.

SPECIES.

1. Biſcutella auriculata. *Ear-podded Buckler-Muſtard.*
Lin. ſpec. 911. *ſyſt.* 592. *Reich.* 3. 240. *hort. cliff.* 329. 1. *upſ.* 185. *Gærtn. fruct.* 2. 278.
Thlaſpi. *Bauh. pin.* 107. *n.* 3. *prodr.* 49. *n.* 8. *Raii hiſt.* 837. *n.* 4.
Leucoium montanum fl. pedato. *Col. ecphr.* 2. 59. *t.* 61.
Iondraba. *Barr. ic.* 230.
Calyxes gibbous on each ſide with the nectary, ſilicles running into the ſtyle.

2. Biſcutella apula. *Spear-leaved Buckler-Muſtard.*
Lin. ſyſt. 592. *Reich.* 3. 240. *mant.* 254. *D'Aſſo. aragon. n.* 603. *Gærtn. fruct.* 2. 279.
B. didyma. *Lin. ſpec.* 911. *hort. cliff.* 329. 2. *upſ.* 185.
Thlaſpi. *Raii hiſt.* 837. *n.* 3.——clypeatum. *Cluſ. hiſt.* 2. 133.
Iondraba. *Col. ecphr.* 1. 283. *t.* 285. *f.* 1.
Silicles ſcabrous, leaves lanceolate ſeſſile ſerrate.

[3. Biſcutella lyrata.
Lin. ſyſt. 592. *Reich.* 3. 240. *mant.* 254.
Thlaſpi biſcutatum, &c. *Bocc. ſic.* 45. *t.* 23. *Raii hiſt.* 837. *n.* 6.
Silicles ſcabrous, leaves lyrate.

4. Biſcutella coronopifolia.
Lin. ſyſt. 592. *Reich.* 3. 241. *mant.* 255. *Allion. pedem. n.* 907.
Silicles ſmooth, leaves toothed rough with hairs.

5. Biſcutella lævigata. *Smooth Buckler-Muſtard.*
Lin. ſyſt. 592. *Reich.* 3. 241. *mant.* 255. *Jacqu. auſtr.* 4. *t.* 339. *Hall. helv. n.* 501. *D'Aſſo. aragon. n.* 602.
B. didyma. *Scop. carn. n.* 804.
Clypeola didyma. *Crantz. auſtr.* 20.
Leucoium. *Col. ecphr.* 1. 283. *t.* 285. *f.* 2. *Raii hiſt.* 836. *n.* 2.
Silicles ſmooth; leaves lanceolate ſerrate.

6. Biſcutella ſempervirens. *Shrubby Buckler-Muſtard.*
Lin. ſyſt. 592. *Reich.* 3. 241. *mant.* 255.
Thlaſpi biſcutellatum, &c. *Barr. ic. t.* 841. *Bocc. muſ.* 167. *t.* 122.
Silicles ſomewhat ſcabrous, leaves lanceolate tomentoſe.]

DESCRIPTIONS, &c.

1. In a wild ſtate this plant riſes about a foot in height, but in a garden it generally grows near two feet high, dividing into ſeveral branches. At every joint there is one oblong entire leaf a little indented, thoſe on the lower part of the ſtalk being broader and more blunt than thoſe on the upper. The flowers are produced at the ends of the branches in looſe panicles, and are of a pale yellow colour.

[Silicle tranſverſely ovate, compreſſed, rugged with raiſed dots, two-lobed; lobes rounded, ſeparate at bottom, uniting at top in the ſtyle, which is much longer than the ſilicle; theſe lobes are one-celled, cloſe not gaping, but ſeparating from the axis: there is properly no partition, but only the flatted ſtyle interpoſed between the doubled ſilicles. Seeds lens-ſhaped, ovate, with an inflex beak, ſmooth, ferruginous. Seed-lobes ovate, plano-convex, thin[a].

The nectareous gland is remarkably large, and conſequently the calyx is bagged out very much at bottom, in this ſpecies[b].

Native of the ſouth of France and Italy. It was cultivated here in 1683, by Mr. James Sutherland, and flowers in june and july[c].]

2. This ſends out many oblong hairy leaves, which are ſlightly indented on their edges; from among theſe riſes a hairy branching ſtalk two feet high, and at each joint is placed one oblong indented leaf, which half embraces the ſtalk at the baſe; each branch is terminated by a cloſe ſpike of pale yellow flowers; with a ſhorter ſtyle than in the other ſorts.

[The whole plant, ſtem and leaves are rough with ſcattered hairs. Stem upright a foot high, with two or three branches. Leaves lanceolate or oblong; the ſerratures very remote[d]. Silicle only half the ſize of the foregoing, either wholly ſmooth, or rugged with raiſed dots. Lobes ſuborbiculate, not confluent with the ſtyle at top, ſeceding from the axis, valveleſs. The lobes of the ſilicle being cloſe all round, except a hole in the inner margin, for the paſſage of the umbilical chord, the fruit in this genus is properly two-podded, or conſiſts of two partial ſilicles[e].

Native of Italy. Cultivated in 1759, by Mr. Miller. It flowers in june and july[f].

3. Root-leaves lyrate, reſembling thoſe of Cardamine, ſmall and hairy. Stem branching, almoſt leafleſs, naked, hiſpid at the baſe. Pedicels extremely divaricate, capillary. Silicles ſmall, rather leſs than thoſe of the foregoing ſort, ſomewhat rugged, orbiculate[g]. Native of Spain and Sicily.

4. Root-leaves lanceolate, reſembling thoſe of Coronopus, deeply toothed to the very middle with three or four teeth on each ſide, rough on both ſurfaces with diſtinct hairs. Stem-leaves claſping, cordate-lanceolate, leſs toothed, few. Silicles altogether ſmooth[h].

According to Allioni, this is a lower plant than the ſecond; and has leaves that are hiſpid and much ſhorter, deeply pinnatifid-toothed, generally with two teeth on each ſide. He thinks that it is not ſpecifically different from the ſecond; but a variety, proceeding from a dryneſs of ſoil; for it is found in extremely dry barren places, in Spain, Italy, and Germany.

Gouan is of opinion, that this and the ſecond, third and fourth are one ſpecies. According to Linneus, all theſe, with the fifth, though originally deſcended from the ſame mother, and ſiſters of the ſecond ſort, may fairly be divided into four.

5. Root-leaves lanceolate, petioled, acuminate, remotely ſerrate with ſmall ſharp upright ſerratures, naked or a little rugged, with a rugged edge. Stem a foot high, almoſt all leafleſs, ſmooth, towards the top forming a branched corymb. Silicles ſmooth, the ſize of thoſe in the firſt ſpecies. Columna's plant has the ſtem and leaves more hairy, and the ſtem leafy[i].

According to Jacquin, the ſtems are upright, round, ſmooth or hirſute, commonly ſimple at bottom and branched at top. Leaves oblong, attenuated at the baſe, blunt or ſharpiſh, thickiſh, either quite entire or with few ſerratures, rough on both ſides with white hairs, but ſometimes ſcarce obſervably hairy: root-leaves many; ſtem-leaves ſmaller, ſeſſile, and more entire. Flowers at firſt in a kind of umbel, but afterwards in a raceme. Leaflets of the calyx ſmooth, yellow, oblong, blunt, very concave, patulous. Petals twice as long as the calyx, yellow; as are alſo the filaments. Piſtil green. Silicle very ſmooth, ſometimes in the Alps three or four-winged. The whole plant is acrid. The root is perennial; but according to others it is annual. It is a native of Italy and Auſtria. Being found at very different heights on the mountains, it varies much in ſtature, from half a foot to a foot and half. In lower ſituations it flowers in april and may, in higher ones in july and auguſt; in our gardens in june and july. It was introduced here in 1777, by Monſ. Thouin[k]: and flowers in june and july.

6. Stems ſuffruticoſe, a hand's breadth in height, proſtrate, ſimple, the thickneſs of a gooſe-quill, leafy at top. Leaves crowded, white underneath like *Cheiranthus incanus*, tooth-ſerrate, with the edge bent back. The flowering-ſtem ſpringing up among the leaves, ſimple and almoſt leafleſs itſelf. Raceme terminating, compound, not much prolonged. Silicles of the ſame ſize and form as in the ſecond ſpecies. This is the moſt diſtinct of any from the reſt[l].

Native of Spain. Introduced in 1784, by Meſſ. Lee and Kennedy[m].]

PROPAGATION AND CULTURE.

They are all annual plants, except the laſt, which periſh ſoon after they have perfected their ſeeds. Theſe ſhould be ſown either in ſpring or autumn, upon a border of light earth, in an open ſituation, where they are to remain. Thoſe which are ſown in autumn will come up in about three weeks, and the plants will live through the winter without any protection, and flower earlier the following ſummer, whereby good ſeeds may always be obtained; whereas thoſe which are ſown in the ſpring, do, in bad ſeaſons, decay before their ſeeds are ripe. The autumnal plants flower in june, and the ſpring plants in july, and their ſeeds ripen about ſix weeks after; if theſe are permitted to ſcatter, there will be plenty of young plants produced without any care.

They require no farther culture, but to keep them clean from weeds, and thin the plants where they are too cloſe, leaving them eight or nine inches aſunder. They are preſerved in the gardens of thoſe who are curious in botany, but they have no great beauty to recommend them.

BISERRŬLA. (*So named from the fruit*; *biſerrato fructu*. Lin.)

Lin. gen. 893. *Reich.* 966. *Schreb.* 1209. *Juſſ.* 358. *Gærtn. t.* 154. Pelecinus. *Tournef.* 234.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ* or *Leguminoſæ*.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubular, erect, ſemiquinqueſid; *teeth* ſubulate, equal, the two upper ones more remote.

COR. papilionaceous: *banner* larger, reflected on the ſides, aſcending, roundiſh: *wings* ovate-oblong, free, ſhorter than the banner: *keel* the length of the wings, obtuſe, aſcending.

STAM. *Filaments* diadelphous (ſimple and nine-cleft) aſcending at their tips, incloſed within the keel. *Anthers* ſmall.

PIST. *Germ* oblong, compreſſed. *Style* ſubulate, aſcending. *Stigma* ſimple.

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[a] Gærtner.
[b] Linn.
[c] Hort. kew.
[d] Linn.
[e] Gærtn.
[f] Hort. kew.
[g] Linn. mant.
[h] Ibid.
[i] Linn. mant.
[k] Hort. kew.
[l] Linn. mant.
[m] Hort. kew.

PER. *Legume* large, linear, flat, two-celled: *partition* contrary to the valves.

SEEDS very many, kidney-form, compreſſed.

ESSENTIAL CHARACTER.

Legume two-celled, flat: *partition* contrary.

SPECIES.

1. Biſerrula Pelecinus. *Baſtard Hatchet-Vetch.*

Lin. ſpec. 1073. *Reich.* 3. 540. *hort. cliff.* 361. *Gærtn. fruct.* 2. 340. *Rivin. tetr. t.* 101.

Aſtragalus. *Mor. hiſt.* 2. 107. *ſ.* 2. *t.* 9. *f.* 6.

Securidaca. *Bauh. pin.* 349. 3. *Cluſ. hiſt.* 2. 238. *Ger. emac.* 1234. *f.* 6. *Park. theat.* 1089. *f.* 5. *Raii hiſt.* 939. *n.* 16.

Lunaria radiata Robini. *Bauh. hiſt.* 2. 348. *f.* 2.

DESCRIPTION, &c.

This is an annual plant, which grows naturally in Italy, Sicily, Spain, and the ſouth of France. It ſends out many angular ſtalks, which trail on the ground, ſubdivided into many branches, with long winged leaves, compoſed of many pairs of leaflets, terminated by an odd one; theſe are heart-ſhaped: toward the upper part of the branches come out the peduncles, which ſuſtain ſeveral ſmall purpliſh flowers.

[Legume oblong, ſerrate on both edges, with a longitudinal ſuture in the middle, four-valved: partition very narrow, ſimple. Seeds in each cell eight, round-kidney-ſhaped, ſmooth, yellowiſh. Seed-lobes ſemi-lunar. The legume is not ſimple but double, compoſed of two partial ones, placed ſide by ſide and coaleſcent[a]. Cultivated here in 1640[b].]

PROPAGATION AND CULTURE.

It is propagated by ſeeds, which in this country ſhould be ſown in the autumn, on a bed of light earth, where the plants will come up in about three weeks, and will live in the open air very well. Theſe ſhould be ſown where they are deſigned to remain, or tranſplanted very young; for when they are large, they will not bear removing. When the plants are come up, they will require no other care, but to keep them clean from weeds; and where they are too near, they ſhould be thinned to about a foot diſtance from each other. They flower in june, and the ſeeds ripen in ſeptember.

The ſeeds of this plant may alſo be ſown in the ſpring, and treated in the ſame manner as before directed; but theſe will not flower till the middle or end of july, ſo unleſs the autumn proves warm, they will not ripen ſeeds; for which reaſon I have directed their being ſown in the autumn, as ſoon as they are ripe. Two or three of theſe plants may be allowed a place in gardens for the ſake of variety, but they have not much beauty.

BISHOP'S-WEED. See *Ammi*.

BISTORTA. See *Polygonum*.

BITTER VETCH. See *Orobus*.

BITTERWORT. See *Gentiana*.

BIXA. (*The Indian name uſed by Oviedo in his hiſtory of India, or Spaniſh America.*)

Lin. gen. 654. *Reich.* 710. *Schreb.* 887. *Juſſ.* 293. *Gærtn. t.* 61.

Claſſ. 13. 1. Polyandria Monogynia.

Nat. order of *Columniferæ*. *Tiliaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-toothed, very ſmall, obtuſe, flat, permanent.

COR. double: *outer* with petals five, oblong, equal, large, more rude—*inner*, with five petals like the outer, but thinner.

STAM. *Filaments* numerous, ſetaceous, ſhorter by half than the corolla. *Anthers* erect.

PIST. *Germ* ovate. *Style* filiform, the length of the ſtamens. *Stigma* parallelely bifid, compreſſed.

PER. *Capſule* ovate-cordate, compreſſed, fenced with briſtles, bivalve, gaping at the angles, one-celled, with an inner bivalve membrane.

SEEDS numerous, turbinate, with a truncated navel, berried.

REC. linear, longitudinal, faſtened to the middle of the valves.

ESSENTIAL CHARACTER.

Cor. ten-petalled. *Cal.* five-toothed. *Capſ.* hiſpid, bivalve.

SPECIES.

1. Bixa Orellana. *Arnotto* or *Anotta.*

Lin. ſpec. 730. *Reich.* 2. 580. *hort. cliff.* 211. *mat. med.* 135. *Gærtn. fruct.* 1. 292. *Brown. jam.* 254.

Bixa Oviedi. *l.* 8. *c.* 6. *Bauh. hiſt.* 1. 440. *Cluſ. exot.* 74.

Orleana ſ. Orellana. *Pluk. phyt. t.* 209. *f.* 4. *Comm. hort.* 1. 65. *t.* 33.

Rocu. *Merian. ſurin. t.* 44.

Urucu. *Piſo* 133. *Sloan. jam.* 2. 52. *t.* 181. *f.* 1.

Pigmentaria. *Rumph. amb.* 2. 79. *t.* 19.

Arbor mexiocana, fructu caſtaneæ, coccifera. *Bauh. pin.* 419. *Raii hiſt.* 1771.

Achiotl. *Hernandez mexic.* 74.

DESCRIPTION, &c.

This ſhrub riſes with an upright ſtem to the height of eight or ten feet, ſending out many branches at the top, forming a regular head. Theſe are garniſhed with heart-ſhaped leaves ending in a point, which have long foot-ſtalks, and come out without any order. The flowers are produced in looſe panicles at the end of the branches, of a pale Peach colour, having large petals.

[Capſule ovate-cordate, turgidly lenticular, hiſpid all round with briſtle-ſhaped prickles: the valves are cloathed within with their proper membrane, and in the middle they have a prominent longitudinal groove, to which the ſeeds are faſtened; theſe are about twelve to each valve, turbinate, with a depreſſed ſtreak on one ſide, and a brown tubercle at the top, they are ſcarlet.

Native both of the Eaſt and Weſt Indies. The capſules in the latter are ovate-acuminate, ſmaller, and the prickles not ſo cloſe. Seeds ſubtrigonal, like grape-ſtones, with ſo deep a furrow as to appear two-lobed. Seed-lobes leſs flexuoſe, and the whole embryo relatively ſmaller[a]. It was introduced here in 1690, by Mr. Bentick[b].

Linneus has adopted the South American vernacular name of *Bixa* from Oviedo; in Holland, Denmark, and other northern countries it is known alſo by that name. In Holland it is likewiſe called *Orleane*. In German, *Orleanſbaum*, *Biſchofſmutze*, *Anotta*. In England we have taken the latter of theſe names, ſpelling it variouſly, *Arnotto*, *Arnotta*, *Anotta*, *Anato*, *Anoto*, *Annoto*. The French have adopted the Braſilian name *Uruku*, or *Urucu*, ſpelling it *Roucouyer*, *Roucou*, or *Rocurier* des Indes. The Portugueze have alſo the ſame appellation *Urucu*, or *Urucueira*. In Spaniſh it is *Anato* or *Atolle*. In the Mexican language *Achiotl*. Scaliger calls it *Arbor finium regundorum*, becauſe the Mexicans made plans, and marked the boundaries of their lands on tablets, with the colour prepared from the berries. Tournefort named it *Mitella*, from the reſemblance of the capſule, when open, to a mitre.

The drug called *Terra Orellana* or *Orleana*, *Roucou* or *Arnotto* is thus prepared from the red pulp which covers the ſeeds. The contents of the fruit are taken out, and thrown into a wooden veſſel, where as much hot water is poured upon them as is neceſſary to ſuſpend the red powder or pulp; and this is gradually waſhed off with the aſſiſtance of the hand, or of a ſpatula or ſpoon. When the ſeeds appear quite naked they are taken out, and the waſh is left to ſettle; after which the water is gently poured away, and the ſediment put into ſhallow veſſels, to be dried by degrees in the ſhade. After acquiring a due conſiſtence, it is made into balls or cakes, and ſet to dry in an airy place, until it is perfectly firm.

Some perſons firſt pound the contents of the fruit with wooden peſtles; then covering them with water, leave them to ſteep ſix days. This liquor being paſſed through a coarſe ſieve, and afterwards through three finer ones, it is again put into the vat or wooden veſſel, and left to ferment a week. It is then boiled until it is pretty thick, and when cool is ſpread out to dry, and then made up into balls, which are uſually wrapped up in leaves. Arnotto of a good quality is of the colour of fire, bright within, ſoft to the touch, and diſſolves entirely in water.

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[a] Gærtner.

[b] Hort. kew.

[a] Gærtner.

[b] Hort. kew.

It is reputed to be cooling and cordial, and is much uſed by the Spaniards in their chocolate and ſoups, both to heighten the flavour and to give them an agreeable colour.

It is eſteemed good in bloody fluxes and diſorders of the kidnies. Mixed with lemon-juice and a gum, it makes the crimſon paint, with which the Indians adorn their perſons. It was formerly uſed by dyers to form the colour called *Aurora*; but at preſent it is not held in ſuch eſtimation as a dye, though it ſtill maintains its ground with painters[c].

Arnotto is well known to be the drug which is uſed for dying cheeſe in Gloceſterſhire, under the name of Cheeſe-colouring. It is uſed in Holland for colouring their butter.

The bark makes good ropes for the common plantation uſes in the Weſt-Indies: and pieces of the wood are uſed by the Indians to procure fire by friction.

PROPAGATION AND CULTURE.

This plant is propagated by ſeeds, may be cultivated with great eaſe, and is planted in many parts of Jamaica, Barbadoes, Cayenne, &c. in rich ſoils and ſhady ſituations, ſhooting luxuriantly near rivulets.]

Here alſo it is propagated by ſeeds which are annually brought from the Weſt-Indies in plenty. Theſe ſhould be ſown in a ſmall pot, filled with light rich earth, and plunged into a hot-bed of tanners-bark; where, if the bed is of a proper temperature of heat, the plants will appear in about a month after: when theſe are about an inch high, they ſhould be ſhaken out of the pot and carefully ſeparated, ſo as not to tear off their tender roots, and each planted in a ſmall pot filled with ſome rich light earth, and plunged into a freſh hot-bed of tanners-bark, obſerving to ſhade them every day until they have taken new root; after which they muſt be treated as other tender plants from the ſame country, by admitting freſh air to them in proportion to the warmth of the ſeaſon; and when the heat of the tan declines, it ſhould be turned up to the bottom, and, if neceſſary, ſome freſh tan added to renew the heat. The plants muſt be refreſhed three times a week with water in ſummer, but they muſt not have it in great quantities, for their roots often rot with much wet. If the plants are raiſed early in the ſpring, and properly managed, they will be a foot and a half high by the autumn, when they ſhould be removed into the bark-ſtove, and plunged into the tan-bed. During the winter, they muſt have but little water, and while the plants are young, they muſt have a good ſhare of warmth, otherwiſe they are very ſubject to caſt their leaves, and frequently loſe their tops, which renders them unſightly. They muſt be conſtantly kept in the bark-ſtove, for thoſe plants which have been placed in a dry ſtove, have never made much progreſs. I have had many of theſe plants ſeven or eight feet high, with ſtrong ſtems and large heads, but have only had one produce flowers; nor have I heard of its flowering in any of the gardens in Europe, for in the Dutch gardens they have no plants of any ſize.

[BLACKBURNIA. (*So named by Forſter, in honour of John Blackburne, Eſq. and his daughter Anna, of Orford in Lancaſhire.*)

Lin. gen. Schreb. n. 199. *Forſter gen.* 6.

Claſſ. 4. 1. Tetrandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* very ſhort, four-toothed, inferior: *teeth* ſhort, acute, horizontal.

COR. *Petals* four, elliptic.

STAM. *Filaments* four, ſubulate, rather ſhorter than the petals. *Anthers* heart-ſhaped, erect.

PIST. *Germ* conic. *Style* filiform, erect, length of the ſtamens. *Stigma* ſimple.

PER. *Berry?*

SEED ſingle.

ESSENTIAL CHARACTER.

Cal. four-toothed. *Pet.* four, elliptic. *Anth.* heart-ſhaped. *Germ* conic. *Stigma* ſimple. *Per.* Berry, with a ſingle ſeed.

SPECIES.

1. Blackburnia pinnata.
Forſt. gen. 6. *t.* 6. *drawings t.* 25. *fl. auſtral. n.* 53.
Ptelea pinnata. *Lin. ſuppl.* 126.

DESCRIPTION, &c.

Leaves alternate, abruptly pinnate, with two or three pairs of leaflets, which are oppoſite, oblique, ovate, quite entire, and very ſmooth. Panicles axillary, ſmall.

It is in habit not unlike *Ptelea trifoliata*, and whether it ought to be ſeparated from that genus cannot be determined till we are better acquainted with the fruit.

Native of Norfolk iſland[a]. Found there in 1774.

BLACKSTONIA. See *Chlora.*]

BLADDER-NUT. See *Staphylea.*

[BLADDER-SENA. See *Colutea.*

BLADHIA. (*So named by Thunberg, from Peter John Bladh, a Swede; ſupercargo to the Eaſt-India Company, and reſident at Canton.*)

Lin. gen. Schreb. n. 370. *Thunberg. nov. gen.* 6. *fl. jap.* 7.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, very ſhort, permanent, five-parted: *parts* ovate, concave, ſpreading, torn-ſubſerrate.

COR. one-petalled, wheel-ſhaped, five-parted: *parts* ovate, obtuſe, ſpreading.

STAM. *Filaments* five, very ſhort. *Anthers* heart-ſhaped, acute, converging into a cone, ſhorter than the corolla.

PIST. *Germ* ſuperior. *Style* filiform, longer than the corolla. *Stigma* ſimple, acute.

PER. *Berry* globoſe, crowned by the permanent ſtyle, one-celled.

SEED ſingle, globoſe, involved in a membrane.

ESSENTIAL CHARACTER.

Cor. wheel-ſhaped, deciduous. *Berry* containing one arilled ſeed.

SPECIES.

1. Bladhia japonica.
Lin. ſyſt. 236. *Thunb. jap.* 95. *t.* 18. *Kæmpf. amæn.* 5. 776. (Quackitz.)
Leaves ſerrate ſmooth.

2. Bladhia villoſa.
Lin. ſyſt. 237. *Thunb. jap.* 96. *t.* 19.
Leaves ſerrate villoſe.

3. Bladhia criſpa.
Lin. ſyſt. 237. *Thunb. jap.* 97. *Kæmpf. amæn.* 5. 776. 2. *ic. ſelect. t.* 7.
Leaves oblong curled ſmooth.

DESCRIPTIONS, &c.

1. Root perennial, creeping with ſmall fibres. Stem ſhrubby, flexuoſe, erect, very thinly branched, from four inches to a foot high. Leaves frequent towards the top, oppoſite, petioled, ovate, acute, ſpreading, an inch long, the upper ones a little larger. Petiole linear, a line long. Flowers axillary, umbel-racemed, nodding. Peduncle ſtreaked, ſmooth, erect, two inches long. Pedicels round, red, ſmooth, nodding. Corolla white, ſweet-ſmelling.

2. Stem filiform, almoſt erect, tomentoſe, a finger's length. Leaves oppoſite, petioled, ovate, acute. Petioles half the length of the leaves. Flowers lateral, peduncled. Peduncles capillary, tomentoſe, with few flowers. It is much ſmaller than the foregoing, and entirely villoſe.

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[c] Browne and Long's Jamaica.

[a] Linn. ſuppl.

3. Stem round, ſmooth, ſimple, upright, a ſpan or more in height. Leaves alternate, petioled, very oblong, very finely curled, paler underneath, nerved, upright, the upper ones longer, a ſpan in length. Flowers lateral, panicled. Berry red, the ſize of a pea[a].

Thunberg has another ſpecies among his obſcure plants[b], which has ſerrate, ſmooth, even leaves; oppoſite and aggregate on the top of the ſtalk, on ſhort petioles, ovate, acuminate, an inch and half in length. Stem ſhrubby, low, jointed, ſimple. Berry red, the ſize of a ſmall pea.

Theſe are all natives of Japan.]

[BLÆRIA. (*From Patrick Blair, M. D. He practiſed phyſic at Boſton in Lincolnſhire; and was author of Miſcellaneous Obſervations.* 1718. 8°.—*Botanick Eſſays.* 1720. 8°.—*Pharmacobotanologia, or a diſſertation on the Britiſh indigenous and garden plants of the new London Diſpenſatory, in* 7 *decads.* 1723, *&c.* 4°.—*Incomplete, extending no farther than the letter* H.—*Some papers in the Philoſophical Tranſactions.*)

Lin. gen. n. 139. *Reich.* 145. *Schreb.* 183. *Juſſ.* 160.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Bicornes.*—*Ericæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-parted: *leaflets* linear, erect, a little ſhorter than the corolla, permanent.

Cor. monopetalous, campanulate: *tube* cylindric, the length of the calyx, pervious: *border* ſmall, four-cleft; *diviſions* ovate, reflex.

Stam. *Filaments* four, ſetaceous, the length of the tube, inſerted into the receptacle. *Anthers* oblong, compreſſed, erect, obtuſe, emarginate.

Pist. *Germ* four-cornered, ſhort. *Style* ſetaceous, much longer than the corolla. *Stigma* obtuſe.

Per. *Capſule* obtuſe, quadrangular, four-celled, gaping at the angles.

Seeds ſome roundiſh.

Obs. *The anthers indeed are emarginate, but by no means horned, as in* Erica, *which is allied to this.*

In B. articulata *the corolla is cylindric; in* B. puſilla *it is funnel-form.* Reich.

ESSENTIAL CHARACTER.

Cal. four-parted. *Cor.* four-cleft. *Stam.* inſerted into the receptacle. *Capſ.* four-celled, many-ſeeded.

SPECIES.

1. Blæria ericoides. *Heath-leaved Blæria.*
Lin. ſpec. 162. *Reich.* 316. *mant.* 331. *hort. cliff.* 49. *Pet. gaz. t.* 2. *f.* 10.
Anthers awnleſs ſtanding out; calyxes four-leaved; bractes the length of the calyx; leaves in fours oblong-aceroſe hairy imbricate.

2. Blæria ciliaris. *Ciliated Blæria.*
Lin. ſyſt. 154. *ſuppl.* 122.
Flowers in a head, calyxes ciliate.

3. Blæria articulata. *Jointed-leaved Blæria.*
Lin. ſyſt. 154. *Reich.* 317. *mant.* 198.
Penæa Sarcocolla. *Berg. cap.* 25.
Stamens protruded two-parted, corollas cylindric.

4. Blæria purpurea. *Purple-flowered Blæria.*
Lin. ſyſt. 154. *ſuppl.* 122.
Stamens included two-parted, corollas oblong ſtraight, flowers terminating aggregate, peduncles erect.

5. Blæria puſilla. *Dwarf Blæria.*
Lin. ſyſt. 154. *Reich.* 317. *mant.* 331.
Flowers ſcattered, corollas funnel-form.

6. Blæria muſcoſa. *Moſs-leaved Blæria.*
Ait. hort. kew. 1. 150.
Anthers awnleſs almoſt ſtanding out, calyxes one-leafed hairy, corollas bell-ſhaped hairy in the upper part, flowers axillary, ſtigmas peltate.

DESCRIPTIONS, &c.

1. This has the ſtature of common Heath. Leaves in fours, ovate-oblong, gibbous, hairy-ſcabrous, preſſed to the ſtem, the length of the internodes. Flowers terminating, white with a tinge of purple. Corollas tubulous, erect. Anthers two-parted, ſcabrous. Style capillary, longer than the anthers[a].

Introduced here in 1774, by Mr. Fr. Maſſon[b].

2. This reſembles the foregoing; but the ſtamens are included, and it is readily known by its white calyxes, moſt diſtinctly ciliate[c].

3. This is a diſtorted ſhrub, the ſtature of common Heath. Leaves in fours, ovate, rugged, the length of the internodes, preſſed to the branches, whence they appear as if jointed. Heads of flowers terminating, with white-villoſe calyxes. Corollas fleſh-coloured. Anthers very narrow, black. It differs from the firſt, which has bell-ſhaped corollas, in having equal ſtamens, and leaves more imbricated. The fifth has ſmooth calyxes, and funnel-ſhaped corollas[d].

4. Is like the third; but in that the heads are nodding[e].

5. This has the ſtature of ſmall Heath. Branches pubeſcent. Leaves in fours, linear, rugged, petioled, ſcored underneath with a line. Flowers minute, ſcattered, ſhorter than the leaves. Cautiouſly to be diſtinguiſhed from the Heaths[f].

6. Found at the Cape of Good Hope by Mr. Francis Maſſon, and introduced in 1774. It flowers from june to auguſt[g].

PROPAGATION AND CULTURE.

Theſe are all ſhrubs, inhabitants of the Cape of Good Hope; require the ſame ſhelter and treatment with other Cape plants in the dry ſtove; and may be increaſed by cuttings, like the Ericas or Heaths, which they much reſemble.]

[Blairia. See *Verbena.*

BLAKEA. (*So named by Dr. Patrick Browne, from Mr. Martin Blake of Antigua, a great promoter of uſeful knowledge, and a patron of the Dr.'s Natural Hiſtory of Jamaica.*)

Lin. gen. 593. *Reich.* 647. *Schreb.* 810. *Brown. t.* 35. *Juſſ.* 328.

Claſſ. 11. 1. Dodecandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth of the fruit* inferior, ſix-leaved; *leaflets* ovate, concave, expanding, the ſize of the flower.—*Perianth of the flower* ſuperior; margin quite entire, hexangular, membranaceous.

Cor. *Petals* ſix, ovate, expanding, equal.

Stam. *Filaments* twelve, ſubulate, erect. *Anthers* triangular, depreſſed, concatenated into a ring.

Pist. *Germ* inferior, obovate, crowned with the margin of the calyx. *Style* ſubulate, the length of the flower. *Stigma* acute.

Per. *Capſule* obovate, ſix-celled.

Seeds very many.

ESSENTIAL CHARACTER.

Cal. inferior ſix-leaved; ſuperior entire. *Pet.* ſix. *Capſ.* ſix-celled, many-ſeeded.

SPECIES.

1. Blakea trinervia.
Lin. ſyſt. 442. *Reich.* 2. 415. *ſuppl.* 246. *Brown. jam.* 323. *t.* 35. *Swartz obſ.* 188.
Two-calycled; leaves nerveleſs, very finely ſtriated acroſs.

2. Blakea triplinervia.
Lin. ſyſt. 442. *Reich.* 2. 415. *ſuppl.* 246. *Aubl. guian.* 525. *t.* 210.
Uncalycled: leaves triple-nerved.

DESCRIPTIONS, &c.

1. Leaves oblong-ovate, petioled, quite entire, coriaceous, oppoſite; the three nerves underneath protuberant, blackiſh. Flowers oppoſite, ſolitary[h].

It grows generally to the height of ten or fourteen feet; but riſes always higher when it remains a climber, in which ſtate it continues ſometimes. It is certainly one of the moſt beautiful productions of America. It ſupports itſelf for a time by the help of ſome neighbouring ſhrub or tree, but it grows gradually more robuſt, and at length acquires a pretty moderate ſtem, which divides into a thouſand weakly declining branches, well ſupplied with beautiful roſy bloſſoms, on all ſides. Native of Jamaica, in cool moiſt ſhady places[i].

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[a] Thunberg. [b] Japon. p. 350.

[a] Linn. mant. [b] Hort. kew. [c] Linn. ſuppl. [d] Linn. mant. [e] Linn. ſuppl. [f] Ibid. [g] Hort. kew. [h] Linn. ſuppl.

2. This tree grows to the height of ſixteen feet. Leaves oppoſite, petioled, ſix or ſeven inches long, ribbed underneath and having a nerve running along the edge. Peduncles three-flowered. Flowers the ſize of the Pomgranate, diſtinct, without any lower perianth. Upper perianth three or five-cleft, coriaceous, permanent; the receptacle ſtreaked from the centre to the circumference. Petals about ſeven, ovate-oblong, inſerted into the calyx, ſeſſile, yellow without, white within, fleſhy. Filaments twelve or fifteen, ſubcylindric, inſerted into the calyx: anthers ovate, compreſſed, parallel, bent, flattiſh at the back, ſhorter than the corolla, truncate as it were, not concatenated, a continuation of the filaments, and not ſitting on them as is uſual. Style club-ſhaped, round, the length of the petals, bent down to the lower ſide of the corolla, out of the circle of the ſtamens: ſtigma capitate, ſtreaked. Fruit a roundiſh, many-celled berry, crowned with the calyx, the diſk concave, the ring notched, the centre umbilicate. Seeds minute. The fruit is of a yellow colour, and ſapid.

Native of Surinam, where it was obſerved by Dalberg[k]. Alſo of Guiana, where it flowers and fruits in may[l].

It has the habit of the genus, but the fruit is very different, as appears from the deſcription.

PROPAGATION AND CULTURE.

Theſe trees have not been yet cultivated in Europe. In the Weſt-Indies the firſt ſpecies thrives beſt on the ſides of ponds or rivulets; and when planted in gardens, where it makes a very elegant appearance, it ought to be ſupplied with ſome ſupport whilſt it continues young and weakly[m].

BLASIA. (*From Blaſio Biagi, an Italian monk.*)

Lin. gen. n. 1199. *Mich. gen. t.* 7.

Cryptogamia Algæ.

1. Blaſia puſilla.

Lin. ſpec. 1605. *Hudſ. angl.* 519. *Dill. muſc. t.* 31. *f.* 7. *Fl. dan. t.* 45.

The dwarf Blaſia grows on the ſides of ditches and brooks, and in moiſt ſhady places in a ſandy ſoil, in many parts of Europe. With us, on Hounſlow-heath; near Mancheſter and Halifax.]

BLATTARIA. See *Celſia*, *Lythrum*, *Pentapetes*, *Verbaſcum.*

[BLATTARIÆ AFFINIS. See *Lyſimachia.*

BLECHNUM.

Lin. gen. n. 1175. *Reich.* 1292. *Schreb.* 1627.

Cryptogamia Filices, or Ferns.

GENERIC CHARACTER.

Fructifications diſpoſed in two lines approaching to the rib of the frond, and parallel.

SPECIES.

1. Blechnum occidentale. *South American Blechnum.*
Lin. ſpec. 1534. *Reich.* 4. 398. *Pet. fil. t.* 3. *f.* 9. *Mor.* 3. *ſ.* 14. *t.* 2. *f.* 16. *Raii ſuppl.* 66. *Plum. fil.* 62. *amer.* 20. *t.* 29. *f.* β. *Sloan. jam.* 1. 87. *t.* 44. *f.* 2. *Brown. jam.* 91. 1.
Fronds pinnate; pinnas lanceolate oppoſite emarginate at the baſe.

2. Blechnum orientale. *Chineſe Blechnum.*
Lin. ſpec. 1535. *Reich.* 4. 398. *Forſt. fl. auſtral. n.* 422.
Fronds pinnate; pinnas linear alternate.

3. Blechnum auſtrale. *Cape Blechnum.*
Lin. ſyſt. 932. *Reich.* 4. 398. *mant.* 130.
Fronds pinnate; pinnas ſubſeſſile cordate-lanceolate quite entire, the loweſt oppoſite.

4. Blechnum virginicum. *Virginian Blechnum.*
Lin. ſyſt. 932. *Reich.* 4. 399. *mant.* 307.
Fronds pinnate; pinnas multifid.

5. Blechnum japonicum. *Japoneſe Blechnum.*
Lin. ſyſt. 932. *ſuppl.* 445. *Thunb. jap.* 333. *t.* 35.
Frond bipinnatifid; pinnules ovate, obtuſe, ſerrated.

6. Blechnum radicans. *Rooted-leaved Blechnum.*
Lin. ſyſt. 932. *Reich.* 4. 399. *mant.* 307. *Pluk. alm.* 151. *t.* 179. *f.* 2.
Fronds bipinnate; pinnas lanceolate crenulated; the lines of fructification interrupted.

DESCRIPTIONS, &c.

1. This riſes by a ſimple undivided ſtalk to the height of thirteen or eighteen inches. Leaves long and narrow[a]. Pinnas many, with two ſmall auricles at the baſe[b]. Native of the Weſt-India iſlands, and the continent of South America. Introduced here about 1777[c].

2. Frond three feet long. Stipe covered at the baſe before with large gray briſtles; the anterior ſide of it ſcored longitudinally with three grooves. Leaflets linear-lanceolate, ſeſſile, ſmooth, entire, ſtreaked at an acute angle, the length of the finger[d]. Found in China by Oſbeck: alſo in the Society iſles.

3. Stipes a foot long, green. Fronds quite entire, rugged about the edge: the barren ones have broader pinnas, a little truncate at the baſe: the fertile fronds have lanceolate pinnas, heart-ſhaped at the baſe. There are only two lines of fructification, longitudinal, and diſtant both from the edge and rib[e].

Native of the Cape of Good Hope. Introduced here in 1774, by Mr. Francis Maſſon[f].

4. This has the ſtature of male Fern (Polypodium Filix mas). Frond ſmooth. Pinnas lanceolate, ſeſſile, ſemipinnatifid, acute; diviſions obtuſe, quite entire[g].

Native of Virginia and Carolina. Cultivated in 1774, by John Fothergill, M. D.[h]

5. Stipe convex at the back and ſmooth; before flat and ſtreaked; the whole ſmooth, flexuoſe, erect. Pinnas oblong, acute, pinnatifid; the lower ſubpetioled, the upper ſeſſile. It differs from the *orientale*, in having an erect frond, and blunt pinnules. Native of Japan[i].

6. Frond rooting. Pinnas ſeſſile, ſlightly concurrent at the baſe, ſerrate with a very fine callus, acuminate, more veined beneath. The line of fructification is next the nerve, but interrupted as it were by long points[k].

Native of Virginia, and Madeira, where it was obſerved by Koenig. Introduced in 1779, by Mr. Francis Maſſon[l].

PROPAGATION AND CULTURE.

Theſe are Ferns from warm or hot countries; the fourth alone will abide the open air in England. The firſt muſt be kept in the bark-ſtove: the reſt require only the protection of the dry ſtove or conſervatory. They are increaſed by parting the roots.]

BLIGHTS.

There is nothing ſo deſtructive to a fruit garden as blights; nor is there any thing in the buſineſs of gardening which requires more of our ſerious attention, than the endeavouring to prevent or guard againſt this great enemy of gardens.

1. Blights are often cauſed by a continued dry eaſterly wind for ſeveral days together, without the intervention of ſhowers, or any morning dew, by which the perſpiration in the tender bloſſoms is ſtopped, ſo that in a ſhort time their colour is changed, and they wither and decay; and if it ſo happen, that there is a long continuance of the ſame weather, it equally affects the tender leaves; for their perſpiring matter is hereby thickened and rendered glutinous, cloſely adhering to the ſurface of the leaves, and becomes a proper nutriment to thoſe ſmall inſects, which are always found preying upon the leaves and tender branches of fruit-trees, whenever this blight happens; but it is not theſe inſects which are the firſt cauſe of blights, as hath been imagined by ſome; though it muſt be allowed, that whenever theſe inſects meet with ſuch a proper

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[i] Browne. [k] Linn. ſuppl. [l] Aublet. [m] Browne.

[a] Browne. [b] Sloane. [c] Hort. kew. [d] Linn. [e] Ibid. [f] Hort. kew. [g] Ibid. [h] Ibid. [i] Thunberg. [k] Linn. [l] Hort. kew.

food, they multiply exceedingly, and are inſtrumental in promoting the diſtemper; ſo that many times, when the ſeaſon proves favourable to them, and no proper care has been taken to prevent their miſchief, it is ſurpriſing to think how whole walls of trees have ſuffered by this infection.

The beſt remedy for this diſtemper, that I have yet known ſucceed, is, gently to waſh and ſprinkle over the trees, from time to time, with common water (that is, ſuch as has not had any thing ſteeped in it;) and the ſooner this is performed (whenever we apprehend danger,) the better; and if the young and tender ſhoots ſeem to be much infected, waſh them with a woollen cloth, ſo as to clear them, if poſſible, from all this glutinous matter, that their reſpiration and perſpiration may not be obſtructed; and if we place ſome broad flat pans or tubs of water near the trees, that the vapours exhaled from the water may be received by the trees, it will keep their tender parts in a ductile ſtate, and greatly help them; but whenever this operation of waſhing the trees is performed, it ſhould be early in the day, that the moiſture may be exhaled before the cold of the night comes on; eſpecially if the nights are froſty: nor ſhould it be done when the ſun ſhines very hot upon the wall, which would be ſubject to ſcorch up the tender bloſſoms.

2. Another cauſe of blights in the ſpring is, ſharp hoary froſts, which are often ſucceeded by hot ſunſhine in the day-time; this is the moſt ſudden and certain deſtroyer of fruits that is known; for the cold of the night ſtarves the tender parts of the bloſſoms, and the ſun riſing hot upon the walls before the moiſture is dried from the bloſſoms (which, being in ſmall globules, collects the rays of the ſun,) a ſcalding heat is thereby acquired, which ſcorches the tender flowers, and other parts of plants.

The method to prevent this miſchief is to cover the walls carefully with mats, canvas or reeds, faſtened ſo as not to be diſturbed with the wind, and ſuffered to remain on during the night, but taken off every day, when the weather permits. Although this method is thought by ſome to be of little ſervice; and may be really prejudicial, if the trees be too long covered, or incautiouſly expoſed; yet when this covering is conducted properly, it frequently proves a great protection to fruit-trees; and if the covering be fixed near the upper part of the wall, and be faſtened to pullies, ſo as to be drawn up or let down occaſionally, the operation will be eaſy, and the ſucceſs will ſufficiently repay the trouble.

3. But there is another ſort of blight that ſometimes happens later in the ſpring, namely in april or may, which is often very deſtructive to orchards, and open plantations, againſt which we know not any remedy. This is called a fire blaſt, which in a few hours has not only deſtroyed the fruit and leaves, but many times parts of trees, and ſometimes entire trees have been killed by it.

This is ſuppoſed to be effected by volumes of tranſparent flying vapours, which among the many forms they revolve into, may ſometimes approach ſo near to an hemiſphere or hemicylinder, either in their upper or lower ſurfaces, as thereby to make the beams of the ſun converge enough to ſcorch the plants or trees they fall upon, in proportion to the greater or leſs convergency of the ſun's rays.

Againſt this enemy to fruits, there is no guard to our trees, nor any remedy to cure it: but as this more frequently happens in cloſe plantations (where the ſtagnating vapours from the earth, and the plentiful perſpirations from the trees, are pent in for want of a free air to diſſipate and diſpel them; which are often obſerved, in ſtill weather, to aſcend in ſo plentiful a manner, as to be ſeen by the naked eye, but eſpecially with reflecting teleſcopes, ſo as to make a clear and diſtinct object become dim and tremulous,) than in thoſe that are planted at a greater diſtance, or are not ſurrounded with hills or woods; this directs us, in the firſt planting of kitchen-gardens and orchards, *&c.* that we ſhould allow a greater diſtance between the trees, and to make choice of clear healthy ſituations, that the air may freely paſs between the trees to diſſipate thoſe vapours before they are formed into ſuch volumes; whereby the circumambient air will be clear, and leſs ſubject to injuries; as alſo the fruits which are produced in this clearer air, will be much better taſted than thoſe that are ſurrounded with a thick rancid air; for as fruits are often in a reſpiring ſtate, they conſequently, by imbibing a part of theſe vapours, are rendered crude and ill-taſted, which is often the caſe with a great part of our fruits in England.

4. But that blights are frequently no more than an inward weakneſs or diſtemper in trees, will evidently appear, if we conſider how often it happens, that trees againſt the ſame wall, expoſed to the ſame aſpect, and equally enjoying the advantages of ſun and air, with every other circumſtance which might render them equally healthy, yet very often are obſerved to differ greatly in their ſtrength and vigour; and as often we obſerve the weak trees to be continually blighted, when the vigorous ones, in the ſame ſituation ſhall eſcape very well; which muſt, therefore, in a great meaſure, be aſcribed to their healthy conſtitution. This weakneſs, therefore in trees, muſt proceed either from a want of a ſufficient ſupply of nouriſhment to maintain them in perfect vigour, or from ſome ill qualities in the ſoil where they grow, or, perhaps, from ſome bad quality in the ſtock, or inbred diſtemper of the buds or cyons, which they had imbibed from their mother tree, or from miſmanagement in the pruning, *&c.* all which are productive of diſtempers in trees, and of which they are with difficulty cured. Now, if this is occaſioned by a weakneſs in the tree, we ſhould endeavour to trace out the true cauſe; firſt, whether it has been occaſioned by ill management in the pruning, which is too often the caſe: for how common is it to obſerve Peach-trees trained up to the full length of their branches every year, ſo as to be carried to the top of the wall in a few years after planting, when at the ſame time the ſhoots for bearing have been ſo weak, as ſcarcely to have ſtrength to produce their flowers: but this being the utmoſt of their vigour, the bloſſoms fall off, and, many times, the branches decay, either the greateſt part of their length, or quite down to the place where they were produced; and this, whenever it happens to be the caſe, is aſcribed to a blight.

Others there are, who ſuffer their trees to grow juſt as they are naturally diſpoſed, during the ſummer ſeaſon, without ſtopping ſhoots, or diſburdening their trees of luxuriant branches; by which means two, three, or four ſhoots ſhall exhauſt the greateſt part of the nouriſhment of the trees all the ſummer; which ſhoots, at the winter pruning, are entirely cut out; ſo that the ſtrength of the tree was employed only in nouriſhing uſeleſs branches, while the fruit branches are thereby rendered ſo weak, as not to be able to preſerve themſelves. The remedies to this evil has been explained in the article of PRUNING Peach-trees, *&c.* under AMYGDALUS.

But if the weakneſs of the tree proceeds from an inbred diſtemper, it is the better way to remove the tree at firſt: and after renewing your earth, plant a new one in its place.

Or if your ſoil be a hot burning gravel or ſand, in which your Peach-trees are planted, you will generally find this will be conſtantly their caſe, after their roots have got beyond the earth of your borders; for which reaſon, it is much more adviſeable to dig them up, and plant Grapes, Figs, Apricots, or any other ſort of fruit, which may do well in ſuch a ſoil, rather than to be annually diſappointed of your hopes; for, by a variety of experiments, it has been found, that Apricots attract and imbibe moiſture with a much greater force than Peaches and Nectarines; and conſequently, are better able to attract the nutritive particles from the earth, than the others, which require to be planted in a generous ſoil, capable of affording them a ſufficiency of nouriſhment without much difficulty: and it is in ſuch places we often ſee Peaches do wonders; eſpecially if aſſiſted by art; but as for the Vine and Fig-tree, they perſpire very ſlowly, and are very often in an imbibing ſtate (ſo that a great part of that fine racy flavour, with which their fruits abound when planted in a dry ſoil, is probably owing to thoſe refined aërial principles, which are collected when in a ſtate of reſpiration;) and therefore, as theſe trees delight not in drawing much watery nouriſhment from the earth, ſo they will much better ſucceed in ſuch a ſoil, than in one that is more generous: we ſhould therefore always endeavour to ſuit the particular ſorts of fruits to the nature of our ſoil, and not pretend to have all ſorts of fruit good in the ſame.

BLITUM. (Βλίτον or Βλῖτον, *from* βλητὸν, *abjiciendum; fit only to be thrown away.*)

Lin. gen. n. 14. *Schreb.* 18. *Juſſ.* 86.—Chenopodio-Morus. *Boerh.* Morocarpus. *Rupp.*
Engl. *Blite.* Fr. *Blête.*

Claſſ. I. 2. Monandria Digynia.
Nat. order of *Holoraceæ.*—*Atriplices* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* three-parted, ſpreading, permanent: *diviſions* ovate, equal, two more gaping than the other.

Cor. none.

Stam. *Filament* ſetaceous, longer than the calyx, within the middle diviſion, erect. *Anther* twin.

Pist. *Germ* ovate, acuminate. *Styles* two, erect, gaping, the length of the ſtamen. *Stigmas* ſimple.

Per. *Capſule* very thin (rather the cruſt of the ſeed) ovate, a little compreſſed, contained within the calyx now become a berry.

Seed ſingle, globular, compreſſed, the ſize of the capſule.

ESSENTIAL CHARACTER.

Cal. trifid. *Pet.* none. *Seed* one, with a berried calyx.

SPECIES.

1. Blitum capitatum. *Berry-headed Strawberry Blite.*
Lin. ſpec. 6. *Reich.* 11. *hort. upſ.* 3. *vir. cliff.* 1. *hort. cliff.* 28. 2. *Hall. helv. n.* 1571.
Morocarpus capitatus. *Scop. carn. n.* 3.
Atriplex. *Bauh. pin.* 119. *n.* 7. *prodr.* 58. *n.* 2. *Ger. emac.* 326. *n.* 8. *Park.* 748. *f.* 1. *Mor. hiſt.* 2. 606. *ſ.* 5. *t.* 32. *f.* 11. *Raii hiſt.* 197. *n.* 5, 7.
Heads ſpiked terminal.

2. Blitum virgatum. *Slender-branched Strawberry Blite.*
Lin. ſpec. 7. *Reich.* 12. *hort. upſ.* 3. *cliff.* 495. *Gmel. ſib.* 3. 16. *Mill. illuſtr. fig.*
Atriplex. *Bauh. pin.* 119. *n.* 6. *Mor. t.* 32. *f.* 10. *Raii hiſt.* 197. *n.* 6.
Heads ſcattered lateral.

3. Blitum tataricum.
Mill. dict. n. 3.
B. fragiferum maximum polyſpermum. *Amm. ruth.*
Leaves triangular ſharply toothed, heads ſimple lateral.

[4. Blitum chenopodioides.
Lin. ſyſt. Reich. 12. *mant.* 170.
Heads in whorls juiceleſs.]

DESCRIPTIONS, &c.

1. This is an annual plant, with leaves ſomewhat like thoſe of Spinach. The ſtalk riſes about two feet and a half high, in gardens. The leaves on the lower part of it are of the ſame ſhape with the root-leaves, only ſmaller. The upper part of it has flowers coming out in ſmall heads at every joint, and is terminated by a ſmall cluſter of the ſame. After the flowers are paſt, theſe little heads ſwell to the ſize of Wood Strawberries, and when ripe have the ſame appearance; being very ſucculent, and full of a purple juice, which ſtains the hands, [and was formerly much uſed in cookery, for colouring puddings, &c.

In the wild plant, the ſtem grows upright and only about a foot high. Leaves triangular, frequently cut half way into three lobes, with a few teeth, and ſtanding on long petioles. Heads of flowers ſeſſile; not only terminating, but along the whole upper part of the ſtem, from all the axils. Styles of the ſame colour with the calyx. Seed black when ripe [a].

It is commonly called Strawberry Blite, Strawberry Spinach, or Bloody Spinach; by ſome Berry-bearing Orach. Native of Switzerland, the Griſons, Auſtria, the Tyrol, Spain and Portugal. Cultivated by Parkinſon, in 1633.]

2. This ſeldom grows more than one foot high, with ſmaller leaves than the firſt, but of the ſame ſhape. The flowers are produced from the axils, almoſt the whole length of the ſtalk: They are ſmall, and collected into little heads, ſhaped like thoſe of the firſt, but ſmaller, and not ſo deeply coloured. Native of the South of France, Spain, Italy, and Tartary.

3. This riſes near three feet high; the leaves are triangular, ending in very acute points, as do alſo the indentures on the edges of the leaves. Flowers axillary in ſmall heads. Fruits of the ſame ſhape and colour as thoſe of the firſt, but ſmaller. This differs from that in the ſhape and indentures of the leaves; and in having leaves placed between the fruits the whole length of the ſtalk, which is not terminated by heads as the firſt, but has leaves above the heads.

The ſeeds were ſent to Mr. Miller by Dr. Ammann, profeſſor of Botany at Peterſburgh. [It is probably no more than a variety of the ſecond ſort.

4. This is a very low plant, much reſembling *Chenopodium.* Stem extremely ſimple, undivided, green. Leaves commonly oppoſite, lanceolate, ſubdeltoid, ſubpetioled, veinleſs, quite entire, having frequently an obſcure angle on each ſide. Whorls two or three, alſo terminating heads, conſtantly green, juiceleſs. Calyx three-leaved, concave, converging, green. Styles two. Seed roundiſh, compreſſed, purpliſh-brown. Native of Tartary; now in Sweden [b].

This is omitted in the Syſtema, and is probably only a variety. Indeed the four ſorts ſeem to be in reality but one.]

PROPAGATION AND CULTURE.

Theſe are all of them annual plants, which will drop their ſeeds if permitted, and the plants will come up in plenty the following ſpring: or if the ſeeds of either of the ſorts are ſown in march or april, upon a bed of common earth, in an open ſituation, the plants will come up in a month or five weeks after; and if they are to remain in the place where they are ſown, will require no other care but to keep them clear from weeds, and to thin them out, ſo as to leave them ſix or eight inches apart: and in july the plants will begin to ſhow their berries, when they will make a pretty appearance. But many people tranſplant them into the borders of the flower-garden, and others plant them in pots, to have them ready for removing to court-yards, or to place upon low walls, among other annual flowers, to adorn thoſe places.

When theſe plants are deſigned to be removed, they ſhould be tranſplanted before they ſhoot up their flower-ſtems, for they will not bear tranſplanting well afterward: and if they are planted in pots, they will require to be duly watered in dry weather, otherwiſe the plants will ſtint, and not grow to any ſize; and, as the flower-ſtems advance, they ſhould be ſupported by ſticks; for if they are not, the branches will fall to the ground, when the berries are grown pretty large and weighty.

[Blitum. See *Achyranthes, Amaranthus, Chenopodium,* and *Gunnera.*

Blood-flower. See *Hæmanthus.*

Bloodwort or Bloody Dock. See *Rumex.*

Blue-bottle. See *Centaurea.*

Bobartia. See *Moræa* and *Rudbeckia.*

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[a] Haller.

[b] Linn. mant.

BOCCONIA. (*From Paolo Boccone, M. D. a Sicilian, and Ciſtercian monk under the name of Sylvius; author of Icones & deſcriptiones rariorum plantarum Siciliæ, Melitæ, Galliæ & Italiæ; publiſhed by Moriſon at Oxford,* 1674. 4°.——*Muſeo di Piante rare. Ven.* 1697. 4°. &c.)

Lin. gen. n. 591. *Reich.* 643. *Schreb.* 803. *Juſſ.* 236. *Plum.* 25. *Jacqu. amer.* 146.

Claſſ. 11. 1. Dodecandria Monogynia.

Nat. order of *Rhoeadeæ. Papaveraceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* two-leaved, ovate, obtuſe, concave, caducous.

Cor. none.

Stam. *Filaments* twelve, (ſix *Willich.*) very ſhort. *Anthers* linear, very large, the length of the calyx.

Pist. *Germ* roundiſh, contracted both ways, large, pedicelled. *Style* one, bifid. *Stigmas* ſimple, reflex.

Per. ſubovate, attenuated to each end, compreſſed, one-celled, two-valved. *Valves* coriaceous, gaping from the baſe, the annular ſuture continuing; crowned with the ſtyle.

Seed one, globular, the baſe involved in pulp, fixed to the bottom of the capſule.

Obs. *The capſule approaches in ſhape to a ſilicle, and in the permanent ſuture terminated by the ſtyle.*

ESSENTIAL CHARACTER.

Cal. two-leaved. *Cor.* none. *Style* bifid. *Berry* dry, one-ſeeded.

SPECIES.

1. Bocconia fruteſcens. *Shrubby Bocconia, Tree Celandine,* or *Parrot-weed.*

Lin. ſpec. 634. *Reich.* 2. 412. *hort. cliff.* 202. *Jacqu. amer.* 146. *pict.* 72. *Willich obſ. n.* 35. *Swartz obſ.* 187. *Plum. gen.* 55. *Trew Ehret. t.* 4. *Brown. jam.* 244. *Sloan. jam.* 1. 196. *t.* 125. (Chelidonium.)

Cocoxihuitl. *Hern. mex.* 158.

DESCRIPTION, &c.

[This is a ſhrub riſing to the height of ten or twelve feet, with a ſtraight trunk, as large as a man's arm, covered with a white ſmooth bark, and branched towards the top[a]. The trunk is hollow, filled with a pith like the Elder, abounding in a thick yellow juice, like Argemone and Celandine. Branches brittle, unequal, marked with ſcars from the fallen leaves. Leaves from ſix or ſeven inches to a foot in length, oblong, ſinuate-laciniate, ſubſerrate, ſmooth, aſh-coloured-tomentoſe beneath: petioles roundiſh, pubeſcent. Racemes terminating, panicled, a foot long, diffuſed, nodding. Peduncles one-flowered. Bractes under the flowers, ſmall, lanceolate. Filaments ten, ſeldom more, longer than the leaflets of the calyx, hanging down, looſe: anthers longer than the filaments. Germ ovate, compreſſed, glaucous[b]. Jacquin ſays, that he has always reckoned from twelve to ſixteen ſtamens in the flower when cloſed.

Native of Mexico and the Weſt-India iſlands.

The juice is acrid, and is uſed in the Weſt-Indies to take off tetters and warts[c].

It was cultivated in 1739, by Mr. Miller[d].]

PROPAGATION AND CULTURE.

It is propagated by ſeeds, which ſhould be ſown in a pot filled with light freſh earth, early in the ſpring, and plunged into a hot-bed of tanners-bark, obſerving to water it now and then gently, otherwiſe the ſeeds will not grow. When the plants are come up, they ſhould be each tranſplanted into ſeparate ſmall pots filled with light ſandy earth, and plunged into the hot-bed again, obſerving to ſhade the glaſſes in the heat of the day, until the plants have taken root. They muſt be alſo gently watered, but it ſhould be done ſparingly while they are young; for their ſtems being very tender, and full of juice, will rot, if they receive too much moiſture; but after their ſtems are become woody, they will require it often, eſpecially in hot weather; when alſo they ſhould have a large ſhare of air; by raiſing the glaſſes of the hot-bed. The plants, in two months after tranſplanting, will have filled theſe ſmall pots with their roots; therefore they ſhould be ſhaken out of them, and planted into pots one ſize larger filled with light freſh earth, and plunged into the bark-ſtove, where they ſhould have a good ſhare of freſh air in warm weather. With this management I have raiſed theſe plants upwards of two feet high in one ſeaſon, which were alſo very ſtrong in their ſtems: they muſt be conſtantly kept in the ſtove, being too tender to thrive in this country in any other ſituation. This plant has flowered in the phyſic garden at Chelſea, and perfected ſeeds; but if it were not to flower, the ſingular beauty of the plant renders it worthy of a place in every curious collection of plants; and it ſeems the Indians were very fond of it, for Hernandez tells us, the Indian kings planted it in their gardens.—Cultivated 1739, by Mr. Miller.

BOEHMERIA. (*So named by Jacquin, in honour of George Rudolph Boehmer, profeſſor of anatomy and botany in the univerſity of Wittenberg.*)

Lin. gen. Schreb. n. 1421. *Jacqu. amer.* 246. *Swartz prodr.* 34. *Auct. D. D. Swartzio. Juſſ.* 403.

Claſſ. 21. 4. Monoecia Tetrandria.

Nat. order of *Scabridæ.—Urticæ* Juſſ.

GENERIC CHARACTER.

* *Male flowers* in the ſame plant with the females, either diſtinct or mixed.

Cal. *Perianth* one-leafed, four-parted to the baſe: *parts* lanceolate, acute, ſomewhat erect, coloured.

Cor. none.

Nectary none.

Stam. *Filaments* four, longer than the calyx, ſubulate, upright. *Anthers* roundiſh, ovate.

Pist. a rudiment, or none.

* *Female Flowers.*

Cal. none, but numerous crowded ovate-acuminate *ſcales.*

Cor. none.

Pist. *Germ* ovate, between each ſcale, compreſſed. *Style* filiform, erect, permanent. *Stigma* ſimple, pubeſcent.

Per. none.

Seed roundiſh, compreſſed, margined.

Obs. *This genus is as it were intermediate between Urtica and Parietaria.* Sw.

ESSENTIAL CHARACTER.

Male. *Cal.* four-parted. *Cor.* none.

Fem. *Cal.* none, but crowded ſcales: between each, *germ* obovate; *ſtyle* ſingle; *ſeed* ſingle compreſſed.

SPECIES.

1. Boehmeria caudata.

Swartz prodr. 34. *Brown. jam.* 338. *n.* 11. (Urtica.)

Leaves oppoſite ovate acute ſerrate, racemes very long pendulous, flowers dioecous, ſtem ſuffruticoſe.

2. Boehmeria littoralis.

Swartz prodr. 34.

Leaves oppoſite ovate-lanceolate ſerrate, flowers conglomerate axillary monoecous mixed, ſtem herbaceous four-cornered.]

3. Boehmeria cylindrica.

Swartz prodr. 34.

Urtica cylindrica. *Lin. ſpec.* 1396. *Reich.* 4. 131. *Mill. dict. n.* 6. *Gron. virg.* 187. 145. *Sloan. jam.* 1. 124. *t.* 82. *f.* 2. *Raii hiſt.* 3. 106.

Leaves oppoſite ovate acuminate ſerrate, racemes ſpiked axillary erect ſimple.

[4. Boehmeria ramiflora.

Swartz prodr. 34. *Jacqu. amer.* 246. *t.* 157.

Caturus ramiflora. *Linn. mant.* 127. *ſyſt. Reich.* 4. 329. *Brown. jam.* 337. *n.* 10. (Urtica.)

Leaves alternate broad-lanceolate acuminate ſerrate wrinkled, flowers aggregate axillary and lateral monoecous diſtinct, males three-ſtamened.

5. Boehmeria hirta.

Swartz prodr. 34.

Leaves alternate ovate acute ſerrate hirſute, flowers monoecous heaped axillary mixed.

DESCRIPTIONS, &c.

1. This is a ſhrub growing to the height of ten or twelve feet. The leaves are very broad. It is

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[a] Sloane. [b] Swartz. [c] Sloane. [d] Hort. kew.

frequent in the cooler mountains of Liguanea, in Jamaica[a]. Browne calls it the Nettle Tree.

2. Native of Hiſpaniola[b].]

3. This is an annual plant, with a lucid herbaceous ſtalk, dividing into ſeveral branches. The leaves have three longitudinal veins, and are placed on pretty long foot-ſtalks. Flowers in ſingle catkins, which are not divided.

[Linneus obſerves, that the ſtipules are ſubulate and caducous.

Native of North America and Jamaica.

4. This is a ſhrub eight feet in height, with long branches. Leaves ſickle-ſhaped, rugged, on very ſhort petioles, hanging forward, placed alternately towards the ends of the twigs, very different in ſize, being two inches and a foot in length on the ſame twig. Male flowers ſmall; yellowiſh, numerous, aggregate, on the leafleſs old branches. Females whitiſh on the younger twigs to the very ends[c].

Native of Jamaica, Martinico, and other iſlands of the Weſt-Indies.

5. Native of Jamaica[d].

BOERHAVIA. (*So named by Monſ. Vaillant, in honour of the famous Boerhaave, profeſſor of botany, chemiſtry and medicine, in the univerſity of Leyden.*)

Lin. gen. n. 9. *Schreb.* 13. *Vaill. ſerm. Juſſ.* 91.
Antaniſophyllum. *Vaill. act. gall.* 1722.
Claſſ. 1. 1. Monandria Monogynia.
Nat. order of *Aggregatæ. Nyctagenes* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* oblong, tubular and angular, placed beneath the corolla, with a contracted entire mouth, permanent.

COR. one-petalled, bell-ſhaped, upright, bluntly five-cleft, plaited, ſeated on the calyx.
Nectary fleſhy, ſubcylindric, with a toothletted mouth, ſurrounding the baſe of the germ.

STAM. *Filaments* one, two, or three, inſerted into the edge of the nectary, between the toothlets, capillary, at bottom (within the calyx) more ſlender, upright, about the length of the corolla. *Anthers* twin, globular.

PIST. *Germ* roundiſh, pedicelled: the pedicel ſurrounded by the nectary. *Style* filiform, twiſted, the height of the ſtamens. *Stigma* capitate.

PER. none. Calyx enlarged, cloſed, incruſts the ſeed.

SEED one, oblong, obtuſe, angular.

OBS. *It is nearly related to* Mirabilis. *The toothlets of the nectary are ſometimes triangular and very ſmall; ſometimes obſolete.*

ESSENTIAL CHARACTER.

Cal. none. *Cor.* one-petalled, bell-ſhaped, plaited. *Seed* one, naked, inferior. (Stam. one, two, or three.)

SPECIES.

1. Boerhavia erecta. *Upright Hogweed.*
Lin. ſpec. 4. *ſyſt.* 52. *Reich.* 6. *mant.* 315. *Gouan. hort.* 2. *Jacqu. hort.* 1. *t.* 5, 6. *Amm. herb.* 241. *Forſt. eſcul.* 41. *florul. n.* 4.
B. diandra. *Burm. ind.* 3. *t.* 1. *f.* 2.
B. ſolanifolia erecta glabra, flor. carneis laxius diſpoſitis. *Houſt. M. S. S. Mill. dict. n.* 1.
Stem erect ſmooth, flowers two-ſtamened.

2. Boerhavia diffuſa. *Spreading Hogweed.*
Lin. ſpec. 4. *ſyſt.* 52. *Reich.* 6. *fl. zeyl.* 10. *hort. upſ.* 2. *cliff.* 17.
Valerianella. *Sloan. cat. jam.* 91. *Raii ſuppl.* 244. *Herm. par. t.* 237.
Talu-dama. *Rheed. mal.* 7. 105. *t.* 56.
Stem ſmooth and even, diffuſed; leaves ovate.

3. Boerhavia hirſuta.
Lin. ſyſt. 52. *Reich.* 7. *mant.* 170. *Jacqu. hort. t.* 7.
B. diandra. *Lin. ſpec.* 4.
B. coccinea. *Mill. dict. n.* 4.——ſol. procumbens & hirſuta, flor. coccineis compactis. *Houſt. M. S. S. id.*
Stem diffuſed pubeſcent, leaves ovate repand.

4. Boerhavia ſcandens. *Climbing Hogweed.*
Lin. ſyſt. 52. *ſpec.* 4. *Reich.* 7. *mant.* 315. *Gouan. hort.* 2. *Jacqu. hort.* 1. *t.* 4. *Forſk. ægypt.* 3. *n.* 5. *Brown. jam.* 123.
Solanum bacciferum, &c. *Pluk. alm.* 349. *t.* 226. *f.* 7.
Valerianella. *Sloan. jam.* 1. 210. *Raii ſuppl.* 244. *Pluk. alm.* 381. *t.* 113. *f.* 7.
Antaniſophyllum ſcandens, alſines majoris folio. *Vaill. act.* 1722. *p.* 190.
B. alſines fol. ſcandens, flor. pallide luteis majoribus in umbellæ modum diſpoſitis, ſemine aſpero. *Houſt. M. S. S. Mill. dict. n.* 3.
Stem erect, flowers two-ſtamened, leaves cordate acute.

[5. Boerhavia repens.
Lin. ſpec. 5. *Reich.* 8. *Vaill. ſex.* 53.
β. *Vaill. ſex.* 55.
Stem creeping.

6. Boerhavia anguſtifolia.
Lin. ſyſt. 52. *Reich.* 8.
Leaves linear, acute.

7. Boerhavia tetrandra.
Forſt. florul. n. 5. *fig. M. S. t.* 2.
Stem creeping; flowers four-ſtamened.]

DESCRIPTIONS, *&c.*

1. Stem two feet high. At each joint a pair of ovate pointed leaves, whitiſh underneath, on foot-ſtalks an inch in length. At theſe joints, which are far aſunder, come out alſo ſmall ſide branches, growing erect; they, as well as the ſtem, are terminated by looſe panicles of fleſh-coloured flowers, ſucceeded by oblong glutinous ſeeds.

[Stem with ſcattered atoms or very ſhort hairs. Leaves waved, rugged about the edge. Corollas cylindric, white; ſegments acute, with toothlets interpoſed. Stamens two, (Fabricius ſays three)[a].]

This was diſcovered by Dr. Houſtoun, at La Vera Cruz, in 1731. [Alſo in the Society iſles.]

2. This ſends out many diffuſed ſtalks, a foot and half or two feet long; with ſmall roundiſh leaves at each joint. The flowers grow very ſcatteringly, upon long branching peduncles from the axils and at the ends of the branches; they are of a pale red colour, and are ſucceeded by ſeeds like thoſe of the foregoing ſort. [Linneus adds, that the leaves are whitiſh underneath; that the flowers are purple, have one ſtamen only, and a twin anther. Native of both Indies. Mr. Miller received the ſeeds from Jamaica by Dr. Houſtoun: but it had been cultivated in the royal garden at Hampton Court in 1690[b].]

3. This ſends out many trailing hairy ſtalks, which divide into ſmaller branches. At the axils come out naked peduncles, ſuſtaining ſmall cloſe heads of ſcarlet flowers, which are very fugacious, ſeldom ſtanding more than half a day before their petals drop: they are ſucceeded by ſhort oblong ſeeds.

[According to Linneus, the ſtems are a foot high; and the flowers blood-red, with two ſtamens. It is diſtinct however from the firſt ſort. Jacquin affirms, that he has always found one ſtamen only.]

This alſo was ſent to Mr. Miller by Dr. Houſtoun, from Jamaica, where it grows naturally.

4. This ſends out ſeveral ſtalks from the root, which divide into many branches, and trail over whatever plants grow near them, riſing to the height of five or ſix feet. Leaves by pairs at each joint, on long foot-ſtalks; of the colour and conſiſtence of thoſe of the greater Chickweed. The flowers grow in looſe umbels at the extremities of the branches; they are yellow, and are ſucceeded by ſmall, oblong, viſcous ſeeds. [The ſtem is very ſtiff and ſmooth, with alternate branches: the leaves are ſmooth: the umbels ſix-flowered and green: the involucres five-leaved[c]. Native of Jamaica, eſpecially about Spaniſh Town. Cultivated in 1691, in the royal garden at Hampton Court[d].

5. Native of Nubia, between Mocho and Tangos[e].

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[a] Browne. [b] Swartz. [c] Jacquin. [d] Swartz.

[a] Linn. mant. [b] Hort. kew. [c] Linn. [d] Hort. kew. [e] Linn. ſpec.

6. The native place not known.

7. Native of the Society iſles[f]. Found in the iſland of Huaheine, may 18th, 1774[g].]

PROPAGATION AND CULTURE.

The firſt, ſecond, and third ſorts are annual plants, which decay in autumn, but the fourth ſort is perennial: they are all tender plants, and will not thrive in the open air in England; they are propagated by ſeeds, which muſt be ſown on a hot-bed in the ſpring, and when the plants are fit to be removed, they ſhould be each planted in a ſmall pot and plunged into the hot-bed, and treated as other tender exotic plants. When they are grown too tall to remain under a common frame, a plant or two of each ſort ſhould be placed in the ſtove; the others may be turned out of the pots, and planted in a warm border, where, if the ſeaſon proves warm, they will perfect their ſeeds; theſe however are ſubject to fail in cold ſeaſons, but thoſe in the ſtove will always ripen their ſeeds in autumn; the fourth ſort may be preſerved in a warm ſtove two or three years.

Bog-Rush. See *Schoenus.*

Bohadschia. See *Peltaria.*

[BOLETUS. (Βωλιτης, Gr. *From its globular form.*)

Characterized by Linneus as a horizontal Fungus, porous or punched with lobes underneath.

In the Syſtema Naturæ (edit. 14.) only twenty-one ſpecies are recited; eleven of which are paraſitical and ſtemleſs; the reſt are ſtipitated. Mr. Hudſon has thirteen ſpecies, five of which are not in Linneus, but chiefly from Schæffer, who has a vaſt many other ſpecies not noticed by Linneus.

Britiſh ſpecies are figured by Bolton from t. 74 to 87. and in the Appendix, t. 138. and t. 159 to 170.

From B. igniarius, is prepared the *Amadou*, commonly uſed on the continent for tinder, to receive the ſpark ſtruck from the ſteel by the flint; and the Agaric for ſtopping hæmorrhages in amputations, *&c.* For the manner of preparing it, ſee Bomare dict. art. *Agaric de Chene.*]

[BOLTONIA. (*So named in honour of Mr. James Bolton of Halifax, author of the hiſtory of Britiſh Ferns, and of Funguſſes growing about Halifax.*)

Lin. gen. Schreb. n. 1309. *L'Herit. ſert. p.* 27.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of *Compoſitæ Oppoſitifoliæ.*

GENERIC CHARACTER.

Cal. *Common* flattiſh, imbricate with ſomewhat equal, linear, ſharp *ſcales.*

Cor. *Compound,* radiate; *corollets* hermaphrodite, tubular, numerous, in the hemiſpheric diſk. *Females* ſeveral in the ray.

Proper of the hermaphrodite funnel-form, five-cleft. *Female* linear, entire.

Stam. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

Pist. in the hermaphrodites: *Germ* oblong. *Style* filiform; *ſtigmas* two.

In the females: *Germ* oblong. *Style* filiform, length nearly of the hermaphrodite. *Stigmas* two, revolute.

Per. none. *Calyx* unchanged.

Seed, in the hermaphrodites ſolitary, compreſſed, crowned with a five-toothed margin, (two-horned. *L'Herit.*) in the *females* extremely ſimilar.

Rec. naked, hemiſpheric.

ESSENTIAL CHARACTER.

Cal. common ſubimbricate, with linear ſcales. *Cor.* radiate. *Germs* compreſſed, vertical. *Down* obſcurely toothed, two-horned. *Recept.* honeycombed.

SPECIES.

1. Boltonia aſteroides. *Starwort-flowered Boltonia.*
L'Herit. ſert. angl. t. 36.
Matricaria aſteroides. *Lin. mant.* 116.
Leaves quite entire.

2. Boltonia glaſtifolia. *Glaucous-leaved Boltonia.*
L'Herit. ſert. angl. t. 35.
Lower leaves ſerrate.

DESCRIPTIONS, *&c.*

1. The plant is that of an Aſter with the leaves of *Lactuca Scariola.* Stem upright, two feet high, ſtiff, even, ſcarcely angular, ſlightly ſtreaked. Leaves alternate, remote, ſeſſile, lanceolate, even, bent down at the baſe, rugged about the edge, vertical in the diſk. Panicle thin, ſtiffiſh, with one-flowered peduncles. Diſk of the corolla hemiſpherical, yellow: ray linear, entire, pale fleſh-colour[a].

2. Both theſe are natives of America, flower late in the autumn, and were cultivated by Mr. Miller in 1758[b].]

BOMBAX.

Engl. *Silk-Cotton.* Fr. *Fromager.*

Lin. gen. n. 835. *Reich.* 901. *Schreb.* 1127. *Jacqu. amer.* 191. *Juſſ.* 275. Xylon. *Lin. gen. edit. prior.* Ceiba. *Plum.* 32.

Claſſ. 16. 5. Monadelphia Polyandria.

Nat. order of *Columniferæ.—Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular-campanulate, permanent: *mouth* three or five-cleft, obtuſe, erect.

Cor. five-parted, ſpreading; ſegments oblong, concave.

Stam. *Filaments* five or many, ſubulate, the length of the corolla, connate at the baſe. *Anthers* oblong, bent in, incumbent.

Pist. *Germ* roundiſh. *Style* filiform, the length of the ſtamens. *Stigma* capitate, five-toothed.

Per. *Capſule* large, turbinate-oblong, five-celled, five-valved; valves woody.

Seeds very many, round, woolly. *Recept.* columnar, five-cornered, forming the partitions.

Obs. B. pentandrum *has a pentapetalous corolla; and five ſtamens.* Ceiba & heptaphyllum *have a funnel-form monopetalous five-cleft corolla and many ſtamens.*

ESSENTIAL CHARACTER.

Cal. five-cleft. *Stam.* five or more. *Capſ.* woody, five-celled, five-valved. *Seeds* woolly. *Recept.* five-cornered.

SPECIES.

1. Bombax pentandrum.
Lin. ſpec. 959. *ſyſt.* 620. *Reich.* 3. 332. *hort. upſ.* 148. *Jacqu. amer.* 191. *t.* 176. *f.* 70. *pict.* 94. *t.* 182. *Brown. jam.* 277.
Xylon caule inermi. *Lin. hort. cliff.* 175. *fl. zeyl. n.* 220.
Goſſipium. *Bauh. pin.* 430. *n.* 4. *Raii hiſt.* 1899. *n.* 6. *Herm. lugdb.* 294.
Lanifera arbor peregrina. *Bauh. hiſt.* 1. 347.
Eriophoros javana. *Rumph. amb.* 1. 194. *t.* 80.
Panja. *Rheed. mal.* 3. 59. *t.* 49, 50, 51.
Flowers five-ſtamened; leaves in ſevens.

2. Bombax Ceiba.
Lin. ſpec. 959. *ſyſt.* 621. *Reich.* 3. 333. *Jacqu. amer.* 192. *t.* 176. *f.* 71. *pict.* 94. *t.* 261. *f.* 54.
X. caule aculeato. *Lin. hort. cliff.* 75. *upſ.* 148. *fl. zeyl. n.* 221.
Ceiba viticis fol. caudice aculeato. *Plum. gen.* 42.
Goſſipium. *Bauh. pin.* 430. *n.* 3. *Sloan. jam.* 2. 72.
Flowers many-ſtamened; leaves quinate.

[3. Bombax heptaphyllum.
Lin. ſpec. 960. *ſyſt.* 621. *Reich.* 3. 333. *Jacqu. amer.* 193. 3. *pict.* 95. *t.* 261. *f.* 55.
Goſſ. ſ. Xylon, &c. *Pluk. alm.* 172. *t.* 188. *f.* 4.
Moul-elavou. *Rheed. mal.* 3. 61. *t.* 52. *Raii hiſt.* 1899.
Flowers many-ſtamened; leaves ſevenfold.]

4. Bombax goſſypinum.
Lin. ſyſt. 621. *Reich.* 3. 333. *fl. zeyl. n.* 222. (Xylon.) *Mill. dict. n.* 3?
Ketmia. *Burm. zeyl.* 136. 1.
B. Conga. *Burm. ind.* 145.
Goſſipium. *Pluk. alm.* 172. *t.* 188. *f.* 2?
Leaves five-lobed acuminate tomentoſe beneath.

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[f] Forſter.

[g] Id. fig. M. S.

[a] Linn. mant.

[b] Hort. kew.

DESCRIPTIONS, *&c.*

1. This has ſmooth ſtems, which in the young plants are of a bright green, but after a few years they are covered with a gray or aſh-coloured bark, which turns to a brown as the trees grow older: they ſeldom put out any ſide branches till they arrive at a conſiderable height, unleſs their leading ſhoot be broken or injured. The branches towards their top have leaves compoſed of five, ſeven or nine ſmooth, lanceolate leaflets, joined to one centre at their baſe, where they adhere to the long footſtalk. Theſe fall away every year, ſo that for ſome time the trees are naked; and before the new leaves come out, the flower-buds appear at the ends of the branches, and ſoon after the flowers expand: they are compoſed of five oblong purple petals, with a great number of ſtamens in the centre; when theſe fall off, they are ſucceeded by oval fruit larger than a ſwan's egg, having a thick, woody cover, which, when ripe, opens in five parts, and is full of a ſhort dark cotton, incloſing many roundiſh ſeeds as large as ſmall peas.

[Linneus affirms, that the ſtem when young is prickly, but not ſo when it is grown up; that the leaves are ſometimes quite entire, ſometimes ſerrate; and that the flowers are very numerous.

It was cultivated in 1739, by Mr. Miller[a].]

2. The trunk of the ſecond ſort is cloſely armed with ſhort, ſtrong ſpines. This has been ſuppoſed, by many writers, to be the ſame with the firſt ſort; but from many year's experience I can affirm, that the ſeeds which have been ſent me of the two ſorts have always produced different plants, and have continued the ſame at more than twenty years growth.

They arrive at a great ſize in both Indies, being one of the talleſt trees in thoſe countries; but the wood is very light, and not much valued, except for canoes. Their trunks are ſo large, as when hollowed, to make very large ones. In Columbus's firſt voyage it was related, that a canoe was ſeen at the iſland of Cuba, made of one of theſe trees, which was ninety-five palms long, of a proportional width, and capable of containing one hundred and fifty men; and ſome modern writers have affirmed, that there are trees of the Silk-Cotton now growing in the Weſt-Indies, ſo large as not to be fathomed by ſixteen men, and ſo tall that an arrow cannot be ſhot to their top.

[The canoes now made in the Weſt-Indies from this tree frequently carry from fifteen to twenty hogſheads of ſugar, from ſix to twelve hundred weight each; the average about twenty-five tons burthen. When ſawn into boards, and then well ſaturated with lime-water, the wood bears expoſure to the weather many years; it is alſo formed into laths for roofs, curing-pots and hogſhead heading.

When the tree decays, it becomes a neſt for the Macaca beetle, the caterpillar of which, gutted and fried, is eſteemed by many perſons one of the greateſt delicacies[b].]

The down which is incloſed in the ſeed-veſſels is ſeldom uſed, except by the poorer inhabitants to ſtuff pillows or chairs; and it is generally thought unwholſome to lie upon.

[The ſecond ſort was cultivated in 1692, in the royal garden at Hampton Court[c].

3. This grows fifty feet high before it branches, and is eighteen feet in thickneſs. The bark has ſmooth, ſhining, ſharp prickles, which fall off on the body, but remain on the branches, ſo as to prevent monkies from climbing the tree. It grows every where in Malabar, bearing fruit at ſixteen years growth, in february and march, till it is two years of age and upwards[d]. It is alſo a native of America.

Linneus, in his earlier works, made Rheede's plant a ſynonym of his ſecond ſpecies, but afterwards referred it to this, although he affirms the trunk to be unarmed; whereas it is ſaid by Rheede to be armed.

4. This reſembles *Goſſipium religioſum* ſo much, that Plukenet's figure may ſerve for both; it differs however, in the leaves being tomentoſe underneath, and the ſtamens diſtinct. The leaves are large and heart-ſhaped, with ovate lobes, that are quite entire, the hinder ones ſmalleſt. The corolla is very large, with emarginate petals. Stamens many, diſtinct, much ſhorter than the corolla, with oblong, upright anthers. Style filiform[e]. Native of the Eaſt-Indies.

Whether the third ſpecies of Miller (Bombax villoſum) be the ſame with this, I am uncertain. He ſays, that it] was ſent him from the Spaniſh Weſt-Indies; and that the plants which have been raiſed here, have ſoft herbaceous ſtalks very full of joints, and do not appear as if they would become woody, for the plants of ſeveral years growth have ſoft pithy ſtems. The leaves come out on long hairy foot-ſtalks, towards the top of the plants; they have the appearance of thoſe of the Mallow-tree, but are larger, and of a thicker conſiſtence, are covered on their under-ſide with a ſhort, brown, hairy down, and are cut on their edges into five angles. Theſe plants have not as yet flowered in England, but by the pods and ſeeds they appear evidently to be of this genus. The down incloſed in the pods is of a fine purple colour, and the inhabitants ſpin it, and work it into garments, which they wear without dyeing.

Mr. Miller alſo ſays, that he received a few pods of another ſort from Panama, which were not ſo large as thoſe of the common ſort, but were rounder. The down or cotton of theſe was red, but the plants raiſed from the ſeeds were ſo like the foregoing as not to be diſtinguiſhed from them. He alſo received ſeeds from Siam, which produced plants of the ſame ſort; ſo that theſe trees are probably common to many of the hot countries.

A fine plant of another ſort was alſo raiſed many years ſince, in the garden of the late Duke of Richmond at Goodwood, from ſeeds that came from the Eaſt-Indies. The ſtem of this was very ſtraight and ſmooth; the leaves were produced round the top upon very long foot-ſtalks, each being compoſed of ſeven or nine long, narrow, ſilky, ſmall leaflets, joined at their baſe to the foot-ſtalk, in the ſame manner as the other ſorts; but they were much longer, and reflex.

PROPAGATION AND CULTURE.

Silk-cotton is propagated by ſeeds, which muſt be ſown on a hot-bed in the ſpring; if the ſeeds are good, the plants will appear in a month, and will be ſtrong enough to tranſplant in a month after, when they ſhould be each planted in a ſmall pot, filled with freſh loamy earth, and plunged into a moderate hot-bed of tanners bark, being careful to ſhade them from the ſun till they have taken freſh root; after which they ſhould have a large ſhare of air admitted to them when the weather is warm, to prevent their being drawn up weak; they muſt alſo be frequently refreſhed with water, which muſt not be given in large quantities. In this bed they may remain till autumn (provided there be room for the plants under the glaſſes) but if the heat of the bed decline, the tan ſhould be ſtirred up, and freſh added to it; and if the plants have filled the pots with their roots, they ſhould be ſhifted into pots a little larger; but there muſt be care taken not to over-pot them, for nothing is more injurious to theſe plants, than to be put into large pots, in which they will never thrive. In the autumn they muſt be removed into the bark-ſtove, where they muſt conſtantly remain, being too tender to thrive in this country in any other ſituation. In winter they muſt have but little wet, eſpecially if they caſt their leaves; but in the ſummer they ſhould be frequently refreſhed with water, and in warm weather muſt have plenty of freſh air admitted to them.

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[a] Hort. kew.

[b] Long's Jamaica.

[c] Hort. kew.

[d] Hort. malab.

[e] Linneus.

With this management the plants will make great progreſs, and in a few years will reach the glaſſes on the top of the ſtove.

The plants make an agreeable variety in a large ſtove where they have room to grow, their leaves having a different appearance from moſt other plants; but as they are ſeveral years old before they flower in the countries where they grow naturally, there is little hopes of their producing any in England.

[Bon. See *Coffea*.

Bona. See *Vicia Faba*.

Bona Nox. See *Smilax*.

Bonarota. See *Pædcrota*.]

Bonduc. See *Guilandina*.

[Bonduccella. See *Guilandina*.

BONNETIA. (*So named in honour of Monſ. Charles Bonnet of Geneva.*)

Lin. gen. Schreb. n. 915. Mahuria. *Aubl.* 222. *Juſſ.* 434.

Claſſ. 13. 1. Polyandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted; *parts* concave acute: two larger.

Cor. *Petals* five, ovate, ſomewhat obtuſe, concave, longer than the calyx, of which the three ſmaller are upright: the two larger declinate, gaping.

Stam. *Filaments* very many, (170) inſerted into the receptacle, ſhorter than the corolla, dilated at the tip. *Anthers* oblong tetragonal.

Pist. *Germ* oblong, ſuperior. *Style* length of the germ, incurved. *Stigma* three-lobed.

Per. *Capſule* oblong, three-celled, three-valved: *valves* ſharp-pointed.

Seeds very many, very ſmall, oblong, involved in a coloured membrane, affixed to the three-ſided *receptacle*.

ESSENTIAL CHARACTER.

Cal. five-parted, two parts larger. *Cor.* five-petalled, three ſmaller upright, two larger declinate. *Capſ.* oblong, three-celled, three-valved, many-ſeeded.

SPECIES.

1. Bonnetia Mahuria.
Aubl. guian. 222.

DESCRIPTION, *&c.*

Bonnetia, of which at preſent only one ſpecies is known, grows in marſhy places in Cayenne and Guiana. It is a tree about fifteen feet high, branching chiefly towards the top: the branches are upright in their growth. The leaves are alternate, ſmooth, ovate, and entire. The flowers are borne on terminal ſpikes, and are of a purple colour.

In its native climate it flowers in auguſt, and ripens its ſeeds in october.]

BONTIA. (*So named from Jacobus Bontius, a phyſician at Batavia. He publiſhed, de Medicina Indorum,* 1642. 12°. 1646. 4°. *and printed with Piſo,* 1658. *fol. alſo in Engliſh,* 1679. 8°.)

Lin. gen. n. 791. *Reich.* 854. *Schreb.* 1062. *Plum. gen. t.* 23. *Dill. elth.* 49. *t.* 57.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted: *leaflets* blunt, upright, permanent.

Cor. one-petalled, ringent: *tube* long, cylindric; *border* gaping: *upper lip* upright, emarginate; *lower* revolute, ſemitrifid, the ſize of the upper.

Stam. *Filaments* four, ſubulate, bending to the upper lip, the length of the corolla: two higher. *Anthers* ſimple.

Pist. *Germ* ovate. *Style* ſimple; ſituation and length of the ſtamens. *Stigma* bifid, blunt.

Per. *Drupe* ovate, with the top oblique.

Seed. *Nut* oval, one-celled, germinating.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* two-lipped: lower lip three-parted, revolute. *Drupe* ovate, one-ſeeded, with the end oblique.

SPECIES.

1. Bontia daphnoides. *Barbadoes Wild Olive.*
Lin. ſpec. 890. *ſyſt.* 579. *Reich.* 3. 200. *Jacqu. amer. pict.* 88. *t.* 161. *f.* 57. *Plum. gen.* 32. *Dill. elth. t.* 49. *f.* 57. *Pluk. phyt.* 269. *t.* 209. *f.* 3. *Raii dendr.* 47. *n.* 6. *Labat. itin.* 3. 84. (Olea.)

Leaves alternate, peduncles one-flowered.

DESCRIPTION, *&c.*

[Leaves thickiſh, rather ſtiff, very ſmooth, green on both ſides; the lower ones very ſlightly toothed. Corolla yellowiſh, with a line of duſky purple along the middle of the lower lip.

Birds grow fat upon the fruits, but unleſs the entrails are taken out as ſoon as the bird is killed, it becomes too bitter to be eaten. It flowered in Dr. Sherard's garden at Eltham, in june 1723[a]: but it had been introduced into this country earlier, namely in 1690, by Mr. Bentick[b].]

PROPAGATION AND CULTURE.

It is greatly cultivated in the gardens at Barbadoes, for making hedges, than which there is not a more proper plant for thoſe hot countries, it being an Evergreen, and of quick growth. I have been informed, that from cuttings (planted in the rainy ſeaſon, when they have immediately taken root) there has been a complete hedge four or five feet high, in eighteen months. And as this will very well bear cutting, it is formed into a very cloſe thick hedge, which makes a beautiful appearance. In Europe it may be raiſed from ſeeds, which ſhould be ſown on a hot-bed early in the ſpring (that the plants may acquire ſtrength before winter.) When the plants are come up, they muſt be tranſplanted out each into a ſeparate halfpenny pot filled with light freſh earth, and plunged into a moderate hot-bed of tanners bark, obſerving to water and ſhade them until they have taken root; after which they muſt have a large ſhare of air in warm weather, and be often refreſhed with water. In winter they muſt be placed in the ſtove, where they ſhould have a moderate degree of warmth, and but little water during that ſeaſon. In ſummer they muſt have a great ſhare of air, but will not do well if expoſed abroad, eſpecially in cold ſummers; ſo that they ſhould remain in the ſtove among plants which require a great ſhare of air, which may be admitted by opening the glaſſes in very hot weather. With this management, theſe plants will produce flowers and fruit in three or four years from ſeed. They may alſo be propagated by cuttings, which ſhould be planted in the ſummer. They muſt be put into pots filled with light rich earth, and plunged into a moderate hot-bed, obſerving to water and ſhade them until they have taken root; after which they muſt be treated as hath been directed for the ſeedling plants. Theſe plants being evergreen, and growing in a pyramidal form, make a pretty variety in the ſtove amongſt other exotic plants.

[Bontia germinans. See *Avicennia*.

Bontia luzonica. See *Epidendrum*.]

Bonus Henricus. See *Chenopodium*.

[Bootia. See *Saponaria officinalis*.

Borage & Boraginoides. See *Borago*.]

BORAGO. (*q. Corago, from cor & ago; on account of its ſuppoſed cordial qualities.*)

Lin. gen. n. 188. *Reich.* 200. *Schreb.* 248. *Tournef.* 53. Boraginoides. *Boerh.* 1. 88. Cynogloſſoides. *Iſnard. act. gall.* 1718. *t.* 10.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aſperifoliæ*.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, permanent.

Cor. monopetalous, rotate, length of the calyx: *tube* ſhorter than the calyx: *border* five-parted, rotate, flat: *throat* crowned with five emarginate, obtuſe prominencies.

Stam. *Filaments* five, ſubulate, converging. *Anthers* oblong, fixed to the inſide of the filaments in the middle, converging.

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[a] Dillenius. [b] Hort. kew.

Pist. *Germs* four. *Style* filiform, longer than the ſtamens. *Stigma* ſimple.

Per. none. *Calyx* larger, inflated.

Seeds four roundiſh, wrinkled, keeled outwards at the top, globular at the baſe, inſerted longitudinally into a hollowed receptacle.

Obs. *The diviſions of the calyx differ in their form, and the tube of the corolla differs in ſize.*

ESSENTIAL CHARACTER.

Cor. rotated, throat cloſed with rays.

SPECIES.

1. Borago officinalis. *Common Borage.*
Lin. ſpec. 197. *ſyſt.* 188. *Reich.* 397. *hort. upſ.* 34. *cliff.* 44. *mat. med.* 57. *Hudſ. angl.* 82. *With.* 198. *Sowerby engl. bot. t.* 36. *Relh. cantabr. n.* 152. *Hall. helv. n.* 607. *Plenck, ic. t.* 77. *Blackw. t.* 36. *Sabb. hort.* 2. *t.* 20, 21. *Mor. hiſt.* 437. *ſ.* 11. *t.* 26. *f.* 1. *Ger.* 653. 1, 2. *emac.* 797. 1, 2. *Bauh. hiſt.* 3. 574. *Raii hiſt.* 493.
All the leaves alternate, calyxes ſpreading.

2. Borago indica. *Indian Borage.*
Lin. ſpec. 197. *Reich.* 397. *hort. cliff.* 45. *fl. zeyl. n.* 71. *Murr. prodr.* 142.
Cynogloſſoides. *Iſn. act. gall.* 1718. 325. *t.* 10.
Anchuſæ degeneris facie, &c. *Pluk. alm.* 30. *t.* 76. *f.* 3. bad.
Leaves of the ramifications oppoſite, ſtem-claſping; peduncles one-flowered.

3. Borago africana. *African Borage.*
Lin. ſpec. 197. *ſyſt.* 188. *Reich.* 398. *hort. cliff.* 55. *Murr. prodr.* 142.
Cynogloſſoides. *Iſn. act. t.* 11.
Cynogloſſum, &c. æthiopicum. *Pluk. alm.* 34.
Leaves oppoſite petiolate ovate, peduncles many-flowered.

[4. Borago zeylanica. *Ceylon Borage.*
Lin. ſyſt. 188. *Reich.* 398. *mant.* 202. *Burm. ind.* 41. *t.* 14. *f.* 2.
Anchuſa bugloſſoides. *Pluk. mant.* 13. *t.* 335. *f.* 4.
Branch-leaves alternate ſeſſile, peduncles one-flowered, calyxes earleſs.]

5. Borago orientalis. *Oriental Borage.*
Lin. ſpec. 197. *ſyſt.* 188. *Reich.* 399. *hort. cliff.* 45. *Sabb. hort.* 2. *t.* 22.
B. conſtant. fl. reflexo cœruleo, calyce veſicario. *Tourn. cor.* 6. *itin. t.* 523. *Buxb. cent.* 5. 16. *t.* 30. *Mill. fig. t.* 68.
Calyxes ſhorter than the tube of the corolla, leaves cordate.

DESCRIPTIONS, &c.

1. [The whole plant of *Common Borage* is rough with white ſtiff prickly hairs[a]. Peduncles terminating, many-flowered. Calyx divided to the very baſe, as is alſo the corolla, but it falls off in one piece; tube very ſhort and white; ſegments acute. Filaments very ſhort, white, ſpringing from the claws of the petal, with a ſharp blue proceſs, where the anthers are inſerted; theſe are dark purple or blackiſh, and form a kind of *umbo* in the middle of the flower, round the ſtyle. The common colour of the corolla is blue; but it varies to fleſh-coloured, and white. It is a biennial plant; flowering from may to auguſt. It came originally from Aleppo, but is now naturalized in moſt parts of Europe. We have it in England on dunghills and heaps of rubbiſh frequently.

Borage was formerly in great requeſt, being reckoned one of the four cordial flowers. Very light ſurely, ſays an ingenious author, were thoſe ſorrows that could be ſo driven away. Yet Borage flowers are at leaſt innocent, which is more than can be ſaid of many other general remedies for care. The whole herb is ſucculent and very mucilaginous, having a peculiar faint ſmell when bruiſed[b]. The juice affords a true nitre. The plant is now ſeldom taken inwardly, except as an ingredient in cool tankards. The young tender leaves may be uſed in ſalads, or as a pot-herb[c].

2. This is an annual plant, rarely riſing a foot high. Stem branching, hiſpid, gibbous at the origin of the leaves and branches. Leaves lanceolate, rugged; the lower oppoſite, the upper alternate. Branches ſpreading, alternate. Peduncles ſhort, bowing, axillary. Leaflets of the calyx cordate-ſagittate, five-angled, hiſpid. Corolla white or pale fleſh-colour, a little longer than the calyx[d].

Native of the Eaſt-Indies. Miller, who cultivated it in 1759, ſays Africa.

3. This reſembles the foregoing, but the whole plant is ſtronger and higher. Stem thicker, more divided, hiſpid with ſtiff fragile briſtles. Leaves much broader and more hiſpid. Peduncles divided and almoſt racemed, dry and red, with bowing pedicels. Leaflets of the calyx lanceolate, the angles not ſo conſpicuous, red and ſet with white hairs. Corolla nearly of the ſame length with the calyx, dirty white[e]. Native of the Cape of Good Hope. It is an annual plant, and was cultivated in 1759, by Mr. Miller[f].

4. Stem branching, hiſpid. Stem-leaves oppoſite, ſeſſile, lanceolate, hiſpid; branch-leaves more in number, ſmaller, and more acute. Peduncles at each branch-leaf filiform, ſolitary, one-flowered, longer than the leaves, hairy. Calyx the length of the corolla, erect, hoary, hairy, without the hinder apophyſes. Seeds ſmooth, and like bone, as in *Cerinthe*. It differs from the firſt and third ſorts in having one-flowered peduncles; from the ſecond, in the leaves not being ſtem-claſping, and the calyxes not ſpurred[g].

Native of the Eaſt-Indies.]

5. This is a perennial plant, with thick fleſhy roots, ſpreading under the ſurface. Root-leaves many, oblong, heart-ſhaped, on long, hairy foot-ſtalks. Flower-ſtem more than two feet high, having at the joints a ſingle, ſmall, ſeſſile leaf: the upper part branches out into ſeveral ſmall foot-ſtalks, which are terminated by looſe panicles of flowers, of a pale blue colour; the petal is turned back, ſo that the connected anthers and ſtyle are left naked. The ſeeds are ſmaller than thoſe of common Borage. It flowers in march, and the ſeeds ripen in may. When the flower-ſtalk firſt appears, the flowers ſeem collected into a cloſe ſpike, ſome of which often ſpread open before the ſtalk is ſix inches high; but as the ſtalks advance, they divide into many looſe ſpikes. Native of the country about Conſtantinople.

PROPAGATION AND CULTURE.

1. This is an annual plant, which, if permitted to ſcatter its ſeeds, the plants will come up in plenty without care; the ſeeds may alſo be ſown either in ſpring or autumn, but the latter ſeaſon is preferable, on a ſpot of open ground where the plants are deſigned to remain; when the plants have obtained a little ſtrength, the ground ſhould be hoed to deſtroy the weeds, and the plants muſt be cut up where they are too near each other, leaving them eight or ten inches aſunder. After this they will require no farther care, unleſs the weeds ſhould come up again; then the ground ſhould be a ſecond time hoed over to deſtroy them, which, if well performed, and in dry weather, will clear the ground from weeds, ſo it will require no more cleaning till the Borage is decayed. The plants which are raiſed in the autumn, will flower in may, but thoſe which are raiſed in the ſpring, will not flower till june; ſo that where a continuation of the flowers are required, there ſhould be a ſecond ſowing in the ſpring, about a month after the firſt; but this ſhould be on a ſhady border, and if the ſeaſon ſhould prove dry, the ground muſt be watered frequently, to bring up the plants; this latter ſowing will continue flowering till the end of ſummer.

2, 3, 4. The ſeeds of theſe plants ſhould be ſown upon a hot-bed in march, and when the plants are ſtrong enough to be removed, they ſhould be each planted in a ſmall pot filled with light earth, and plunged into a new hot-bed to bring them forward, otherwiſe they will not perfect their ſeeds in this country; but in hot weather they muſt have a great ſhare of air, otherwiſe they will draw up weak, and fail before the ſeeds are ripe.

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[a] Withering.
[b] Engliſh Botany.
[c] With.
[d] Murray.
[e] Ibid.
[f] Hort. kew.
[g] Linn.

5. Is eaſily propagated by the root, which may be parted in the autumn: it ſhould have a dry ſoil and a warm ſituation, for as the flower-ſtalks appear early in the ſpring, when they are much expoſed, they are often killed by the froſt; if it be planted in dry rubbiſh, it will not grow too luxuriant, nor be in danger of ſuffering by froſt. Some of the ſeeds of this have ſcattered into the joints of an old wall in the Chelſea garden, where the plants have grown without care for ſome years, and are never injured by cold or heat.

Borago. See *Cynogloſſum*.

[BORASSUS. (Βορασσος *Dioſcorides. Derivation uncertain.*)

Lin. gen. n. 1220. *Reich. n.* 1336. *Schreb.* 1689. *Muſ. cliff.* 13. Ampana *hort. mal.* 1. 10. Carimpana *hort. mal.* 1. 9.

Claſſ. 25. Appendix Palmæ. *Lin.*—Dioecia hexandria. *Thunb. act. Stockh.* 1782. 286.

GENERIC CHARACTER.

* *Male* Ampana.

Cal. *Spathe* univerſal, compound. *Spadix* amentaceous, imbricate.

Cor. *Perianth proper* three-leaved: leaflets ovate, concave.

Stam. *Filaments* ſix, thickiſh. *Anthers* thicker, ſtriated.

** *Female* Carimpana: *on a different plant.*

Cal. *Spathe* and *Spadix* as in the male.

Cor. *Perianth proper* three-leaved, permanent: *leaflets* roundiſh, obtuſe. *Petals* three, roundiſh, ſmall, acute, permanent.

Pist. *Germ* roundiſh. *Styles* three, ſmall. *Stigmas* ſimple.

Per. *Berry* (*Drupe*) roundiſh, obtuſe, rigid, one-celled.

Seeds three, ſubovate, compreſſed, diſtinct, filamentoſe.

ESSENTIAL CHARACTER.

Cor. three-parted. Male. *Stam.* ſix. Female. *Styles* three. *Drupe* three-ſeeded.

SPECIES.

1. Boraſſus flabelliformis.
Lin. ſpec. 1657. *ſyſt.* 784. *Reich.* 4. 632. *fl. zeyl. n.* 395.
Palma coccifera. *Raii hiſt.* 1366. *n.* 1, 2.
Lontarus domeſtica. *Rumph. amb.* 1. 45. *t.* 10.
Ampana. *Rheed. mal.* 1. 13. *t.* 10. maſ. Carimpana. *p.* 11 *t.* 9. fœmina.
Fronds palmate plaited cowled, ſtipes ſerrate.

DESCRIPTION, &c.

The trunk is covered with a very dark-coloured bark; the wood is of a dark browniſh red, and has a ſoft pith in the middle. Fronds decuſſate on the top of the trunk; ſtipe near ſix feet in length, flat and ſomewhat hollow, and rough with ſpines along the edges; below near a ſpan in breadth, above not more than a palm. The leaf part is very large, wide, and folded like a fan or umbrella, for which purpoſe it is uſed; at the edges of the folds there are rough, prominent ribs, in front it is gaſhed, and the texture is cloſe and thick. The male and female flowers are on different trees, which have been conſidered as diſtinct ſpecies[a].

This tree is twenty-five or thirty feet in height, two feet thick at bottom and one at top. The fruit is the ſize of a child's head. A wine and a ſugar are made from the ſap of this Palm.

It is a native of Ceylon, the coaſt of Coromandel, Java, &c.[b]]

BORBONIA. (*So named from Gaſton Bourbon, Duke of Orleans.*)

Lin. gen. n. 857. *Reich.* 928. *Schreb.* 1165.
Claſſ. 17. 4. Diadelphia Decandria.
Nat. order of *Papilionaceæ* or *Leguminoſæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ſemiquinquefid, turbinate, half the length of the corolla: *diviſions* lanceolate, acuminate, rigid, pungent, ſubequal; the loweſt longer than the reſt.

Cor. pentapetalous, papilionaceous, hirſute on the outſide. *Banner* reflected, obtuſe, claw the length of the calyx. *Wings* ſemicordate, a little ſhorter than the banner. *Keel* two-petalled, lunulate, obtuſe.

Stam. *Filaments* nine, united into a cylinder gaping longitudinally above, riſing at the ends. *Anthers* ſmall.

Pist. *Germ* ſubulate. *Style* very ſhort, aſcending. *Stigma* obtuſe, emarginate.

Per. *Legume* roundiſh, acuminate, one-celled, mucronate with a ſpine.

Seed kidney-form.

ESSENTIAL CHARACTER.

Cal. acuminate-ſpiny. *Stigma* emarginate. *Legume* mucronate.

SPECIES.

[1. Borbonia ericifolia.
Lin. ſpec. 993. *Reich.* 3. 398. *amæn.* 6. *afr.* 29.
Geniſta africana, &c. *Raii dendr.* 105. *n.* 36.
Leaves ſublinear acute villoſe, heads terminal.

2. Borbonia lævigata.
Lin. ſyſt. 643. *Reich.* 3. 398. *mant.* 100.
Leaves lanceolate nerveleſs ſmooth, involucres and calyxes rough with hairs.]

3. Borbonia trinervia.
Lin. ſpec. 994. *Reich.* 3. 398. *hort. cliff.* 494. *Berg. cap.* 188.
Frutex æthiopicus, &c. *Pluk. alm.* 158. *t.* 297. *f.* 4.
Leaves lanceolate three-nerved quite entire.

4. Borbonia lanceolata. *Spear-leaved Borbonia.*
Lin. ſpec. 994. *Reich.* 3. 399.
Spartium africanum, &c. *Raii dendr.* 107. *n.* 63. *Comm. hort.* 2. 195. *t.* 98.
Frutex æthiopicus, &c. *Pluk. alm.* 159. *t.* 297. *f.* 3.
Leaves lanceolate many-nerved quite entire.

5. Borbonia cordata. *Heart-leaved Borbonia.*
Lin. ſpec. 994. *Reich.* 3. 399. *mant.* 488. *hort. cliff.* 494.
Geniſta africana, &c. *Seb. theſ.* 1. 38. *t.* 24. *f.* 3. *Breyn. cent. t.* 28.
Leaves cordate many-nerved quite entire.

[6. Borbonia crenata. *Notch-leaved Borbonia.*
Lin. ſpec. 994. *Reich.* 3. 399. *Berg. cap.* 191. *Pluk. alm.* 159. *Breyn. cent.* 69. *t.* 28.]
Leaves cordate many-nerved toothletted.

DESCRIPTIONS, &c.

Theſe plants grow naturally at the Cape of Good Hope, where they riſe to the height of ten or twelve feet; but in Europe they ſeldom are more than four or five; having ſlender ſtems, divided into ſeveral branches, with ſtiff leaves placed alternately.

[1. The firſt ſort is a ſmall ſubvilloſe ſhrub. Leaves ſmall, ovate-linear, nerveleſs, ſmooth above, villoſe beneath, revolute. Heads ſeſſile, with ſmall flowers[c].

2. Branches round, ſubvilloſe towards the top. Leaves ſeſſile, pointed. Umbellules terminating, on very ſhort peduncles. Involucre four-leaved, ovate, concave, erect. Pedicels in fours, ſhorter than the involucre. Calyx bell-ſhaped, flat at the baſe, five-cleft with the upper cleft ſmaller than the others, acute, ſhorter than the corolla, which is yellow. Germ hirſute. Within the calyx are ſome nectareous ſcales. It is named by others *Liparia umbellata*[d].]

3. This has ſtronger ſtalks than either of the two following ſorts. They have ſtiff lanceolate leaves, with three longitudinal nerves, as have alſo the branches, almoſt their whole length; and they are placed cloſer together than in the others. The flowers are produced at the extremities of the branches, each on a ſeparate peduncle: they are of the ſame ſhape and colour with the two following, but larger.

4. [Stem a foot high, ſmooth, round, and aſh-coloured; divided into a few branches, which are red whilſt young. Leaves ſtem-claſping[e],] long,

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[a] Ray.

[b] Rumphius.

[c] Linn. amæn.

[d] Linn. mant.

[e] Ray.

narrow, ending in a ſharp point. The flowers come out from between the leaves at the ends of the branches in ſmall cluſters: they are yellow, and ſhaped like thoſe of Broom. It flowers in auguſt and ſeptember; [and was cultivated in 1748, by Mr. Miller[f].]

5. This has broader leaves than the foregoing ſort. The ſtalks are ſlender, and covered with white bark. Leaves ſtem-claſping, and terminated by ſharp points, like thoſe of Knee-holm or Butcher's Broom. The flowers are produced in ſmall cluſters at the ends of the branches, and are of the ſame ſhape and colour as thoſe of the foregoing ſort, but larger. [Calyx five-cleft, nearly regular, hirſute, with ſpiny ſegments. The whole corolla is tomentoſe on the outſide[g].

6. Leaves ſtem-claſping, net-veined, and pointed. Flowers in racemes[h]. It was introduced here from the Cape in 1774, by Mr. Fr. Maſſon[i].]

PROPAGATION AND CULTURE.

As theſe plants do not perfect their ſeeds in this country, they are with difficulty propagated here. The only method by which I have yet ſucceeded, has been by laying down their young ſhoots; but theſe are commonly two years before they put out roots fit to be ſeparated from the old plant. In laying theſe down, the joint which is laid in the ground ſhould be ſlit upward, as is practiſed in laying Carnations, and the bark of the tongue at bottom taken off. The beſt time is the beginning of ſeptember; and the ſhoots moſt proper for this purpoſe, are thoſe which come out immediately, or very near the root, and are of the ſame year's growth, not only from their ſituation being near the ground, and thereby better adapted for laying, but theſe are alſo more apt to put out roots than any of the upper branches.

But where good ſeeds can be procured, that is the more eligible method of propagating the plants; for thoſe raiſed from the ſeeds make the ſtraighteſt plants, and are quicker of growth. They ſhould be ſown in pots filled with light loamy earth, as ſoon as they are received; if it happens in the autumn, the pots ſhould be plunged into an old bed of tanner's bark, under a frame, where they may remain all the winter, being careful that they are ſecured from froſt, and have not much wet. In the ſpring, the pots ſhould be plunged into a hot-bed, which will bring up the plants in five or ſix weeks. When theſe are fit to remove, they ſhould be each planted into a ſeparate ſmall pot, filled with the like loamy earth, and plunged into a moderate hot-bed, obſerving to ſhade them until they have taken freſh root, as alſo to refreſh them with water, as they may require it. After this they muſt by degrees be inured to the open air, into which they ſhould be removed in june, and placed in a ſheltered ſituation, where they may remain till autumn, when they muſt be removed into the green-houſe, and placed where they may enjoy the air and ſun; during the winter ſeaſon, theſe plants muſt be ſparingly watered; but in ſummer, when they are placed abroad, they will require to be frequently refreſhed, but muſt not have too much water given them each time.

Theſe plants make a pretty variety in the green-houſe in winter, and as they do not require any artificial heat to preſerve them, they are worthy of a place in every garden where there is conveniency for keeping them.

[Borbonia tomentoſa. See *Liparia.*

Borecole. See *Braſſica.*

Borrago. See *Borago.*]

BOSEA. (*From Boſe, a Senator of Leipſic.* Lin.)
Lin. gen. n. 315. *Reich.* 344. *Schreb.* 442.
Claſſ. 5. 2. Pentandria Digynia.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved, equal: *leaflets* roundiſh, concave, erect, thinner at the edge.
Cor. none.
Stam. *Filaments* five, ſubulate, longer than the calyx. *Anthers* ſimple.
Pist. *Germ* ovate-oblong, cuſpidate. *Style* none. *Stigmas* two.
Per. *Berry* globular, one-celled.
Seed one, round, acuminate.

Obs. *There is a very great affinity therefore between this genus and thoſe of* Celtis *and* Ulmus.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* none. *Berry* one-ſeeded.

SPECIES.

1. Boſea Yervamora. *Golden-rod tree.*
Lin. ſpec. 326. *Reich.* 631. *hort. cliff.* 84. *Pluk. alm.* 42. *Sloan. jam.* 2. 19. *t.* 158. *f.* 3. *Raii dendr.* 88. *n.* 2. *Walth. hort.* 24. *t.* 10.

DESCRIPTION, &c.

It is a pretty ſtrong woody ſhrub, with a ſtem as large as a middling perſon's leg; the branches come out very irregularly, and make conſiderable ſhoots in ſummer, which ſhould be ſhortened every ſpring, to preſerve the heads of the plants in any tolerable order: theſe branches retain their leaves till towards the ſpring, when they fall off, and new leaves are produced ſoon after.

[Bark reddiſh-brown, ſmooth; wood white. Leaves two inches long, and one and a half broad, roundiſh, broader at the baſe, blunt at the end, white underneath, on ſhort petioles; ribs purple. The flowers come out of the ends of the twigs, on alternate pedicels, at the baſe of which is a ſtipule. Calyx purpliſh, ſix-leaved. Seed black[k].

It is a native of the Canary iſlands, whence it was firſt brought into England, and cultivated by Mr. Miller before 1728. It has alſo been found ſince in ſome of the Britiſh Weſt-India iſlands.]

PROPAGATION AND CULTURE.

It may be propagated by cuttings in the ſpring; and the plants muſt be houſed in winter.

Botrys. See *Chenopodium* and *Teucrium.*

[Bourreria. See *Ehretia.*

Bovista. See *Lycoperdon.*

Box-thorn. See *Lycium.*]

Box-tree. See *Buxus.*

BRABEIUM. (*From* Βραβεῖον, *a ſceptre, Lin.*)
Lin. gen. n. 160. *Reich.* 1262. *Schreb.* 1580. *mant.* 137. 332.
Claſſ. 23. 1. Polygamia Monoecia.

GENERIC CHARACTER.

Cal. *Ament* with ovate, obtuſe, three-flowered, pubeſcent ſcales.
Cor. one-petalled, funnel-form, four-parted; *diviſions* linear, obtuſe, rolled back at top, deciduous.
Stam. *Filaments* four, capillary, inſerted into the baſe of the ſegments of the corolla, and ſcarcely ſo long as that. *Anthers* ſmall, gaping on the ſides.
Pist. *Germ* very ſmall, villoſe. *Style* filiform, the length of the ſtamens, ſomewhat thicker at top. *Stigma* ſimple.
Per. *Drupe* very dry, roundiſh, villoſe.
Seed. *Nut* globular.

* *Male in the ſame tree.*

Cal. *Ament* as in the hermaphrodites.
Cor. one-petalled, funnel-form, four or five-cleft; *clefts* oblong, revolute.
Stam. *Filaments* four or five, inſerted into the throat, of a middling length. *Anthers* oblong, faſtened to the inſide of the filaments, except the tip.
Pist. *Germ* none. *Style* filiform, of a middling length. *Stigmas* two, erect.

ESSENTIAL CHARACTER.

Herm. Scales of the ament. *Cor.* four-parted, revolute above. *Stam.* four. *Piſt.* one. *Drupe* roundiſh. *Seed* globular.

Male. Scales of the ament. *Cor.* four or five-parted. *Stam.* four inſerted into the throat. *Style* bifid, abortive.

SPECIES.

1. Brabeium Stellulifolium. *African Almond.*
Lin. ſyſt. 910. *Reich.* 4. 327. *mant.* 332.

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[f] Hort. kew.

[g] Linn.

[h] Ibid.

[i] Hort. kew.

[k] Sloane.

B. ſtellatifolium. *Lin. ſpec.* 177. *hort. cliff.* 36. *Mill. dict.*

Amygdalus æthiopica, fructu holoſericeo. *Breyn. cent.* 1. *t.* 1. *Pluk. alm.* 47. *t.* 265. *f.* 3.

Brabyla capenſis. *Mant.* 1. 137.

DESCRIPTION, &c.

This tree riſes with an upright ſtem, which is ſoft and full of pith, and covered with a brown bark. Horizontal branches are ſent out at every joint, the lower ones being longeſt, and every tier diminiſhing to the top, ſo as to form a ſort of pyramid. There are leaves at each joint, from four to five inches long, and half an inch broad in the middle, of a deep green on their upper ſide, but of a pale ruſſet colour on their under, indented on their edges, ſtanding on very ſhort foot-ſtalks. The flowers are produced towards the ends of the ſhoots, coming out from between the leaves quite round the branches: they are of a pale colour, inclining to white: appear early in the ſpring, and fall away without any fruit ſucceeding them in this country.

[It is an amentaceous tree, with thick branches. Leaves in whorls with large ſerrations. Aments pubeſcent, with ovate, obtuſe, three-flowered ſcales. Stamens and ſtyle the length of the corolla[a].

Brabyla capenſis, deſcribed in *Mant.* 137. is probably the ſame tree bearing hermaphrodite flowers. The branches are rigid, purple, ſtreaked, ſubvilloſe. Leaves in whorls of ſeven, petioled, lanceolate, rather rigid, with remote ſerrations, a hand's breadth long, ſmooth above, netted beneath: petioles erect, pubeſcent. Aments oblong, cylindric, petioled, round, erect, lateral, often two between each leaf, ſhorter than the leaves, rather rigid, two inches long, imbricate: ſcales ovate, acute, many-flowered. Corollule funnel-ſhaped, five-cleft. Stamens five. Style one.]

It is a native of the country about the Cape of Good Hope, where it becomes a tree of middling growth; but in Europe it ſeldom grows above eight or nine feet high.

PROPAGATION AND CULTURE.

This tree is with difficulty propagated by layers, which are often two years before they make roots ſtrong enough to be taken from the old plants: when the branches are laid down it will be a good method to ſlit them at a joint, as is practiſed in laying Carnations, which will promote their taking root.

Theſe muſt have but little water given them, eſpecially in winter, for as the young ſhoots are chiefly pith within, they are very apt to rot with much moiſture. The beſt time to make the layers is in april, juſt as the plants are beginning to ſhoot; and they muſt always be made of the former year's ſhoots.

The plants muſt have a good greenhouſe in winter; but in ſummer they ſhould be ſet abroad in a ſheltered ſituation, where they will thrive, and annually produce flowers in the ſpring, making a pretty variety among other exotic plants.

[Brabyla. See *Brabeium*.

Brachyglottis. See *Cineraria*.

BRADLEJA. (*So named from Richard Bradley, F.R.S. the firſt profeſſor of botany at Cambridge.*)

Lin. gen. Schreb. n. 1474. *Gærtn.* Glochidion. *Forſt. gen.* 57.

Claſſ. 21. 8. Monoecia Monadelphia.

GENERIC CHARACTER.

* *Male flowers.*

Cal. none.

Cor. *Petals* ſix, ovate, concave, ſpreading, nearly equal.

Stam. *Filaments* three, extremely minute. *Anther* cylindric, erect, formed of three united twin anthers, tipped at the point with a cuſp or ſpearlet.

* *Female flowers.*

Cal. none.

Cor. one-petalled, ſix-parted, inferior: three of the *parts* interior.

Pist. *Germ* globoſe, ſix-furrowed, ſuperior. *Style* none. *Stigmas* ſix to eight, very ſmall, converging.

Per. *Capſule* depreſſed, round, twelve-ſtreaked, ſix-celled, ſix-valved, gaping.

Seed ſolitary, ſomewhat globoſe.

ESSENTIAL CHARACTER.

Male. *Cal.* none. *Cor.* Petals ſix, nearly equal. *Filaments* three, with three twin anthers.

Fem. *Cal.* none. *Cor.* ſix-parted, three parts interior. *Germ* ſuperior, with ſix to eight ſtigmas. *Capſ.* ſix-celled, ſix-valved. *Seed* ſolitary.

SPECIES.

1. Bradleja ſinica. *Chineſe Bradleja*, is a ſhrub with leaves reſembling the Annona, but not of a lucid ſurface. The fructifications proceed from the axils of the leaves. The fruits, or ſeed-veſſels, are compreſſed, ſmall, orbicular, ſtriated, and hard.
2. Bradleja Zeylanica, is a Ceyloneſe ſhrub.
3. Bradleja Glochidium, is a ſhrub which grows in the iſlands of the Southern or Pacific ocean.]

Branca Ursina. See *Acanthus* and *Heracleum*.

BRASSICA. (*From* Βράσσω, *ebullio Lin.—others a præſecando—or q. Paſſica—or q.* πρασικὴ *a garden herb.* See more in *Voſſius.*)

Lin. gen. 820. *Reich.* 884. *Schreb.* 1096. *Tournef.* 106. *Raii meth.* 95. Rapa. *Tourn.* 113. *Raii meth.* 95.

Claſſ. 15. 2. Tetradynamia Siliquoſa.

Nat. order of *Siliquoſæ* or *Cruciformes*. *Cruciferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved, erect; *leaflets* lanceolate-linear, concave-channelled, gibbous at the baſe, erect, parallel, deciduous.

Cor. tetrapetalous, cruciform. *Petals* ſubovate, flat, expanding, entire, gradually leſſening into claws nearly the length of the calyx.

Nectareous glands four ovate; of which one on each ſide between the ſhorter ſtamen and the piſtil, and one on each ſide between the longer ſtamens and the calyx.

Stam. *Filaments* ſix, ſubulate, erect: of theſe two oppoſite ones are of the length of the calyx; and four longer. *Anthers* erect, acuminate.

Pist. *Germ* columnar, the length of the ſtamens. *Style* ſhort; the thickneſs of the germ. *Stigma* capitate, entire.

Per. *Silique* long, ſomewhat like the ſhaft of a column, but flatted on both ſides: *partition* with a prominent columnar top, two-celled, two-valved; *valves* ſhorter than the partition.

Seeds many globular.

Obs. Napus T. *ſcarcely differs in appearance from* Rapa.

Rapa T. *has the calyx of the ſame colour with the corolla.*

Braſſica T. *has a greeniſh calyx.*

ESSENTIAL CHARACTER.

Cal. erect, converging. *Seeds* globular. A *gland* between the ſhorter ſtamens and the piſtil, and between the longer and the calyx.

SPECIES.

* *Style bluntiſh.*

1. Braſſica orientalis. *Perfoliate Cabbage.*

Lin. ſpec. 931. *ſyſt.* 601. *Reich.* 3. 276. *Hudſ. angl.* 290. *With.* 706. *Jacqu. auſtr.* 3. 45. *t.* 282. *Pollich pal. n.* 639. *Allion. pedem. n.* 964. *Mill. dict. n.* 7.

Eruca. *Hall. helv. n.* 457. B. campeſtris. *Lin. ſec. Hallerum.* B. Turrita. *Wiggers.*

B. campeſtris. *Bauh. pin.* 112. *n.* 4. *Cluſ. hiſt.* 2. 127. *Segu. ver.* 1. 380. *Raii ſyn.* 293. *n.* 2. *hiſt.* 797. *n.* 20. & 3. 410. *n.* 9.

Perfoliata ſiliquoſa. *Bauh. hiſt.* 2. 835. 3, 4. *Ger.* 430. 2. *emac.* 536. 2. *Park.* 580. 9.

Leaves cordate, ſtem-claſping, ſmooth; root-leaves ſcabrous, quite entire; ſiliques four-cornered.

[2. Braſſica auſtriaca. *Auſtrian Cabbage.*

Lin. ſyſt. 601. *Jacqu. auſt.* 3. *t* 283.

Leaves cordate, ſtem-claſping, ſmooth, all quite entire; ſiliques four-cornered, ſtriated, erect.

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[a] Lin. mant. 332.

3. Braſſica campeſtris. *Yellow Field Cabbage.*
Lin. ſpec. 931. *ſyſt.* 601. *Reich.* 3. 276. *ſuec. n.* 608. *hort. cliff.* 339. *Fl. dan. t.* 550? *Hudſ. angl.* 290. *With.* 707.
B. camp perfoliata fl. luteo. *Loeſ. pruſſ.* 29. *Lin. lapp.* 265.
Root and ſtem ſlender; ſtem-leaves uniform cordate ſeſſile.]

4. Braſſica arvenſis. *Purple Field Cabbage.*
Lin. ſyſt. 601. *Reich.* 3. 277. *mant.* 95. 568. *Ger. prov.* 368.
B. purpurea. *Mill. dict. n.* 6.
B. campeſtris perfoliata fl. purpureo. *Bauh. pin.* 112. *Cluſ. hiſt.* 2. 127. *Raii hiſt.* 798.
B. ſylveſtris, fabariæ foliis. *Bocc. ſic.* 49. *t.* 29. *f.* 3, 4.
Perfoliata ſiliquoſa purpurea. *Bauh. hiſt.* 2. 836.
Leaves ſtem-claſping ſpatulate repand; the upper cordate quite entire.

[5. Braſſica alpina. *Alpine Cabbage.*
Lin. ſyſt. 601. *Reich.* 3. 277. *mant.* 95. *Pollich pal. n.* 640. *Allion. pedem. n.* 968. *Vill. proſp.* 40. *t.* 20. *f.* 1.
Turritis. *Hall. helv. n.* 454. *Grim. nov. act. nat. cur.* 3. 77.
T. pauciflora. *Grim. iſen. nov. act. cur.* 3. *app.* 348.
T. Braſſica. *Leers herborn. n.* 518.
Br. alpina perennis. *Mapp. alſat.* 42.
Br. ſylveſtris alpina. *Bauh. prodr.* 54.
Stem-leaves cordate-ſagittate ſtem-claſping; radical leaves ovate: petals erect.]

6. Braſſica Napus. *Wild Cabbage, Rape,* or *Navew.*
Lin. ſpec. 931. *Reich.* 3. 278. *ſuec.* 609. *mat. med.* 162. *hort. cliff.* 339. *Hudſ. angl.* 290. *With.* 707. *Lightf. ſcot.* 359. *Dalib. par.* 199. *Gmel. ſib.* 3. 267. *Crantz. auſt.* 38. *Blackw. t.* 224.
B. gongylodes. *Mill. dict. n.* 8.
Napus ſylveſtris. *Bauh. pin.* 95. *Bauh. hiſt.* 2. 843. *Mor. hiſt.* 2. 214. *ſ.* 3. *t.* 2. *f. ult.* *Raii hiſt.* 802.
Bunias. *Ger.* 181. 2. *emac.* 235. 2. *Park.* 865. *Pet. brit. t.* 45. *f.* 9.
β. N. ſativa. *Coleſeed,* or *Rape.*
Bauh. pin. 95. *Mor. f. penult.* *Raii hiſt.* 801. *Ger.* 181. 1. *emac.* 235. 1.
Root cauleſcent fuſiform.

7. Braſſica Rapa. *Turnep.*
Lin. ſpec. 931. *Reich.* 3. 278. *mat. med.* 163. *hort. cliff.* 339. *upſ.* 190. *Hudſ. angl.* 289. *With.* 708. *Blackw. t.* 231.
Rapa rotunda. *Mill. dict. n.* 1.
R. ſativa rotunda. *Bauh. pin.* 89. *Mor.* 2. 213. *ſ.* 3. *t.* 2. *f.* 1. *Petiv. brit. t.* 47. *f.* 7. *Raii hiſt.* 800. *n.* 1 & 3.
Rapum majus & minus. *Ger.* 177. 1, 2. *emac.* 232. 1. *Fuchſ.* 212. *Trag.* 728. *Matth.* 346. 1. *Lob. kruydtb.* 235. *obſ.* 98. 1. *ic.* 197. 1. *Cam. epit.* 218.
β. R. ſat. oblonga. *Bauh. pin.* 89. *Raii hiſt. n.* 2. *Bauh. hiſt.* 2. 838. *Mor. n.* 2. *Ger. emac.* 232. 2. *Matth.* 346. 2. *Petiv. brit. t.* 45. *f.* 8.
R. oblonga. *Mill. dict. n.* 2.
γ. Rapa Napus. *French Turnep.*
Mill. dict. n. 3.—*Root fuſiform.*
Root cauleſcent orbicular depreſſed fleſhy.

8. Braſſica oleracea. *Common Cabbage.*
Lin. ſpec. 932. *Reich.* 3. 278. *hort. cliff.* 338. *upſ.* 189. *mat. med.* 163. *Hudſ. angl.* 289. *With.* 708.
α. B. oler. ſylveſtris. *Sea Cabbage. Wild Colewort.*
Mor. hiſt. 2. 208. *n.* 15. *Raii hiſt.* 796. *n.* 13. *Mill. dict. n.* 4. *Petiv.* 45. 6.
β. B. oler. viridis. *Green Colewort.*
Bauh. pin. 111. 1. *Raii hiſt.* 796. 10. *Ger. emac.* 313. 6.
γ. B. oler. capitata rubra. *Red Cabbage.*
Bauh. pin. 111. 4. *Raii hiſt.* 795. 2. *Ger. emac.* 313. 5.
δ. B. oler. capitata alba. *Heading white Cabbage.*
Bauh. pin. 111. 1. *Raii hiſt.* 794. 1. *Mill. dict. n.* 1. *Ger. emac.* 312. 4.

ε. B. oler. ſabauda. *Savoy Cabbage.*
Bauh. pin. 111. 1. alba criſpa. *Raii hiſt.* 795. 3. *Ger. emac.* 315. 12.
ζ. B. oler. laciniata. *Purple Borecole.*
B. lacin. rubra. *Bauh. hiſt.* 2. 832. *Raii hiſt.* 796. *n.* 8.
η. B. oler. ſelenifia. *Green Borecole.*
Bauh. pin. 112. 2. anguſto apii fol.—*Raii hiſt.* 797. *n.* 17. *Ger. emac.* 315. 13.
ϑ. B. oler. ſabellica. *Siberian Borecole,* or *Scotch Kale.*
B. fimbriata. *Bauh. pin.* 112. 3. *Raii hiſt.* 796. *n.* 12. *Renealm. ſpec. t.* 133.
ι. B. oler. botrytis. *Cauliflower,* and *Broccoli.*
Mill. dict. n. 3.
B. cauliflora. *Bauh. pin.* 111. *Renealm. ſpec. t.* 133. *Ger. emac.* 314. 9.
κ. B. oler. Napobraſſica. *Turnep-rooted Cabbage.*
Mill. dict. n. 2.—rad. napiformi. *Tourn. inſt.* 219.
Napobraſſica. *Bauh. pin.* 111. *prodr.* 54. *Raii hiſt.* 797. *n.* 19.
Root caulescent columnar fleſhy.

[9. Braſſica chinenſis. *Chineſe Cabbage.*
Lin. ſpec. 932. *ſyſt.* 601. *Reich.* 3. 279. *amæn.* 4. 281. *act. petrop.* 1761. 331.
Leaves oval, almoſt quite entire; the floral ones ſtem-claſping, lanceolate: calyxes longer than the claw of the petals.]

10. Braſſica violacea.
Lin. ſpec. 932. *Reich.* 3. 279. *hort. upſ.* 191. *Mill. dict. n.* 5.
Leaves lanceolate-ovate ſmooth undivided toothed.

[11. Braſſica polymorpha.
Lin. ſyſt. 601. *Murr. in. comm. gott.* 1776. 35. *t.* 6.
Inferior leaves linear-lanceolate pinnatifid-toothed, upper ſubulate entire.

** *Erucas, with an enſiform ſtyle to the ſiliques.*

12. Braſſica Erucaſtrum. *Wild Rocket.*
Lin. ſpec. 932. *Reich.* 3. 279. *hort. cliff.* 337. (Siſymbrium.) *Crantz. auſtr.* 38. *n.* 4. *Pollich pal. n.* 641. *Vill. proſp.* 40. *t.* 20. *f.* 5.
Eruca. *Hall. helv. n.* 459. *Bauh. hiſt.* 2. 862. 3.
Raphanus Erucaſtrum. *Crantz. crucif.* 111. *n.* 15.
Eryſimum Erucaſtrum. *Scop. carn. n.* 828.
Leaves runcinate, ſtem hiſpid, ſiliques ſmooth and even.]

13. Braſſica Eruca. *Garden Rocket.*
Lin. ſpec. 932. *Reich.* 3. 280. *hort. upſ.* 190. *mat. med.* 163. *Crantz. auſtr.* 38. *Blackw. t.* 242. *Allion. pedem. n.* 970.
Siſymbrium. *Lin. hort. cliff.* 337.
Sinapi. *Hall. helv. n.* 464.
Eruca ſativa. *Mill. dict.*
Eruca. *Bauh. pin.* 98. *n.* 1. *Bauh. hiſt.* 2. 859. *Raii hiſt.* 806. *n.* 1. *Ger. emac.* 246. *n.* 1.
Raphanus Eruca. *Crantz. crucif.* 111. *n.* 14.
Leaves lyrate, ſtem hirſute, ſiliques ſmooth.

[14. Braſſica veſicaria.
Lin. ſpec. 933. *Reich.* 3. 280. *hort. upſ.* 191. *D'Aſſo. aragon. n.* 627. *t.* 4.
Eruca. *Mor. hiſt.* 2. 28. *n.* 2. *Raii hiſt.* 807. *n.* 3.
Leaves runcinate; ſiliques hiſpid, covered with a ſwelling calyx.]

15. Braſſica muralis. *Wall Rocket.*
Hudſ. angl. 290. *Curt. lond.* 3. 38. *With.* 709.
Eruca. *Hall. n.* 461. *Matth.* 531. *fig.* *Bauh. hiſt.* 2. 861. *fig.* *Raii hiſt.* 807. *n.* 4. *ſyn.* 296. *n.* 1. *Mor. hiſt.* 2. 230. *n.* 16. *Ger.* 191. 2. *emac.* 246. 2. *Park.* 818. 1. *Mill. dict. n.* 4.
Leaves lanceolate ſinuate-ſerrate, ſmoothiſh; ſtem erect, ſmooth.

[16. Braſſica Richerii.
Allion. pedem. n. 967. *t.* 58. *f.* 1. & *t.* 76. *f.* 2. *Vill. proſp.* 40. *t.* 20. *f.* 3. *Laugh.* 2. 331. *Ger. prov.* 367.
Root caulescent; leaves petiolate ſubſerrate, upper linear-lanceolate entire; ſiliques four-cornered.

DESCRIPTIONS, *&c.*

1. Petals white. All the leaves ſmooth[a]. Stem-leaves ovate, blunt at the end, heart-ſhaped at the

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[a] Linn.

baſe, ſmooth, glaucous, perfectly entire. Petals white with a tinge of ſtraw-colour. Siliques ſlender pointing upwards, and approaching the ſtem[b]. Root fuſiform. Stem erect, from four inches to a foot high and more, round, very ſmooth, dividing from the bottom into alternate branches. Root-leaves ſmaller, obovate, obtuſe, ſeſſile; ſtem-leaves alternate, claſping, perforated as it were by the ſtem, ovate, obtuſe, quite entire, all glaucous-green, very ſmooth, thickiſh, fleſhy. Raceme looſe, terminal. Corollas ſmall, white[c]. Mr. Hudſon affirms that this is very nearly allied to the *campeſtris*; and Dr. Stokes thinks it probable, that the plant of *hort. upſ.* ſuppoſed to be the *B. orientalis* of *Tourn. cor.* and our European ſpecies, are diſtinct. There is certainly great confuſion in the three firſt ſpecies of *Braſſica*, and in a genus ſo ſubject to vary, perhaps mere local differences may have been exalted into ſpecies.

Native of corn fields and cliffs, in the Levant, about Montpellier; in Germany, Switzerland, Auſtria, Carniola, Piedmont, &c. In England near Harwich; Bardſey near Orford, Suffolk; Godſtone, and Maresfield, Suſſex. Annual, flowering in June.

2. Native of Auſtria, a biennial. Root white, rather woody, ſometimes branched, about half a foot long, very thin, with an acrid ſmell. Stem in the wild plant commonly ſingle; in the cultivated or garden ones generally more: about two feet high. Leaves entire, rounded at the ends, thick, glaucous, embracing the ſtalk, very ſmooth. The radical ones are obverſely ovate, the ſtem ones ovate with round baſes. The flowers are yellow, and open in ſmall numbers at once. The ſiliques are about three inches long, ſmooth, ſharp, and parallel or nearly ſo with the ſtalk; ſtanding in an upright manner. It is a plant which naturally grows in rough uncultivated places and in fields.

3. Root annual. Root-leaves lyrate, ſlightly hiſpid; ſtem-leaves ſmooth and even. Corolla yellow, never white. It grows among ſummer corn, in the north of Europe; and in ſome parts of Sweden it is a common weed[e]. The only places of growth given by Hudſon are from Ray, and they belong to *B. orientalis*[f].

4. Stem a foot high, ſmooth and even, flexuoſe, branched, perennial at bottom. Leaves ſmooth, quite blunt, rather fleſhy. Calyx cloſed, ſmooth, with a double protuberance at the baſe. Borders of the petals ſpreading, obovate, emarginate, violet-coloured with red veins. Anthers yellow, ſtanding out[g]. Native of the ſouth of Europe, in moiſt fields.

5. This differs from the foregoing ſort in having a narrower ſtem; the leaves more tender and longer; thoſe next the ground on long petioles: but it differs principally in having almoſt upright, white petals, and the ſmall flower of a *Turritis*. Native of Germany and Sweden[h].

6. Root biennial. Stem ſomewhat branched, cylindrical, ſmooth, from a foot to two feet in height. Root-leaves lyrate, almoſt ſmooth, divided into deeply pinnate lobes, which are again irregularly indented or ſinuated on the edges. Stem-leaves ſmooth, glaucous, ſeſſile, ſtem-claſping, of an oblong heart-ſhaped figure, very ſlightly toothletted on the edges. Calyx yellowiſh green, ſpreading as in *Sinapis*. The ſilique has frequently three or four warty excreſcences[i].

β. The roots, when cultivated, may be eaten, but have a ſtronger taſte than the Turnep.] Under the title of Rape or Cole-ſeed, it is much cultivated in the iſle of Ely, and ſome parts of England for its ſeed, from which the Rape Oil is drawn; and for feeding cattle. [What remains after the oil is expreſſed, is called oil-cake or rape-cake. It is a very efficacious manure, and is ſold from four to ſix pounds a ton[k]. It is not this, but the lint-cake, or reſiduum of flax-ſeed, uſed in making lint-ſeed oil, that is uſed in fatting beaſts[l].

Linneus puts down *Napus ſativa* as a variety of *Napus ſylveſtris*; and Miller's *Braſſica gongylodes*, that is the *Coleſeed*, as a variety of *Braſſica oleracea*. Miller ſays that the *Coleſeed* is the *Wild Navew*, or *Napus ſylveſtris* of Caſpar Bauhin; and that it is totally different from *Garden Navew*, or *Napus ſativa*, which approaches nearer to the Turnep than the Cabbage; and is accordingly treated of by him under the article *Rapa*; and called *French Turnep*. Ray keeps them diſtinct, and affirms that the *Garden Navew* is cultivated for the roots, and the *Wild Navew* for making Rape-oil. He diſtinguiſhes the *Napobraſſica* from both theſe, making it to be a ſort of Cabbage. Theſe authors ſeem to intend by *Napus ſativa* what we call *Turnep-rooted Cabbage*, and by *Napobraſſica* the *Turnep-Cabbage*. *Coleſeed* is now commonly conſidered as the *Braſſica Napus* of Linneus; and the *Garden Navew* as a variety only of the *wild*. The ſpecific diſtinctions are very inſufficient; the confuſion of names is inextricable; and the ſpecies of this genus vary with wonderful facility.

Linneus ſays that the Navew grows wild on the ſandy ſhores of Gotland, Holland, and England. With us it is found among corn, and on ditch banks.

7. The Turnep, now ſo common in cultivation, is ſufficiently known by its round fleſhy roots. Theſe however vary exceedingly in their form, ſize, and colour, in a cultivated ſtate, in which only we are apt to view them. The leaves which ariſe immediately from the root are very large, of a full green colour, rough, and jagged or gaſhed almoſt to the midrib. From the midſt of theſe, early in the ſecond ſeaſon of its growth, ſprings a ſtalk, four or five feet high, in good ground reaching the human ſtature. The leaves on this are very different from the root-leaves; being oblong, pointed, embracing the ſtem, ſmooth and glaucous. The flowers are yellow, and placed on long, ſlender, ſmooth peduncles. The ſiliques or pods are cylindric; and the ſeeds are of a reddiſh brown colour, not unlike thoſe of Cabbage.

The variations of Turnep are chiefly in the root, and ariſe from the different ſoils, ſituations, and modes of cultivation.] The varieties enumerated by Mr. Miller are, 1. *The round red* or *purple-topped*. 2. *The green-topped*. 3. *The Yellow*. 4. *The black-rooted*. 5. *The early Dutch*. He allows that theſe may be varieties accidentally obtained from ſeeds, although he has ſown them ſeveral years, and has always found them to retain their differences. The *Yellow* Turnep ſeems moſt unlikely to have been an accidental variety, becauſe the roots are yellow within, whereas the others have white fleſh, notwithſtanding they are of different colours on the outſide.

β. He thinks that the *long-rooted* Turnep is a diſtinct ſpecies; the form of the root, and its manner of growth, being totally different from thoſe before enumerated. The roots are ſometimes as long as thoſe of the Parſnep, and nearly of the ſame ſhape.

[This only ſeems to have receded leſs from a ſtate of nature, wherein the root only ſwells out a little, is of a ſtringy texture, and has ſomething of acrimony in the taſte.

The general uſe of this root for the table and feeding of cattle is well known: and it has been a conſiderable improvement of light lands, particularly in the county of Norfolk, whence other counties have derived the culture.] The red-rooted Turnep was formerly more cultivated in England than at preſent; but ſince the large green-topped Turnep has been introduced, all ſkilful farmers prefer it to the others, becauſe the roots grow to a large ſize, and continue much longer good: it alſo grows above ground more than any of the others, which renders it preferable for feeding cattle; and being the ſofteſt and ſweeteſt, even when very large, it is moſt eſteemed for the table. In very ſevere winters however this is in greater danger of ſuffering by froſt than thoſe whoſe roots lie deeper, eſpecially if the ground be not covered with ſnow; for when the roots are alternately frozen and thawed, they rot ſooner than thoſe which are more covered, and leſs tender. I have known roots of this ſort, which were more than a foot in diameter, boiled, and were as ſweet and tender as any of the ſmalleſt roots.

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[b] Woodward in With. [c] Pollich. [e] Linn. [f] With. [g] Linn. [h] Ibid. [i] Linn. With. Lightf. [k] With.

[l] Young's Iriſh tour, i. 507.

[Pliny among the ancients, and Tragus among the moderns, ſpeak of Turnep roots as weighing each forty pounds; Amatus of ſome amounting to fifty or ſixty; and Matthiolus of many exceeding fifty pounds, and of ſome approaching to an hundred. Yet we are told that four pounds is now reckoned an extraordinary weight for a Turnep-root in Italy, and that they uſually weigh only from a quarter to half a pound. Whether the old accounts be exaggerated, or the modern produce miſrepreſented, or the culture now neglected, I cannot aſcertain. The greateſt weight I am acquainted with in England is thirty-ſix pounds. At Stow in Glocefterſhire a farmer produced four Turneps weighing an hundred weight; and offered to produce, from a ſmall given ſpace, eighty Turneps which ſhould weigh a ton.]

The next in goodneſs to the green-topped is the red or purple-topped Turnep, which will alſo grow large, and be extremely good for ſome time; but the roots will become ſtringy much ſooner than the others. The long-rooted, the yellow, and the black-rooted Turneps are now rarely cultivated, except for the ſake of variety, none of them being ſo good for the table or for feed as the red and green-topped ſorts.

The early Dutch Turnep is chiefly ſown in the ſpring, to ſupply the table before the others can be procured; and when drawn off young, this ſort is tolerably good; but if the roots be left to grow large, they become ſtringy, rank, and unfit for uſe.

The French Turnep is not much cultivated in England; but in France and Holland it is in great eſteem, eſpecially for ſoups; in which, being ſmall, the roots are boiled whole: they muſt be uſed whilſt they are young, otherwiſe they are rank and ſtringy.

[Turnep-roots are reputed to relax the bowels, and to ſweeten the blood; to be hurtful to pregnant and hyſterical women, and to all who are ſubject to flatulencies. The juice well fermented affords by diſtillation an ardent ſpirit. The rind is acrimonious[m]. The tender tops boiled are frequently eaten in the ſpring as greens with meat.]

It is not many years ſince the practice of ſowing Turneps for feeding cattle, has been of general uſe; how it happened that this improvement ſhould have been ſo long neglected in every part of Europe is not eaſy to determine; ſince it is very plain, that this piece of huſbandry was known to the ancients. For Columella, in treating of the ſeveral kinds of vegetables which are proper for the field, recommends the cultivating *Rapa* in plenty; becauſe, ſays he, thoſe roots which are not wanted for the table, will be eaten by the cattle. Yet Turneps have not been generally cultivated in the fields till lately; nor is the true method of treating them practiſed even now in ſome diſtant counties.

[Whatever ſkill the ancients might poſſeſs in the culture of Turneps, it cannot be a matter of ſurpriſe if it were neglected in the confuſion conſequent upon the fall of the Roman empire. It is however certain that it was practiſed as far back as we have any records in the Low Countries, and in ſome parts of Germany. This moſt uſeful root indeed does not ſeem to have found its way into England, for the purpoſe of feeding cattle, till about the middle of the laſt century. Sir Richard Weſton, in his *Diſcourſe of Huſbandrie uſed in Brabant and Flanders*, 1645, affirms that Turneps were then cultivated for feeding kine in many parts of England. He adds however, that “ there is as much difference between what “ groweth in Flanders and here, as is between the “ ſame thing which groweth in a garden, and that “ which groweth wild in the fields.” Mr. Worlidge, who writ in 1668, ſays that flies are the greateſt enemies to Turneps[n]. And Mr. Ray, in 1686, informs us, that they are ſown every where in fields as well as gardens, for the ſake of their roots, in England as well as in foreign countries[o]. Mr. Liſle alſo mentions the growth of Turneps in Hampſhire, Berkſhire, and Leiceſterſhire, in the years 1698 and 1699: and ſays that the Newtown men who hoed his Turneps in 1707, had made this their buſineſs for many years[p]. Laſtly, Mortimer at the beginning of the preſent century, ſays, that Turneps are of a very great advantage to be ſown in fields, as food for cattle in winter. He adds, that in Suffolk they commonly give them to their cattle in the houſe, and that hogs will alſo eat them, if they are firſt boiled[q]. Hence the common ſtory that the culture of Turneps was firſt introduced by Charles Lord Viſcount Townſhend cannot be true; nor did he lead the way even in Norfolk itſelf: for Mr. Liſle, whoſe obſervations in agriculture were made between the years 1693 and 1722, informs us, that he was aſſured by Mr. Heron of Norfolk, that they dung their turnep-land ſo much, that their dry-land meadows are quite impoveriſhed by it. That he diſcourſed alſo with Mr. Gooch, a Norfolk gentleman, about the turnep-huſbandry of that county; particularly on a diſtemper to which the root is ſubject called the *hanbery*[r]. The truly patriotic nobleman however abovementioned was probably the occaſion of this culture being carried to that extent and perfection in which we now ſee it; and that moſt likely about the year 1730, when his Lordſhip retired to Rainham from public buſineſs; or perhaps earlier, for he was ambaſſador extraordinary to the States General in 1709, when he might have become acquainted with the Turnep culture on the Continent[s].

The improvement in this piece of huſbandry was undoubtedly gradual. The culture was practiſed in the middle of the laſt century, but was not well underſtood till the end of that and the beginning of this: nor did it arrive at its preſent perfection till it was encouraged by the precept and example of the late Lord Viſcount Townſhend.

Turneps were certainly not in cultivation, except for the table, at the end of the ſixteenth, and the beginning of the laſt century. Barnabe Googe indeed ſays (1586), “ we uſe to ſowe Rapes for the “ ſuſtenance both of man and beaſt.” But we are to recollect that his work is a tranſlation from the German[t], and the above paſſage refers to that country. So little was known of them in 1588, that Cogan, in his Haven of Health, affirms, “ that “ although many men love to eate Turneps, yet “ ſwine by nature doe abhorre them[u].” Neither Gerard in 1597, nor Parkinſon in 1629, give the ſmalleſt hint of this root being then in field-culture for cattle. The former of theſe ſays only that “ the “ ſmall Turnep groweth by a village near London, “ called Hackeney, in a ſandie ground, and brought “ to the Croſſe in Cheapſide by the women of that “ village to be ſolde, and are the beſt that I have “ ever taſted[x].”

8. The Cabbage, as it is found in its wild ſtate on the ſea ſhores of Britain, has the ſtem leaves very much waved, and variouſly indented, the colour ſea-green frequently with a mixture of purple; the lower ones ſomewhat ovate and ſeſſile, the upper almoſt linear. The flowers are large. The leaflets of the calyx ovate, broad and yellow. The ſiliques ſhort and ſwelling[y].

Early in the ſpring, the Sea Cabbage is preferable to the cultivated ſorts; but when it is gathered on the coaſt, it muſt be boiled in two waters, to take away the ſaltneſs. When old it is ſaid to occaſion giddineſs. The roots may alſo be eaten, but they are not ſo tender as thoſe of the Turnep and Navew. All the different varieties of Garden Cabbage originate from this[z].

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[m] Withering.

[n] p. 26. [o] hiſt. p. 800. [p] 233—238. [q] p. 122. edit. 2. 1708. [r] p. 233 & 239. [s] Young's annals, 5. 120. [t] Of Conrad Hereſbach, p. 59. [u] p. 64. [x] Herball, p. 178. [y] Woodw. in With.

Theſe varieties may, it ſhould ſeem, be reduced to three general diviſions: the firſt comprehending thoſe which grow in the natural way, without forming the leaves or ſtalks into a head. This ſection or diviſion, beſides the Sea Cabbage or Wild Colewort, would comprehend the Green Colewort, the Borecoles, and Turnep Cabbage. Secondly, thoſe which form the leaves into a head, as the White Cabbage, the Red, the Savoy, *&c.* Thirdly, thoſe which form their ſtalks into a head, as the Cauliflower, and the different varieties of Broccoli. The firſt ſection might be ſubdivided into the Wild, with broad leaves, and an even ſtem; the Turnep Cabbage, with broad leaves and a protuberant ſtem; and the Borecoles, with fine-cut leaves and an even ſtem. The ſecond ſection contains the Cabbages commonly ſo called: as the Red; the numerous varieties of the White, ſuch as the Sugar-loaf, the Early, the foreign Muſk, the ſmall Ruſſia, the large-ſided, the flat-topped, the Yorkſhire, Scotch, American, *&c. &c.*; and thoſe with wrinkled leaves, as the common Savoy, the green Savoy, *&c.* Of the Borecoles in the firſt, and the Broccoli in the third ſection, there are alſo variations in colour—the purple and the white.

Mr. Miller ſeems to confound the *Napobraſſica* or Turnep Cabbage with the Sea Cabbage: [he ſays] it grows naturally on the ſea ſhore, near Dover; that it has a perennial branching ſtalk, in which it differs from all the others; that the leaves are inclining to a purple colour, and are placed alternately on the branches; that the flower-ſtalks grow from the ends of the branches, and ſpread out horizontally, but that thoſe which ariſe from the centre of the plant grow erect, and ſeldom put out branches. He inſiſts that it is a diſtinct ſpecies, having always found the ſeeds to produce the ſame plant, with this difference only, that in good ground the ſtalks will be much larger than in poor land. The young ſhoots, after they are much frozen, are very ſweet and good; but at other times they are very ſtrong and ſtringy. In very hard winters, this is a neceſſary plant, for the moſt ſevere froſts do not injure it.

The common Colewort, or Dorſetſhire Kale is now almoſt loſt near London, where the markets are uſually ſupplied with Cabbage plants inſtead of them; theſe being more tender and delicate. The common Colewort indeed is better able to reſiſt the cold in ſevere winters; but it is not good till it has been pinched by froſt, and our winters being generally temperate, Cabbage plants are now conſtantly brought to market; which, if they be of the Sugar-loaf kind, are the ſweeteſt greens from december to april yet known. Indeed, where farmers ſow Coleworts to feed their milch cattle in the ſpring, when there is a ſcarcity of herbage, the common Colewort is to be preferred, as being ſo very hardy that no froſt will deſtroy it.

The curled Coleworts or Borecoles are more generally eſteemed than the common one, being like that ſo hardy as never to be injured by cold, and at the ſame time much more tender and delicate; theſe however are always ſweeter in ſevere winters than in mild ſeaſons.

Of the heading Cabbages, the Red is chiefly cultivated for pickling; the common white, flat, long-ſided, and Savoy for winter uſe. The Muſk Cabbage is almoſt loſt, though for eating it is one of the beſt we have; but being tenderer than many other ſorts, it is not ſo profitable for market gardeners: ſuch however as cultivate for their own tables ſhould make choice of this rather than any of the common Cabbages, for it is always looſer, the leaves are more criſp and tender, and it has a moſt agreeable muſky ſcent when cut.

The Early and Sugar-loaf Cabbages are generally ſown for ſummer uſe, and are commonly called Michaelmas Cabbages. The Ruſſian Cabbage was formerly in much greater eſteem than at preſent, it being now only to be found in particular gentlemen's gardens, and rarely brought to market. [The other heading Cabbages, together with many others, for it would be endleſs to enumerate all the varieties which are perpetually riſing into fame, and falling into oblivion, are cultivated chiefly for feeding cattle: for which they are certainly well adapted on ſtrong lands; but they are undoubtedly a very exhauſting crop.

When the Cabbage was firſt introduced into field culture, I am not enabled, from my reſearches, to ſtate; but it has not long prevailed to any conſiderable extent. Mr. Houghton, in his Collections[a], relates, that a beaſt was lately (1694) ſold near Bury for thirty pounds, which was fatted with Cabbage leaves.

For the table it has been uſed time immemorial; having been in ſo much favour with the Romans, it could hardly fail of being introduced by them, during their reſidence in our iſland. And our Saxon anceſtors certainly had ſome ſort of Cabbage, ſince they called the month of february *Sproutcale*[b].

The Germans cut Cabbages in pieces, and with ſome aromatic herbs and ſalt, preſs them cloſe in a tub, where they ſoon ferment, and are then eaten under the name of *Sour Crout*[c]. In this ſtate they are much recommended againſt the ſea ſcurvy. Cabbages indeed in general are eſteemed a ſalubrious aliment in the putrid ſcurvy: they are laxative and produce flatulencies; but the laxative matter is extracted by long boiling. The white Cabbage is the moſt putreſcible, and the red moſt emollient[d].]

Mr. Miller inſiſts that the Cauliflower is ſpecifically diſtinct from the common Cabbage; becauſe, from more than fifty years experience in cultivating theſe plants, he could never find the leaſt appearance of one approaching to the other: becauſe they are ſo different in their leaves, as to be eaſily diſtinguiſhed when the plants are young: and becauſe the common Cabbage puts out one upright ſtem from the centre, which afterwards divides into ſeveral branches; whereas the Cauliflower ſends out many flower-ſtems from the part which is eaten, which is a compact collection of the heads of theſe ſtalks, dividing afterwards into ſo many ſtems, and branching out into many ſpreading ſhoots, ſo as to form a large ſpreading head when in flower, but never riſing pyramidically like the Cabbage.

The Cauliflower was firſt brought to England from the iſland of Cyprus, where it is in great perfection at preſent; but it is ſuppoſed, it was originally brought thither from ſome other country: moſt of the old writers mention it to have been brought from that iſland, to the different parts of Europe. Although this plant was cultivated in a few Engliſh gardens long ſince, yet it was not brought to any degree of perfection till about the year 1680, at leaſt not to be ſold in the markets. Since the year 1700 the Cauliflower has been ſo much improved in England, that ſuch plants as before would have been greatly admired, are at preſent little regarded. It has indeed been much more improved in England than in any other parts of Europe. In France they rarely have Cauliflowers till near Michaelmas; and Holland is generally ſupplied with them from England. In many parts of Germany they were not cultivated till within a few years paſt; and moſt parts of Europe are ſupplied with ſeeds from hence.

Purple and White Broccoli are only varieties of the Cauliflower; for although with care they may be kept diſtinct, yet if they were to ſtand near each other for ſeed, they would probably intermix. I am the rather inclined to believe this, from the various changes which I have obſerved in theſe plants; for I have frequently had Cauliflowers of a green colour, with buds regularly formed at the ends of the ſhoots, like thoſe of Broccoli, though the colour was different; and the white Broccoli approaches ſo near to the Cauliflower, as to be with difficulty diſtinguiſhed from it. When however theſe are cultivated with care, they may be kept diſtinct. The variations are not occaſioned by ſoil, but by the mixture of the farina of the anthers in the flowers; thoſe perſons therefore who are curious to preſerve them diſtinct, never ſuffer the different ſorts to ſtand near each other for ſeed.

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[z] St. in With.

[a] Vol. 1. p. 294.

[b] White's Selborne.

[c] St. in With.

[d] Lewis.

9. Leaves oblong or oval, very like thoſe of Hound's-tongue, blunt but ſmooth; ſtem-leaves embracing, oblong, quite entire. Flowers as in the common Cabbage, yellow. Calyx longer than the claws of the petals, whence it gapes and is prominent between them. Stamens longer. Siliques a little compreſſed. Native of China[e].

Introduced in 1770, by Monſ. Richard[f].]

10. This is an annual plant, which, if ſown in april, will flower in july, and perfect the ſeeds in october. It never cloſes the leaves to form a head, but grows open and looſe, more like the wild Navew. This ſort came from China, where it is cultivated as an eſculent plant. There are two or three varieties of it, and it is as changeable as our common Cabbage: [of which indeed, or perhaps of the Navew, it ſeems to be a variety.

11. This ſpecies is a native of Siberia, and is an annual plant. The root is thin and fibroſe. The ſtems numerous, growing oblique, two feet or more in length, ſmooth, and branching upwards. The leaves are of diſſimilar forms, but in general are linear-lanceolate, thick, and alternate; thoſe on the ſtalk generally dentated: the denticles nearly ſubulate. The ſhoots are leafy, proceeding from the axillas of the branches, ſo as to cauſe a kind of cluſtering appearance. The flowers are pale-yellow. It is a plant which varies extremely in the appearance of its leaves.

12. Root annual, fuſiform. Stems many, from a foot to eighteen inches high and more, round, ſmooth, ſometimes having a few hairs and ſmall red dots, bright or glaucous green: branches alternate. The root-leaves form a tuft, proſtrate on the ground: ſtem-leaves alternate, one to each branch, ſubdecurrent, from upright ſpreading, lanceolate, obtuſe, pinnatifid, above ſix inches long and two broad, bright green or glaucous, ſmooth, frequently having a few hairs; pinnas alternate and oppoſite, decurrent, linear-lanceolate, obtuſely toothletted, the outmoſt leaflet trifid: petioles furrowed above, ſometimes an inch long: rib ſmooth, often with a few hairs. Flowers in a long, looſe, terminating raceme. Peduncles alternate, round, ſmooth, one-flowered. Corollas yellow, with dark yellow and green veins. Siliques ſpreading, obtuſely quadrangular[h]. Native of the ſouthern countries of Europe, in ſandy fields, by way ſides, and on walls; flowering from june to auguſt.

13. Root annual. Stem angular, upright, branching, two feet high and more. Leaves ſmooth, pulpy, with a leafy nerve and three or four pairs of pinnas, larger as they approach the nerve, confluent, oblong, acute, toothed; the outer largeſt, ovate or rhomboidal, often ſemibifid and ſemitrifid. Calyx erect, livid, with the leaflets, eſpecially two of them, gibbous. Claw of the petals erect, long: border broad, roundiſh, lemon-colour with black veins, ſometimes white. Siliques on ſhort peduncles, preſſed to the ſtem, ſubhirſute, round, with four lines, two of which are a little elevated; and terminated by a thick ſtrong triangular horn, which is the ſtyle. Seeds round on one ſide, and flat on the other[i].

Native of Switzerland, Auſtria, and Piedmont.] It was formerly much cultivated in the gardens as a ſalad herb, but at preſent is little known, having been long rejected on account of its ſtrong ungrateful ſmell. It alſo ſtood in the liſt of medicinal plants, but is now ſeldom uſed, though it is reckoned a ſtrong diuretic.

[14. Root annual, ſpindle-ſhaped. Leaves lanceolate, pinnatifid-toothed, ſmooth above. Stem hairy, branching. Racemes erect, terminating. Corollas yellow, with darker veins. Calyx cylindrical; but in the fruit it becomes inflated and permanent. The belly of the ſilique is not longer than the calyx, with the lanceolate piſtil permanent. It differs therefore from the foregoing, in having a calyx under the fruit, inflated like a bladder; leaves not lyrate but lanceolate; ſiliques hiſpid backward, not ſmooth; calyxes permanent till the fruit is ripe, not deciduous[k]. Native of Spain and Aleppo, whence it was ſent to Moriſon by Robert Huntingdon.

15. Root perennial, ſomewhat woody, penetrating deep into walls. Stem a foot and half high, branched, round, at bottom ſomewhat woody and perennial. Leaves pinnatifid and jagged, ſmooth, ſpreading, having a diſagreeable ſmell. The calyx, before the flower opens, has two ſhort proceſſes like horns, furniſhed with one or two hairs. Petals rather large, twice the length of the calyx, yellow. The two glands on the outſide of the filaments are unuſually long, externally bent in at the top; the other two ſhorter and roundiſh. Silique an inch and half long, round, marked on each ſide with a prominent line[l].

It grows on old buildings and walls in many parts of England, as at Yarmouth, Cheſter, Taunton caſtle, Lichfield cloſe, Briſtol, Exeter, Berwick, and plentifully in and about London, as about the Tower, the back of Bethlem hoſpital, about Dean's-yard, Weſtminſter, Hyde Park, Chelſea, *&c.* flowering the greateſt part of the ſummer.

16. Root woody, perennial. Root-leaves elliptic, obtuſe, obſcurely ſinuate-angular; petiole channelled, the length of the leaves. Stem round, ſtriated, hollow, a cubit and half high, ſimple or a little branched. Stem-leaves few, diſtant, like the others, but on ſhorter petioles, and ſcarcely angular. Flowers in umbels: petals ovate, yellow, ſcarcely emarginate; veins darker. Siliques toruloſe, ſubquadrangular, drawn to a point at both ends. The whole plant is very ſmooth, tender, juicy, and glaucous. Native of the ſouth of France, and the mountains of Piedmont[m].]

PROPAGATION AND CULTURE.

1—5. The five firſt ſpecies are cultivated merely for curioſity. They may be propagated by ſowing their ſeeds on a bed of light earth, early in the ſpring, in the place where they are deſigned to remain, for they do not bear tranſplanting well. When the plants are come up pretty ſtrong, they ſhould be thinned, ſo as to leave them four or five inches apart, and they muſt be conſtantly kept clear from weeds. In june they will flower, and their ſeeds will ripen the beginning of auguſt. If theſe be permitted to fall, the plants will come up, and maintain themſelves without any farther care except weeding.

COLESEED, or RAPE.

The Cole ſeed when cultivated for feeding cattle, ſhould be ſown about the middle of june. The ground for this ſhould be prepared in the ſame manner as for Turneps. The quantity of ſeeds for an acre of land, is from ſix to eight pounds, and as the price of the ſeeds is not great, it is better to allow eight pounds; for if the plants are too cloſe in any part, they may be eaſily thinned when the ground is hoed. When the plants have put out ſix leaves, they will be fit to hoe, which muſt be performed in the ſame manner as is practiſed for Turneps, with this difference only, of leaving theſe much nearer together; for as they have fibrous roots and ſlender ſtalks, they do not require near ſo much room. Theſe plants ſhould have a ſecond hoeing, about five or ſix weeks after the firſt, which, if well performed in dry weather, will entirely deſtroy the weeds, and they will require no farther culture. By the middle of november theſe will be grown large enough for feeding, when if there is a ſcarcity of fodder, this may be either cut or fed down; but where there is not an immediate want of food, it had better be kept as a reſerve for hard weather, or ſpring feed, when there may be a ſcarcity of other green food. If the heads are cut off, and the ſtalks left in the ground, they will ſhoot again early in the ſpring, and produce a good ſecond crop in april, which may be either fed off, or permitted to run to ſeed, as is the practice where this is cultivated for the ſeeds: but if the firſt is fed down, there ſhould be care taken that the cattle do not deſtroy their ſtems, or pull them out of the ground. As this plant is ſo hardy as not to be deſtroyed by froſt, it is of great ſervice in hard winters for feeding ewes; for when the ground is ſo hard frozen, as that Turneps cannot be taken up, theſe plants may be cut off for a conſtant ſupply. In ſeveral places where I have ſown this ſeed, I have found that one acre of land will produce as much food, as almoſt two acres of Turneps; and this will afford late food after the Turneps are run to ſeed; and if it is afterward permitted to ſtand for ſeed, one acre will produce as much as, at a moderate computation, will ſell for five pounds, clear of charges.

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[e] Linneus.

[f] Hort. kew.

[h] Pollich.

[i] Haller.

[k] Linn.

[l] Curtis.

[m] Allioni.

Partridges, pheaſants, turkeys, and moſt other fowl, are very fond of this plant; ſo that wherever it is cultivated, if there are any birds in the neighbourhood, they will conſtantly lie among theſe plants.

The ſeeds of this plant are ſown in gardens for winter and ſpring ſalads, this being one of the ſmall ſalad-herbs.

[Cole or Rape is ſometimes ſown on fallow, like Turneps, ſometimes on the ſtubble of an arable crop; it requires good land, very ſtiff clay does not ſuit it, and poor land is wholly unfit; but on the ſward of old grazing grounds, on fen and marſh land, it generally turns out the moſt profitable crop for ſeed, either immediately or after flax. On old paſtures the turf is pared and burnt, the aſhes are ſpread, generally with a mixture of lime. The ſeed is ſown in july, early enough to get a ſtrong leaf, and late enough to prevent its running up to ſtem the firſt autumn; the quantity of one gallon to an acre, generally on one plowing, and bruſhed in with a thorn-harrow. The crop is ſeldom hoed or weeded. The vacant patches are filled up in october with plants from thoſe parts which are overſtocked; this work is done by women, the plants ſeldom fail, but they ripen later than the others. When a large piece fails, the plough is ſometimes uſed in tranſplanting; the expenſe four ſhillings an acre; namely eight women, at ſix-pence a day. Would it not therefore be better to tranſplant the whole crop?

In the common method of culture, the whole tribe of biennial weeds have time to eſtabliſh themſelves before winter; and the crop not being reaped until july or auguſt following, they have time to mature and ſhed their ſeed. The graſſes and ſtrong-rooted weeds of every kind, gain poſſeſſion of the ſoil; which alſo gets out of tilth, by lying ſo long without ploughing.

One ploughing in autumn would extirpate the biennial weeds, check the graſſes and ſtrong-rooted weeds, and preſerve the ſoil in tillage. Draw from the firſt land ſufficient plants for the laſt land, and bury the roots in a vacant place until wanted. Plough the firſt land, burying the weeds and the refuſe rape; and ſtock it at the ſame time with plants, drawn from the ſecond land. The firſt land being finiſhed, ſupply the ſecond with plants from the third, and ſo on; furniſhing the laſt land with the plants in reſerve. Thus the entire piece would have prime plants, equal in ſtrength, and regular in diſtance; the ſoil would be evenly occupied, and the crop would ripen equally; the hoe, and even the horſe-hoe might be uſed between the rows; and the fouleſt crop which farmers have to deal with, might, at a ſmall expenſe, be rendered a fallow crop of the firſt eſtimation.

In this management, the firſt or ſeed-ploughing ought to be very ſhallow acroſs the ridges; and the ſecond or tranſplanting ploughing ſhould be acroſs the firſt; gathering up the ridges dry againſt winter. A manured fallow, a rich wheat ſtubble, or other land ſufficiently clean and in heart, might be planted in a ſimilar manner; raiſing plants for this purpoſe in a detached ſeed-bed.

Rape is generally ripe in july, and is conſidered as fit for cutting when the forwardeſt of the ſeed has begun to turn black. It is cut with ſickles, and laid in broad thin reaps upon the tops of the ſtubble, which is generally cut about a foot high, or as high as the lower branches will allow. It lies until the ſap is pretty well dried out of the greeneſt pods, and the ripeſt are ready to open; and is commonly thraſhed in the field upon a cloth. It would be far better however to bind, ſhock, and carry it into the barn; threſhing it when markets and conveniency required[n].

When Rape ſucceeds flax, the ground is cleared of weeds as ſoon as convenient; the ground is ploughed four or five inches deep, and from half a peck to a peck of ſeed, according to the richneſs of the ſoil, is ſown from a week before to a week after michaelmas; it is uſually well harrowed in, and if it grows into rough leaf before winter it is conſidered as better than growing more, which would render it in danger of being damaged or deſtroyed by froſt: no weeding takes place, and the crop will be ripe about the middle of july. It is reaped and laid on the ground in ſingle handfuls, and when dry it is carried to the threſhing-floor on ſledges covered with ſail-cloth. The crop is from three to ſeven quarters on an acre. The ſeed loſt in reaping and getting produces a crop of green food for ſheep, which is fed off early enough to prepare the ground for a ſecond crop of flax. The ſtraw is ſold at two ſhillings an acre, to perſons who burn it on the ſpot for the aſhes[o].

For immediate profit, and on old paſtures broken up, Rape or Cole may be thus cultivated for ſeed; but on ſtubbles or fallows it anſwers better to feed it off with ſheep; the fat ones going over it firſt, and afterwards the lean or ſtore ſheep following; in the autumn, but particularly in the ſpring, when there is frequently a ſcarcity of green feed. This is an excellent preparation either for Wheat or Barley. It ſucceeds beſt on a deep ſoil, with good manure and deep ploughing; and does beſt after Beans, Barley, Oats, or Wheat. It is ſometimes ſown after Turneps or Cabbages, which cannot be a right practice. When ſown on a fallow the land ſhould be ploughed up ſoon after chriſtmas, and lie till the end of march. It ſhould then be ploughed a ſecond time, harrowed down, and a coat of manure laid on as for Turneps. When this is ſpread, the land ſhould be croſs-ploughed and got into fine tilth by the end of june. The firſt rain after this, the ſeed ſhould be ſown; from two to four quarts an acre according to circumſtances, in the ſame manner with Turneps; and the land ſhould be lightly harrowed and rolled. The crop ſhould be hoed, as above directed; and the vacant places filled up in october. Many perſons omit the hoeing entirely, when it is intended only for feeding. Coleſeed being an exhauſter of land, ſhould not be repeated oftener than every ſeventh year, and not ſo often when cultivated for the ſeed.]

TURNEP.

Soil.

The Turnep delights in a light, ſandy, loamy ſoil: in a rich ſoil the roots grow rank and are ſticky; but if it be moiſt, they will thrive better in ſummer, eſpecially in freſh land, where they are always ſweeter than upon an old worn out, or a rich ſoil.

[The right ſoil for this root, in field culture, is a deep ſand, ſuch as has adheſion enough to make it of the value of from 5s. to 10s. an acre. Land of 14s. or 15s. has generally too great a mixture of loam. If the land be wet or ſtiff, ſuch as yields good wheat crops, the culture may not be advantageous, eſpecially if uſed, as it ſhould be, as a preparation for Barley: on ſuch ſoil it would ſhorten the crop, at leaſt two or three combs (from eight to twelve buſhels) an acre. Even blowing ſands of 3s. 6d. or 2s. 6d. an acre are to be preferred; for theſe, when folded, if the ſeaſon ſhould happen to be wet, yield profitable crops: indeed ſuch lands can be farmed no other way; for if no Turneps are gained, no Corn can be had; and a mere ſheep-walk is then the only uſe that can be made of them. Where a farmer has no proper ſoil for Turneps, it is more prudent to give up the winter feeding of more cattle than his hay and ſtraw will do for, unleſs he can depend on buying Turneps, which may ſometimes be advantageous, and ſometimes the contrary [p].

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[n] Marſhall's Yorkſhire, 2. 29, &c.

[o] Middleton, in Young's ann. vol. 14. p. 94.

Tillage.

The firſt earth (or ploughing) for Turneps ſhould be given before chriſtmas, or certainly not later, and ſhould be of a common ſtaple depth [q]; unleſs the land is foul, in which caſe it ſhould he ploughed very fleet (ſhallow) in two furrow ridges, and the ſecond time to the full depth; but it ſhould never be ploughed in wet weather [r]. This ſecond earth, for which frequently the farmer has not leiſure, ſhould be given before the ſpring ſeed-time, and will be very uſeful; for if there ſhould be any ſpire or ſpear-graſs (quick, quich or couch) in the land, that pernicious weed is apt to get too great a hold before barley-ſowing is over. Immediately after the Barley is in the ground, the third earth ſhould be given, this will be in may; the fourth about the ſecond week in june; and the fifth, or ſeed-earth the latter end of the ſame month, unleſs the ſoil be ſubject to the mildew, in which caſe old midſummer (the firſt week in july) will be full ſoon enough. And let it be obſerved, that harrowing with every earth is very neceſſary, for the ſurface ſhould always be kept in fine friable order, that the ſeed-weeds may grow; whereas, if this be omitted till the ſeed-earth, they will then be grown ſo powerful, as to ſmother many of the young plants [s].

On a light dry ſoil, the Turnep crop is in a degree neceſſary; but where land will remain in graſs, and where other arable crops are more certain and productive, it is leſs eſſential to good huſbandry: in particular ſituations however, under proper management, it may frequently be uſeful, and may be occaſionally practiſed, on a ſmall ſcale, in almoſt every ſituation. It may not be amiſs therefore to give the proper tillage of the turnep-crop on rich retentive ſoils.

If the land be foul, or if early ſowing be propoſed, break up in autumn, by a ricebalk or half-ploughing, acroſs the lands; gathering a bout in each interfurrow, and opening the croſs trenches, in order to lay the ſoil as dry as poſſible during the winter. But if the land be tolerably clean, and early ſowing be not wanted, break up in the ſpring; in order that the roots and ſtems of graſſes, &c. may remain in an undigeſted ſtate, and aſſiſt in rendering a cloſely textured ſoil looſe and fit to receive the weakly fibres of the ſeedling Turneps.—Croſs, and give the firſt ſtirring (the third ploughing) without previous harrowing: and, if the root-weeds be not yet ſubdued, give a fourth ploughing, before the harrows be ſuffered to come upon the land.

Spread dung, which is in a middle ſtate, on the rough plit: if too long and ſtrawy, it is pulled up by the harrows, and if wholly digeſted, it loſes the valuable quality of rendering this retentive ſoil looſe and open. As the dung is ſpread harrow and roll, until the ſurface be perfectly reduced; and in this ſtate let it lie until the ſeed-weeds have vegetated.

Turn under the weeds and manure, by a mean-depth or ſomewhat ſhallow ploughing; and if the ſoil be in a proper ſtate, and the ſeaſon of ſowing be arrived, ſow on this ploughing: if not, harrow and roll, letting another crop of ſeed-weeds ſpend themſelves; remembering that the ſtronger the ſeed-weeds are before they are ploughed under, the fitter the ſoil will be for the reception of the ſeedling Turneps, eſpecially if it be of a tenacious quality.

Harrow immediately the plit of the ſeed ploughing with rough harrows, in order to give a uniform looſeneſs to the ſurface, as well as that the ſeed may be buried at a uniform depth. Sow, and immediately cover with one full tine of a pair of light harrows; and, if poſſible, with the horſes trotting.

For a crop to be eaten off in autumn, ſow in june, the *tankard* or *pudding* Turnep, which has a rapid growth, but ſtanding high above the ground, cannot bear the winter. For winter and ſpring feed, ſow the common *white-loaf*, in july. If theſe miſcarry, or if ſtubble Turneps be attempted, ſow in auguſt, the *ſtone* Turnep, a ſmall hard, ſweet root, which ſtands the winter with ſingular hardineſs.

In a common ſeaſon, ſow two pounds of ſeed on an acre, all upon the ſame ſurface; for perhaps the nearer the plants come up, the leſs danger there is of their being wholly cut off by inſects; but if theſe are known to be in force, or if any doubt ariſe, either as to the quality of the ſeed or the ſeaſon, ſow at leaſt three pounds of ſeed to an acre.

If the ſoil lie in broad round lands, plough one, two, or even three bouts in each interfurrow, according to the width, height and wetneſs of the lands, as ſoon as the ſeed-weeds have done vegetating; and if any root-weeds appear to be alive on the ſurface, or being dead, if any are likely to impede the hoe, pick them off, and caſt them upon the intervals.

If the firſt ſowing miſcarry, and the failure be fully aſcertained before the weeds have got too ſtrong to be got out with rough harrows, harrow only before re-ſowing; but if the weeds have got faſt hold of the ſoil, or if the ſeaſon be too moiſt to obtain the intention by harrowing alone, plough a mean-depth, and harrow, ſow, and cover as before [t].

On ſuch ſoils the Turneps cannot be fed on the land without injury, even by ſheep; nor can they well be carted off, except in light broad-wheeled carts or on ſledges: they may however be uſeful in ſtall-feeding bullocks, or given to ſheep on a ſound piece of paſture.

Drilling.]

Another method has been practiſed lately in cultivating Turneps; which is, by ſowing the ſeed in rows with the drill plough. In ſome places the rows have been ſown three feet aſunder, in others four, in ſome five, and ſome ſix. The latter has been commended by ſkilful perſons as the moſt proper diſtance; for although the intervals are ſo large, yet the crop produced on an acre has been much greater than upon the ſame quantity of land where the rows have been but half this diſtance; and upon all the fields which have been cultivated for Turneps, the crops have greatly exceeded thoſe which have been hand-hoed. The late Lord Viſcount Townſhend was at the expenſe of making the trial of theſe two different methods of huſbandry, with the greateſt care, by equally dividing the ſame fields into different lands, which were alternately ſown in drills and broad-caſt. The latter were hoed by hand, in the common method, and the other cultivated by the hoeing plough; and when the roots were fully grown, his Lordſhip had an equal quantity of land, which had been ſown in different methods, meaſured, and the roots drawn up and weighed; and thoſe roots which had been cultivated by the plough, were ſo much larger than the other, that the crop of one acre, weighed a ton and a half more than that of an acre in the other huſbandry.

But when the Turneps are ſown in drills, they will require to be hoed by hand, to ſeparate and cut out the plants where they are too near together in the rows, as alſo to cut up the weeds between the plants, where the plough cannot reach them. If this is carefully performed, the ploughing of the intervals will encourage the growth of the roots, by thus ſtirring the ground, and prepare it much better for the crop of Barley, or whatever elſe is ſown the following ſpring. This method of culture may be ſuppoſed to be more expenſive than that commonly practiſed, by thoſe unacquainted with it; but thoſe who have made trials of both, find the horſe-hoeing to be much the cheapeſt, and by far the beſt. For the country people, who are employed in hand-hoeing Turneps, are very apt to hurry over their work, ſo that half the weeds are left growing, and the plants are ſeldom ſingled out ſo well as they ſhould be; nor are they curious enough to diſtinguiſh the Charlock (which is one of the moſt common weeds in arable land) from the Turneps; ſo that about the middle of ſeptember, it is very common to ſee the fields of Turneps full of the yellow flowers of the Charlock. Now, in the horſe-hoeing, all the weeds in the intervals will be entirely deſtroyed; or if a few plants of Charlock in the rows ſhould be overlooked, they may be eaſily drawn out afterwards; and by this method the land will be ſooner and better cleaned from weeds.

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[p] Macro, in Young's ann. vol. 3. p. 298.

[q] Ibid.

[r] Kent's report for Norfolk.

[s] Macro.

[t] Marſhall's midland, 2. 192, &c.

[The above advantages of drilling Turneps have been confirmed by ſubſequent obſervations and experiments. The ſpaces between the rows will be hoed in half the time that would be required if they were ſown in the common way; and when they come to be ſet out at proper diſtances in the rows, the ſuperfluous plants may be cut out in one-third of the time uſually required, and that by women and children; which is a conſiderable advantage, when the hoeing is to be done in the buſy time of harveſt[u]. It is not the practice, nor does it ſeem to be any advantage, to ſet out the rows at ſo great a diſtance as is recommended by Mr. Miller; the common intervals between the rows are from ſeven or eight to ten or twelve inches.

The difference in weight on a given quantity of land appears alſo to be conſiderable, to the advantage of the drill culture, to the amount of one ton, three, four, or twelve hundreds; two tons five hundred; and even three tons[x]. But the principal advantage ſeems to conſiſt in depoſiting the ſeed at a proper depth in the ſoil, namely about two inches, where there is moiſture even in a dry ſeaſon to ſend the plants up in a few days; whereas when they are ſown broad-caſt in a time of drought, the ſeed may remain ſeveral weeks waiting for rain to make them vegetate; and the ſeed being all depoſited at the ſame depth will vegetate at the ſame time; and by getting into the rough leaf ſooner, will ſtand a better chance of eſcaping the fly[y].

Manuring.

No Turneps, and conſequently no Barley after them, can be had without dung; and the crop in great meaſure depends upon the quantity of it. The dependance for manure is chiefly on the fold or farm-yard, uſually both. Of farm-yard dung, or elſe muck, that is, dung mixed with mould, marl, *&c.*, not leſs than twelve loads ſhould be ſpread on an acre, ſuch as was made the preceding winter, and once turned over. In reſpect to the length of dung, it ſhould neither be long, nor quite rotten; the beſt condition is, when it is in ſuch a ſtate that the labourers ſay it will neither ſpit nor fork. When the dung is rather long, and ploughed in with the ſeed-earth, the ſeed ſhould be only rolled in[z].

It is the cuſtom with ſome farmers to turn in the dung very ſhallow at the laſt ploughing but one, harrowing well to mix it with the ſoil; and they think it will begin to ferment by the time the ſeed-earth is given to the land. It ſeems however to be the better method to turn in the dung by the laſt ploughing or ſeed-earth; becauſe it is then turned down, not by a ſhallow furrow, but covered as ſoon as poſſible from the ſun; and depoſited where the roots will be ſure to find it, and where the immediate action of the ſun and wind is excluded: whereas in mixing the manure with the ſoil by the harrow, much of it is pulled out, and left expoſed on the ſurface[a].

Rough dung is in general preferred to ſuch as is rotten; a better crop however has been obtained, by mixing dung with earth or other manure in the winter, and getting it rotten enough to lay at top, and harrow it in with the ſeed, than by ploughing in long dung[b].

Rape-cake, in a pulverized ſtate, is alſo recommended for turnep-manure. Being reduced to powder by two mills, it is put into the drills. The quantity uſed to an acre is a quarter of a ton; which has never exceeded 1l. 5s. in price[c]. Others uſe malt-coombs, ſoot, ſoapers-aſhes, lime, crag, *&c.* but none of theſe manures are very general, or ſo effectual as farm-yard dung.

Seed and Sowing.]

Mr. Miller recommends two pounds of Turnep-ſeed as fully ſufficient for an acre of any land; one pound being the common allowance. [Some ſow but a quart, nay but a pint, whilſt others allow half a gallon to an acre. Half the quantity that is ſown broad-caſt will do when the ſeed is ſown in drills.

But the quantity of ſeed depends much on the ſoil: upon a naturally good Turnep ſand a pint an acre, evenly delivered by a good hand, or ſowing engine, will be enough: but in general two pints are allowed. No ſoil requires ſo much ſeed as chalky lands, when the chalk comes quite to the ſurface: upon ſuch ſoil, a quarter of a peck will ſeldom be too much for an acre, becauſe the fly is ſure to attack the plants more voraciouſly and with greater certainty on this ſoil than on any other. The ſowing engine, though with care a good tool, yet is liable to have the holes ſtopped by two ſeeds ſticking in them, ſo that if the ſower is not very attentive, he may go ſome diſtance, without a regular delivery[d].]

The common ſeaſon for ſowing Turneps, is any time from the beginning of june till the middle of auguſt, or a little later, though it is not adviſeable to ſow them much after; becauſe, if the autumn ſhould not prove very mild, they will not have time to apple of a proper ſize before winter; nor will the roots of thoſe which are ſown after the end of july grow very large, unleſs the froſt keeps off long in autumn. But, notwithſtanding this is the general ſeaſon in which the greateſt part of Turneps are ſown in the country, yet about London they are ſown ſucceſſively from march to auguſt, by thoſe who propagate them to ſupply the markets with their roots; but there is a great hazard of loſing thoſe which are ſown early in the year, if the ſeaſon ſhould prove dry, by the fly, which will devour whole fields of this plant while young; ſo that where a ſmall quantity for the ſupply of a family is wanted, it will be abſolutely neceſſary to water them in dry weather; and where a perſon ſows thoſe ſeeds in april and may, it ſhould always be upon a moiſt ſoil, otherwiſe they ſeldom come to good, the heat of the weather at that ſeaſon being too great for them upon a dry ſoil; but thoſe which are intended for the general crop, are ſown towards the end of june, when they commonly receive ſome refreſhing ſhowers to bring them forward; without which it is very common to have them all deſtroyed.

[The ſeaſon for field-ſowing extends from a week before midſummer, the 17th or 18th of june, to the middle or end of july. This variation is neceſſary for two reaſons; firſt, becauſe the land cannot be all manured to ſow early; and ſecondly, becauſe the late ſown will laſt much longer than the early ones, which are ſubject to the blight or mildew, and conſequently are more likely to be rotted by hard froſts afterwards; for which reaſon, all farmers ſhould take care to have ſome late ſown. Sometimes a crop ſown the firſt week in auguſt has proved the moſt profitable; this having eſcaped, whilſt the reſt have been killed by the froſt[e]. An active farmer therefore, will, in caſes where it is neceſſary, as ſoon as he has ſet up or ſhocked his wheat, plough up the intervals, and ſow them immediately with Turneps, for the chance of a late crop, which will furniſh ſpring feed, although they ſhould fail of appling well.

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[u] Boote in tranſ. arts, vol. 6. for 1788, p. 95.

[x] Dann, Ibid. vol. 10. for 1792, p. 61, &c.

[y] Boote, Ibid. vol. 6. p. 93, 94.

[z] Macro, in Young's ann. 3. 299.

[a] Young's ann. 12. p. 14.

[b] Macro, ibid. 7. 188.

[c] Kent's report for Norfolk.

[d] Macro in Young's ann. 3. 300.

Where a farmer has many Turneps, it does not ſeem a bad plan to ſow a fourth part at the end of june or the beginning of july to come early; half in the middle of july for the main crop, and the remainder at the end of the ſame month to come late[f]. This however muſt depend upon his buſineſs, the weather, and other contingencies. At any rate the main crop ſhould not be ſown too ſoon, nor allowed too much room; becauſe large roots will not ſtand the froſt near ſo well as ſmaller ones[g].

What is ploughed for the laſt earth ſhould always be ſown the ſame day, elſe, unleſs rain fall, the ground will be too dry for the ſeed to vegetate.] The ſeed muſt be harrowed in as ſoon as it is ſown with a ſhort-tined harrow; and the ground rolled with a wooden roller, to break the clods, and make the ſurface even. The plants will come up in ten days or a fortnight after ſowing. [But this will vary much with the weather; and there will be a difference of three days between the germinating of new and old ſeed.

Hoeing.]

When the plants have got four or five leaves, they ſhould be hoed to deſtroy the weeds, and to cut up the plants where they are too thick, leaving the remaining ones about ſix or eight inches aſunder each way, which will be room enough for the plants to ſtand for the firſt hoeing; and the ſooner this is performed, when the plants have four leaves, the better they will thrive; but in the ſecond hoeing, which muſt be performed about a month after the firſt, they ſhould be cut up, ſo that the remaining plants may ſtand fourteen or ſixteen inches diſtance, or more, eſpecially if they are deſigned for feeding cattle; for where the plants are allowed a good diſtance, the roots will be proportionably large, provided the ground is good; ſo that what is loſt in number, will be overgained by their bulk. But in places where they are ſown for the uſe of the kitchen, they need not be left at a greater diſtance than a foot, becauſe large roots are not ſo generally eſteemed for the table.

[The time for the firſt hoeing of field Turneps is very uncertain, depending on the ſoil and the ſeaſon, and varying from three to eight and even nine weeks from the time of ſowing. The ſize of the plants is the only guide; and the beſt rule is to begin hoeing, as ſoon as they are about the ſize of the palm of the hand, or ſpread upon the ground from three to four inches.

If the hoe be put in too ſoon, the plants which are ſet out are liable to be buried, and their roots diſturbed, in ſetting out others which are near them. And if the Turneps be ſuffered to grow too large, it is difficult to ſet out the plants, and they are liable to be drawn up by weeds. If theſe be numerous or luxuriant, it will be neceſſary to begin hoeing ſomewhat earlier, in order to check them in time. Some perſons run over the ground with a light harrow once in a place as ſoon as the plants are ſtout enough, to aſſiſt the hoeing; and if any of the fields, after the hoeing begins, get too forward, which in a wet ſeaſon is often the caſe, they give them a ſecond harrowing the contrary way.

Nothing but practice can teach the method of hoeing Turneps; to be performed well it requires a quickneſs of eye, and a dexterity of hand, which do not fall to the lot of every man. The hoe is generally drawn round the plant with a long ſweeping ſtroke; and when the plants are ſmall, this is the only ſtroke that ought to be uſed; but when the plants are out of danger of being buried, a ſhort ſtraight ſtroke is more expeditious, and in ſome hands makes tolerably good work. The general effect of hoeing ought to be, that the whole ground ſhould be ſtirred, all the weeds effectually cut up, and the plants ſet out ſingly at proper diſtances.

The common practice is to ſet out the plants at fourteen or fifteen, and ſometimes at eighteen inches diſtance. This however is not always neceſſary, and is frequently injurious. The proper diſtance depends upon the ſoil, and the time of ſowing. The richeſt ſoil will admit of the greateſt diſtance, becauſe the plants in that will be more luxuriant than in a ſoil of inferior quality. And early ſown Turneps will come to a greater ſize than ſuch as are ſown late, and therefore ſhould be allowed more room to ſpread themſelves. The beſt general rule in this caſe is, to give the plants room to keep themſelves in a ſtate of vigour and full growth, without leaving any ſpace unoccupied by, or even thinly filled with leaves. Since Turneps therefore commonly run from four to eight inches in diameter, twelve inches may be taken as a proper medium diſtance, except in land of an extraordinary goodneſs.

The main purpoſe of the ſecond hoeing is to looſen the mould, and draw it in ſome meaſure to the roots of the plants; to reduce the weeds effectually; and to ſingle ſuch plants as have been left double by the firſt hoeing; as well as to remove ſuch as have been miſſed, or having been buried in the looſe mould in moiſt weather, have ſtruck root again in improper places. With reſpect to the time of this ſecond hoeing, it ought to be given before the leaves become too large to prevent the plants from being properly ſingled and ſet out, or the weeds from being effectually cleared away; but the longer they ſtand before the laſt hoeing, the [illegible] effectually will the weeds be overcome.

If when the Turneps are ſo cloſed as to exclude all hoeing, any weeds ſtill ſhow themſelves, women and children ſhould be ſent in to pull them by hand.

The ſecond hoeing is ſometimes omitted, but ſeldom without great detriment to the crop and the land; and, ſtrange to tell, there are yet ſome parts of the kingdom where it is ſaid all hoeing of Turneps is yet unpractiſed.

Upon the whole, the object of the firſt hoeing ſhould be, not ſo much that of ſetting out the plants at exact and wide diſtances, as of checking the weeds, and thinning the plants to prevent their crowding each other: the regulation of diſtances ſhould be left in a great meaſure to the ſecond hoeing. In the firſt, by reaſon of the many accidents young Turnep plants are liable to, it is a work of hazard and uncertainty; in the ſecond, not only proper diſtances, but proper plants, may be choſen, with a degree of ſafety and certainty.

The Norfolk hoes are from nine to eleven inches wide. It is the intereſt of the hoer to work with a wide hoe, becauſe he gets over his work quicker, and has fewer plants to ſet out; his intereſt therefore is, in this caſe, in direct oppoſition to that of his employer. The width of the hoe ought to be in proportion to the medium diſtance between the plants; and that, as has been ſaid, ſhould be in proportion to their expected ſize. For twelve inches a ſeven-inch hoe is ſufficient.

By ſowing at different ſeaſons, ſix men will hoe an hundred acres twice over. Such as do not vary the ſeaſon muſt of courſe proportionably increaſe the number.

The price, in Norfolk, is 6s. an acre for the two hoeings, when let jointly, as they commonly are. If let ſeparately, the firſt is from 3s. 6d. to 4s.; the ſecond, from 2s. to 2s. 6d.

In other counties, 8s., 10s., and even 12s. an acre are given for the two hoeings; but the Norfolk men are more expert in the buſineſs; and the ſoil of that country is more friable and free from obſtructions[h].

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[e] Macro in Young's ann. 3. 300.

[f] Belcher, ibid. 2. 344.

[g] Id. 347.

In crops of drilled Turneps the work of hoeing may certainly be done cheaper, namely from four to five ſhillings the acre; and cheaper ſtill with the horſe-hoe, when hand-hoeing will be required only in the rows.]

When the Turneps are ſown in drills, it will be the beſt way to hoe between every other row at firſt, and ſome time after to hoe the alternate intervals, by which method the plants will receive more benefit from the often ſtirring the ground, than they would do if all the intervals were hoed at one time, and the plants will be in leſs danger of ſuffering from the earth being thrown up too high on ſome rows, while others may be left too bare of earth; but, when the earth has been thrown up on one ſide of the drill, it may be turned down again when the next interval is hoed, and this alternate moving of the earth will prepare the ground very well for the ſucceeding crop, as well as greatly improve the Turneps; but, as this plough cannot well be drawn nearer to the drills than two or three inches, the remaining ground ſhould be forked to looſen the parts, and make way for the fibres of the roots to ſtrike out into the intervals, otherwiſe, if the land be ſtrong, it will become ſo hard in thoſe places which are not ſtirred, as to ſtint the growth of the Turneps, and this may be done at a ſmall expenſe; a good hand will perform a great deal of this work in a day, and, whoever will make the trial, will find their account in practiſing it, eſpecially on all ſtrong land, where the Turneps are much more liable to ſuffer from the binding of the ground, than on a looſe ſoil; but yet, in all ſorts of ground, it will be of great ſervice to practiſe this.

When the ground is thus ſtirred in every part, one ploughing will be ſufficient, after the Turneps are eaten off the ground, to prepare it for the ſowing of Barley, or any other crop: ſo that there will be an advantage in this, when the Turneps are kept late on the ground, as will often be the caſe, eſpecially when they are cultivated for feeding of ewes, becauſe it is often the middle of april before the ground will be cleared; for late feed in the ſpring, before the natural Graſs comes up, is the moſt wanted, where numbers of ſheep and ewes are maintained, and one acre of Turneps will afford more feed than thirty acres of the beſt paſture at that ſeaſon.

[*Application or Uſe.*

The chief conſumption of field Turneps is for feeding either neat cattle or ſheep. The firſt is moſt common in Norfolk, and the ſecond in moſt other counties.

In feeding neat or black cattle, the moſt common practice is to draw and cart off the whole crop. The time of drawing begins about michaelmas, and continues until the plants are in blow. They are drawn by hand, until the froſt is in the ground, or has cut off the tops; they are then pulled by two-tined hooks, which in Norfolk they call crooms. When the roots are buried in a deep ſnow, it is removed by an implement called the ſnow-ſledge. The head-lands and ſide-lands are firſt cleared; and then, they begin on one ſide, and clear the ground progreſſively for the plow. Some leave the ſmall roots, to increaſe in ſize, and to throw out tops for feed in the ſpring: but this can be done only on land that will bring Barley with one ploughing.

The moſt common method of giving Turneps to cattle, is by throwing them abroad on ſtubbles, graſs-lands, and fallows. The general practice is to begin with the wheat-ſtubbles, until they are broken up for fallow for Barley. The next throwing-ground is frequently the barley-ſtubbles, until they in their turn are broken up for turnep-fallow. From about chriſtmas until the beginning of april, the clover-lays are thrown open; and after theſe are ſhut up, the turnep-fallows, ſometimes become the throwing-place.

In throwing Turneps, the carts begin on one ſide of the land, and work regularly to the other, giving every part an equal ſhare, and never throwing twice in the ſame place, until the whole is gone over.

At the beginning of the ſeaſon, whilſt graſs is ſtill in plenty for the lean ſtock, the fatting-cattle are kept conſtantly in the ſame piece, having a freſh ſupply of Turneps every day, or every two days at fartheſt.

But when the clover-ſtubbles are cleared, and the ſtore-beaſts begin to want aſſiſtance from Turneps, the fatting-cattle are followed by rearing-cattle, lean bullocks, cows, or ſtore-ſheep, to pick up their leavings.

In this caſe it is convenient to have three ſhifts or pieces of throwing-ground; one for the head beaſts, one for the followers, and the third empty to throw in. Two pieces or diviſions are indiſpenſably neceſſary.

The Turneps ſhould be thrown evenly and thinly, about a yard aſunder, not in heaps or parcels; for whilſt a bullock is breaking one Turnep, he ſhould not have it in his power to tread or dung upon another.

The bullocks are ſometimes, when the diſtance is not too great, driven into the ſtraw-yard at night: otherwiſe they have a little ſtraw given them under the hedge, merely to clean their mouths from the dirt of the Turneps.

Not one in ten of the high-finiſhed bullocks, that are annually ſent to Smithfield market out of Norfolk, taſte one handful of Hay, or any other food, beſides Turneps and Barley-ſtraw, except ſuch as are finiſhed with Ray-graſs in the ſpring; and a few that have a little Hay and Turneps towards ſpring, when the Turneps are going off, before the Ray-graſs lays are ready to receive them; which is an excellent practice, bullocks being otherwiſe liable to receive a check between Turneps and Graſs.

It is evident that this method of throwing Turneps cannot be practiſed except on dry land, and not even on that in a wet ſeaſon. In ſuch caſes nothing but a ſound old lay will anſwer the purpoſe; and where it can be done, a farmer ſhould contrive to have two ſuch pieces in the neighbourhood of his Turneps.

Another method of fatting cattle, is to keep them looſe in a ſtraw-yard, giving them the Turneps in cloſe bins or ſmall cow-cribs, with boards or bars nearly cloſe at bottom. The Turneps are uſually put in whole, being firſt tailed, that is, having their tap-root cut off, in the field; and alſo topped, unleſs the tops be freſh and palatable: theſe, if eatable, being given to ſtore cattle.

This method is ſomewhat more troubleſome than that of throwing the Turneps abroad; which, if the ſoil be dry enough to bear ſtock, and ſo light as to be benefited by treading, is upon the whole the moſt eligible management. But in deep land, and in a wet or ſevere ſeaſon, the yard, if it be kept dry and well littered, is the more comfortable place; eſpecially if it be provided with open ſheds for the cattle to take ſhelter under in inclement ſeaſons. By this method the dung is loſt abroad, which is highly ſerviceable to light land, but then a great quantity of manure is made in a yard well littered.

A third method of fatting beaſts on Turneps, is to keep them tied up in hovels, or under open ſheds, with troughs or mangers to receive the Turneps, which are frequently chopped into ſlices, or elſe quartered, which is not ſo eligible. The top, with the crown of the root, is thrown aſide for the ſtore-cattle, and the tap-root, with the bottom rind, is ſuffered to drop on one ſide of the baſket, ſo that the fatting-cattle have only the prime part of the bulb.

This accounts for the quick progreſs which ſhed-bullocks ſometimes make, eſpecially in cold weather: but on account of the extraordinary attendance they require, not only in cutting the Turneps, but in littering and cleaning out their ſtalls; beſides the check they are liable to receive in cloſe weather; this practice is ſeldom followed by large farmers, unleſs to puſh forward a particular beaſt.

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[h] Marſhall's Norfolk; vol. 1. p. 256; &c.

Much depending on care and management in this method, little farmers, who have leiſure and inclination to tend their own ſheds, may find their account in it. The cattle have a little Barley-ſtraw given them from time to time, to clean their mouths, and dry up the ſuperfluous juice of the Turnep[i].

If the Turneps could be boiled or baked at a moderate expenſe, a much ſmaller quantity would ſuffice to fatten the bullocks[k].

In ſome places good Hay is given with the Turneps; and in others Pollard or Barley-meal.

The ſecond great application of Turneps is to feeding ſheep. On the beſt turnep-land, that is ſufficiently dry, there is no better preparation for Barley than feeding ſheep with Turneps upon the land. Thoſe however which are eaten early in the winter will not give Barley ſo good as thoſe which are eaten later, provided they do not run to flower; for then they are ſuppoſed to exhauſt the land and injure the ſucceeding crop. Carting off on ſuch land, beſides the expenſe, is not adviſeable, the crop of Barley depending on the manure and treading of the ſheep[l].]

When the Turneps are fed off the ground, the ſheep ſhould not be ſuffered to run over too much of it at one time; for if they are not confined by hurdles to as much as is ſufficient for them one day, the ſheep will ſpoil three times the quantity of Turneps they can eat, ſo that it is very bad huſbandry to give them too much room; therefore the hurdles ſhould be once or twice every day removed forward; and, if the Turneps are drawn out of the ground before the ſheep are turned into the new encloſure, there will be leſs waſte made, for they will then eat up the whole roots; whereas, if they are turned upon the Turneps growing, they will ſcoop the roots, and leave the rinds, which being hollow, the urine of the ſheep will lodge in them; ſo that when they are forked out of the ground, the ſheep will not eat any one of thoſe roots which are thus tainted.

[When a flock of ſheep are turned into a piece of ſtanding Turneps, the firſt thing they do is to run over the whole, and then to eat ſuch of the tops as they have not trampled down. Whilſt they are doing this, they ſtand upon the roots, which being firm in the ground, and flat on the top, are not inconvenient to ſtand upon; and if one of their feet happen to fall near the edge of the Turnep, it frequently barks and fouls the root. Whereas if ſheep be put upon drawn Turneps, their tops may be injured, but their roots cannot; for being round, and lying looſe on the ground, they afford no foot-hold, but become ſtumbling-blocks to the ſheep, which therefore carefully avoid them, and ſtand on the ground. But the better to avoid waſte, it is frequently the practice, inſtead of hurdling the ſheep upon the crop, to keep them back upon the cleared ground, and to throw the Turneps upon it. But in this caſe the Turneps muſt either be thrown in part over ground already fouled by the ſheep, or muſt be confined to the ſpace from which they are drawn, by which means the principal intention of drawing is fruſtrated. Some farmers therefore who fat large quantities both of neat cattle and ſheep, purſue another method in the conſumption of their crop.

The headlands and ſidelands being cleared, the area is drawn and carried in alternate ſtripes about ten paces wide. The firſt drawing is expended on the bullocks in one or other of the ways already deſcribed; whilſt the remaining ſtripes are drawn and ſcattered over the whole ground for the ſheep. Thus the principal intention of drawing is obtained; namely, that of diſtributing the Turneps evenly and thinly, ſo that whilſt one is eaten, another may not be ſoiled[m].]

I cannot omit taking notice of a common miſtake, which has generally prevailed with perſons who have not been well informed to the contrary, which is, in relation to the mutton which is fattened with Turneps, moſt people believing it to be rank and ill taſted, whereas it is a known fact, that the beſt mutton this country affords is all fattened on Turneps; and that rank mutton, whoſe fat is yellow, is what the low marſhy lands of Lincolnſhire, and other rank paſtures produce.

[Turneps are ſometimes uſed for feeding milch cows. This is a bad practice when the milk is uſed for making butter, which acquires a diſagreeable taſte from this root; but it anſwers very well in ſuckling, as it keeps the cow in heart, and furniſhes abundance of milk.

A ſecond mode of application of field Turneps is by ſale. It is not a general practice to raiſe Turneps for this purpoſe; nevertheleſs every year ſome are ſold. Little farmers, who want conveniency or ſkill, and larger ones who want money to lay in a proper ſtock, or who from the comparative prices of ſtock and Turneps judge it more eligible to ſell than to feed, ſell their Turneps to thoſe who have judgment, money and ſpirit to buy ſtock.

Sale Turneps are uſually conſumed on the premiſes. Sometimes the buyer and ſometimes the ſeller draws the crop and tends the cattle, for which ſometimes the one and ſometimes the other finds Straw.

The medium price of a middling crop of Turneps is about fifty ſhillings an acre; but the price is ſubject to great and ſudden fluctuations[n].

The third application of Turneps is to raiſing of ſeed.]

In order to ſave good Turnep-ſeeds, you ſhould tranſplant ſome of the faireſt roots in february, placing them at leaſt two feet aſunder each way, obſerving to keep the ground clear from weeds, until the Turneps have ſpread ſo as to cover the ground, when they will prevent the weeds from growing; and when the ſeed-pods are formed, you ſhould carefully guard them againſt the birds, otherwiſe they will devour them, eſpecially when they are near ripe. When the ſeed is ripe, it ſhould be cut up, and ſpread to dry in the ſun; after which it may be threſhed out, and preſerved for uſe.

[It is generally underſtood that no Turnep-ſeed is fit to be ſown that has not been raiſed from tranſplanted roots; but in Norfolk it is thought that if the ſeed be gathered repeatedly from untranſplanted roots, the Turneps will become coarſe-necked and foul-rooted, and the fleſh of the root rigid and unpalatable; and that if they be gathered year after year from tranſplanted roots, the necks will become too fine, and the fibres too few, the plant acquiring a weak delicate habit, and the produce, though ſweet, being ſmall.

Sweetneſs therefore, and not ſize, being the quality requiſite for the table, it is a good rule for the gardener to raiſe his ſeed generally from tranſplanted roots. But it is the farmer's intereſt to avoid the two extremes of coarſeneſs and delicacy, which can be accompliſhed only, by ſometimes tranſplanting his ſeed-plants, and ſometimes letting them run up in the ſeed-bed: and it is found by experience, that tranſplanting two, three or four years, and letting the plants run up in the third, fourth or fifth, will keep the ſtock in the deſired ſtate. The time of tranſplanting is from old chriſtmas to old candlemas. The cleaneſt plants are the beſt, without much reſpect to ſize. A piece of good ground near a habitation is moſt proper for the purpoſe; becauſe the plants can there be moſt eaſily defended from the depredations of the birds[o].

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[i] Marſhall's Norfolk, vol. 1. p. 284 to 295.

[k] Symonds, in Young's ann. 2. 273.

[l] Macro, ibid. 3. 302.

[m] Marſhall's Norfolk, 1. p. 296.

[n] Ibid. 283.

[o] Ibid. 278.

It is of great conſequence to ſecure ſeed of a good ſort and quality, which cannot always be obtained from dealers; without care it will degenerate, and a mixed ſeed is too frequently ſold: ſuch perſons therefore as are curious, ſhould either raiſe it themſelves, or have it raiſed by a neighbouring labourer, or at leaſt procured from thoſe on whom they can depend. The large green-topped Turnep is the moſt productive, the ſweeteſt and moſt juicy; but the red or purple-topped is the hardieſt.

Accidents and their Cure.

Admirably as this root is calculated for cleaning land, and feeding cattle and ſheep, it is to be lamented that it is ſo liable to accidents and failures as not to be abſolutely depended upon for theſe purpoſes. This crop has the fly and many other enemies of the inſect tribe to contend with, in the early ſtage of its growth; ſecond and third ſowings, which are frequent, ſeldom produce much more than good ſpring-feed for ſheep; alternate froſts and thaws rot the Turneps before the ſeaſon of greateſt neceſſity arrives; or if they are not abſolutely rotted, beaſts fatten but ill on frozen Turneps; if on the contrary the winter be mild, the Turneps run to flower, and then the root has little ſubſtance in it[p].

The Turnep-crop is precarious, principally becauſe the farmer is obliged to depart from the common courſe of nature in accommodating it to his wants. Inſtead of putting the ſeed into the ground in the ſpring months, when there would be as great a certainty of a crop as of any other vegetable, he is obliged to defer ſowing till the hotteſt ſeaſon of the year comes on, when unleſs he is ſo fortunate as to have a few rainy days, or cloudy weather with frequent ſhowers, he can have little hope of ſucceſs[q].

The firſt enemy of the Turnep is the *fly*, as it is commonly called, or as others name it, the *flea*, or, as it is provincially termed, the *black dolphin*. It is in fact a ſmall inſect of the coleopterous or beetle tribe, and is named by naturaliſts *Chryſomela ſaltatoria*. In hot ſummers it abounds to an amazing degree, and may be heard in a field or garden, among the leaves of Turneps or any of the Cabbage kind, make a pattering like rain[r], from its continual ſkipping. This miſchievous inſect is not more than from one-twelfth to one-tenth of an inch in length, it attacks the plant as ſoon as it appears above ground, whilſt it is in the ſeed-leaf; and as ſoon as the rough leaves are put out ſtrong, the plant is ſuppoſed to be ſafe from this enemy, which is calculated to deſtroy an entire crop once in five or ſix years, beſides the partial damage which it does in moſt years. It has however a companion in miſchief, the *Turnep-bug*, which becomes a ſmall fly, about one-twentieth of an inch long, and not larger than a grain of Turnep ſeed. It is the ſame with the *Black Bug, Collier* or *Negro*, with which Beans are frequently infeſted, in ſome places provincially called *Smother-Fly*. The bugs, or fly in a larva ſtate, frequently cover the under ſides of the ſeed-leaves, and are of different colours; yellow, green, and black. When the ſeedling plants are infeſted with them, they make no progreſs, nor any viſible effort to get into rough leaf: fifty of theſe vermin have been counted under one pair of ſeed-leaves, ſucking the juices through their long proboſces. The ſmalleſt of the flies, or *aphides*, are of a cream colour, the next green, the next to theſe reddiſh green, and the largeſt black.

The deſtruction however which is imputed to the fly, or to ſpeak more properly, the turnep-beetle, ſometimes ſeems to originate in the ſeaſon. When the ſoil is fully and permanently moiſtened by a ſteeping rain, the ſeed will vegetate, the plants will puſh into rough leaf, and riſe without a check, though the beetle and their other inſect enemies be in full force: but if the Turneps have only ſhowers to depend upon in hot dry weather, the ſeed will vegetate; but by the time the ſeed-leaves are formed, the moiſture is wholly drawn off by the intervening days of drought, and the plants deprived of nouriſhment paſs away, parched up as in an oven[s].

The injury however which is done by the fly being confeſſedly great, many remedies have been propoſed for it, which ſhall be here ſet down, although it is much to be feared that they are by no means effectual.

Some good, it is ſaid, may be done, by running a light roller over the crop, with a bundle of Blackthorn faſtened behind it[t]. Branches of Elder are recommended to be drawn over the Turneps, in the ſame manner: and the ſeed is directed to be ſoaked in the juice of the bruiſed leaves. But theſe are palliatives at beſt, and have been found to be utterly ineffectual[u].

Some perſons recommend the land to be fumigated, by burning heaps of quich and other weeds to windward, when it is ready for ſowing, and after the ſeed is come up. Whilſt others preſcribe a ſteep for the ſeed of train or other oil, in which it is to be immerſed twenty-four hours or more; when the ſeed is drained from the oil, it is to be mixed with good earth finely ſifted, and ſown immediately; when the plants begin to appear, the ground is to be ſown with ſoot, from eight to ſixteen buſhels the acre[x].

Soot is very generally recommended as a ſpecific againſt the fly; ſo alſo is tobacco-duſt, but this can be applied only in ſmall crops, ſuch as are grown in gardens. We are told to ſhake the ſeed in a bottle with flower of brimſtone, and to ſow them together; or to ſteep it in water ſtrongly impregnated with brimſtone, or horſe-aloes[y].

A much more likely way than any of theſe to ſecure a good plant of Turneps is, after having made the land clean and fine as ſoon as the weather will permit, to ſow two, three, and even four pints of ſeed upon an acre, in ſuſpicious ſeaſons: thus having a ſufficient quantity of plants for the fly and the crop. In caſe the fly does not take them, it may be ſaid, that the plants will be ſo thick, that they cannot eaſily be hoed; they may however be made fit for the hoe by harrowing them firſt; and at any rate it is a leſs evil to have too much work for the hoe than little or no crop[z].

Another method of ſecuring a crop, is ſowing ſeed that will germinate at different times. This may be done by mixing new and old ſeed together, and by ſoaking half of each in water or the drainings of a dunghill for half an hour, and then ſpreading it on a floor until it is dry enough for ſowing. Thus there will be four chances for a crop, as the ſeed thus mixed and prepared will come up at four different times[a].

Or ſow immediately after the plough without harrowing, and then the ſeeds lying at different depths, will come up at different times, and conſequently have ſeveral chances of eſcaping the fly or turnep-beetle[b].

It is very ſenſibly remarked by Mr. Miller, that] whatever will add vigour to the young plants, will prevent their being deſtroyed by the fly, for theſe never attack them till they are ſtinted in their growth. [Good tillage therefore, and having the land in heart, is of more conſequence to prevent the ravages of the fly, than all the noſtrums that have been publiſhed.

The provident farmer will, as far as he can, watch for favourable opportunities to ſow his ſeed; and he had better defer ſowing, than do it when the weather is hot and dry. He will have his land in proper order: he will be at the pains of procuring good ſeed, new if he can get it; and he will ſow a ſufficient quantity: but above all, he will lay in a proper quantity of manure, to promote the growth of the young plants, and to puſh them forwards as faſt as poſſible. It is this purpoſe that is anſwered by dreſſings of aſhes, ſoot, and compoſts of lime and dung, &c. in ſufficient quantities; either ſown with the ſeed, or rather immediately before, well harrowed in, and completely incorporated with the ſoil[c]. There is ſome doubt however reſpecting the expediency of dunging largely for Turneps. One ſays, the only precaution againſt the fly conſiſts in ploughing the land till it is very fine, and filling it with muck[d]. Whilſt others are of opinion, that the flies are increaſed by the dung[e]: which is certainly a nidus for a great variety of inſects. Folding perhaps may be better than dunging, the treading of the ſheep both deſtroying the inſects, and rendering light land more firm[f].

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[p] Young's ann. vol. 2. 357. & 7. 350.
[q] Wimpey, in Bath papers, vol. 4. p. 132.
[r] White's Selborn.

[s] Marſhall's midland, 2. p. 124 & 175. Wimpey in Bath papers, 3. 180.
[t] Hill, in Bath papers, 3. 99.
[u] Young's ann. 6. p. 90. & 7. p. 104. Bath papers, 2. 7. & 4. 140.
[x] Young's ann. 7. p. 102: 6. p. 156. & 7. p. 168.
[y] ——— 6. p. 197. Bath papers, 2. 115.
[z] Marſh. midland, 2. 174. Bath papers, 2. 236.
[a] Young's ann. 3, p. 10. Marſh. Norf. 2. p. 4. Bath papers, 2. 306.
[b] Belcher in Young's ann. 2. 344.

In ſeaſons wherein apprehenſions of the fly are entertained, it is recommended to plough for ſowing as ſoon as it is light in the morning, only ſo much land as can be ſown and harrowed by ſix o'clock; and about ſix in the evening again to plow as much as can be ſown and harrowed before dark. The ſeed being thus ſown whilſt there is ſome moiſture in the newly ploughed ground, will vegetate ſooner, and come up more regularly than it would do if the ground were dry. If the ſeaſon ſhould prove dry, the ground ſhould be well looked over, and when the young plants begin to be attacked by the fly, the land ſhould be ſtrewed all over with vegetable aſhes, and the night following it ſhould be rolled. If rain comes in a day or two after, the Turneps will ſoon be out of danger, by waſhing the ſalts of the aſhes to their roots: if not, in a week's time, a freſh dreſſing of aſhes with rolling ſhould be applied a ſecond time.

Where wood or peat aſhes are not to be had in plenty, the farmer ought to raiſe a quantity for this purpoſe from burning quich and other weeds, or turf, litter, furze, heath, fern, &c. Or if he has only a ſmall quantity of aſhes, he may have recourſe to a compoſt of theſe with ſoaper's aſhes, coal aſhes, quick lime and ſoot, mixed well by turning them two or three times, and paſſing them through a ſieve. It is ſcarcely neceſſary to add, that the aſhes ſhould be kept in a dry place. When large patches are irrecoverably gone, it is beſt to plough immediately, and ſow again, harrowing in the ſeed. The early ſtone Turnep is recommended for this purpoſe, becauſe it comes to maturity ſooner than the common ſort, and may be ſown twenty days after the firſt ſowing[g].

The *Bug-fly* or *Aphis*, is by no means ſo tremendous an enemy as the Beetle. Being extremely ſoft and tender, and therefore eaſily cruſhed, a light roller, eſpecially if it were muffled in ſome ſoft elaſtic covering, ſo as to preſs in between the clods, might perhaps be effectual in deſtroying theſe inſects, without injuring the plants[h].]

Another danger of the crops being deſtroyed is from the *Caterpillars*, which very often attack them, when they are grown ſo large as to have ſix or eight leaves on a plant. The ſureſt method of deſtroying theſe inſects is to turn a large parcel of poultry into the field, which ſhould be kept hungry, and turned in early in the morning; theſe fowls will ſoon devour the inſects, and clear the Turneps. To this evil the Turneps, which are ſown in drills, are not ſo much expoſed, for as the ground between the rows will be kept ſtirred, the plants will be kept growing, and will not be in danger of ſuffering from theſe inſects; for the parent inſects never depoſit their eggs upon any plants which are in health, but as ſoon as they are ſtinted, they are immediately covered with their eggs; ſo that it is the diſeaſe which occaſions the vermin, and not the vermin the diſeaſe, as is commonly imagined. Therefore as the plants will always be in greater health when the ground is well ſtirred about them, there will be leſs danger of their ſuffering from theſe enemies, when they are cultivated by the horſe-hoe, than in the common way.

[Theſe caterpillars are provincially called *black Cankers*. They are not ſo univerſal as the fly or turnep-beetle; but their ravages, though partial, are in ſome ſeaſons very great, eſpecially near the ſea-coaſt. The parent inſect of theſe caterpillars is diſcovered to be a fly of the *Tenthredo* kind, which comes over frequently in large flights from the continent, eſpecially when the wind blows for a long time from the north-eaſt. The fly is of a yellow colour; the female conſiderably larger than the male, and appearing of a brighter yellow, when on the wing: the head is black, and there are two black patches on the ſhoulders, in the ſhape of a lozenge. The caterpillar is of a jetty black, except a whitiſh line on each ſide, juſt above the ſetting on of the legs, which are twenty in number: it is wrinkled, but has no hair, and, when full grown, is about half an inch in length. When it is near changing, it becomes blueiſh or lead-coloured, with a black waving line along the back. On the plant being ſhaken whereon they are feeding, or on any apprehenſion of danger, the caterpillars coil themſelves up in a circular form, and appear inanimate, till they think the danger is over. They retire under ground to go into their chryſalis ſtate, or to change from caterpillar to fly.

Many remedies have been propoſed for the ravages of this occaſionally deſtructive inſect. As drawing a rope over the ridges, two perſons holding the ends; this will bruſh the caterpillars off, and perhaps may ſave a few acres, where it can be frequently repeated, and the inſects are not very numerous. It is an improvement upon this expedient, to faſten twigs upon the rope. Elder twigs have been preferred, but certainly without ſufficient reaſon. Stiff crooked boughs will injure and tear the plants. Others draw a bruſh made of furze over the Turneps: the branches are fixed to a long pole or axle-tree, with a wheel at each end, of ſuch a height, that the furze will bruſh the plants without pulling them up by the roots.

Lime, ſoot, and other dreſſings have been tried without effect. Rolling checks them, eſpecially if repeated, but is not a cure for the evil. Fumigation by brimſtone, &c. has been recommended. When part only of a piece is attacked, it is an effectual expedient to draw a furrow acroſs the incloſure, deepening it with a ſpade, making the ſide towards the uninfected plants upright or overhanging, and ſpreading lime along the bottom. A trench acroſs a gateway between two turnep-pieces will anſwer the ſame purpoſe.

Poultry have been mentioned above as highly beneficial. Rooks alſo are very ſerviceable. But ducks have been moſt ſucceſsful in curing this evil[i]. The ducks ſhould be half or three quarters grown; old ones are lazy, and will ſooner eat the turnep-tops than run after the caterpillars. They ſhould be regularly driven to water, and reſted three or four times a day. After drinking they diſgorge the caterpillars in great abundance, and ſoon fall to again with freſh appetite. Four hundred ducks have cleared thirty-three acres in five days moſt completely; but twenty or thirty may be employed on a ſmall farm to great effect. When caterpillars grow ſcarce, the ducks will take to the turnep-tops, and do more harm than the few caterpillars which are left. It is then better to turn out the ducks, and pick over the plants by hand, if there be ſtill any apprehenſion from the inſects.

Where the Turneps have been hoed out, many perſons have begun with hand-picking them; when the caterpillars are very abundant this is tedious and expenſive; but where they are in moderate quantities, it may be done by women and children at a charge of from five to eight ſhillings an acre, and is the moſt certain method of extirpating theſe animals[k].

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[c] Wimpey, in Bath papers, 4. 134, &c.

[d] Kent's report on Norfolk.

[e] Marſhall's Norfolk, 2. p. 35.

[f] Id. ibid. and Bath papers, vol. 2. p. 233.

[g] Barnes, in Young's ann. 12. 339.

[h] Marſhall's midl. 2. p. 181.

[i] Marſh. Norfolk, 2. p. 15 & 285. Midl. 2. p. 178.

Where they are very numerous, the plants are ſtripped in a few days, ſo that there is not time to ſave them by any means, unleſs the farmer is aware of their ravages; his only reſource then is to plough up the ground, and ſow again. If ſome patches have fared better than the main body of the piece, it is in vain to leave them; for they will only ſerve to ſupport the vermin, till the young plants get up to be devoured by them.

Setting out the plants with the hoe, when the caterpillar is upon them in force, is labour thrown away, and certain deſtruction to the crop.

It would be a prevention of the miſchief, if the inhabitants of the ſea coaſt would burn the flies on their arrival, when they are ſpent with their flight, and frequently may be taken up by ſhovel-fulls[l].

Another enemy to Turneps, as well as to the garden in general, to Flax, and to Wheat, *&c.* is the naked ſnail or *Slug*. This however is a trifling evil in compariſon with the others. Slugs abound moſt in wet ſeaſons, when the fly is leaſt prevalent, and chiefly on freſh ground, or bad fallows. The only remedy preſcribed for them is night rolling, when the dew is upon the ground[m].

The wire-worm or red-worm is alſo complained of as injurious to Turneps, particularly by thoſe who purſue the drill culture[n].

The grub is perhaps in itſelf not fatal, did not the rooks, in order to come at it, pull up not only the plants which are attacked, but thoſe alſo which are free from it, and thus clear them as they go.

There is alſo a diſeaſe to which Turneps are ſubject, called the *Anbury* or *Hanbery*. It is a large excreſcence, which forms itſelf below the bulb or apple; grows to the ſize of both the hands; and, when brought to maturity, becomes putrid, and ſmells very offenſively: it is irregular in its form, with excreſcencies, like races of ginger, hanging to it. The tops of thoſe Turneps which are much affected turn yellow, and flag with the heat of the ſun.

It is a common notion that this diſeaſe is cauſed by the ſoil's being tired of Turneps; that is, by their being ſown too often on the ſame land. This however is erroneous, for they have the *Anbury* on freſh land, which never bore Turneps before. It is more probable, that it is cauſed by ſome grub or inſect, that diverts the courſe of the ſap, by wounding the veſſels of the tap-root[o]. Marl is looked upon in Norfolk as a certain preventive of the *Anbury*[p].

The laſt enemy that I ſhall mention is ſevere *Froſt*, which uſually deſtroys the early ſown Turneps, and much injures the late ones. They are alſo difficult to get at in this ſituation, and do the ſtock but little good[q].

The only method of counteracting this evil, is to preſerve or ſtore up a certain quantity of Turneps, in caſe of froſt or a deep ſnow. This may be done by drawing them in dry weather, and when they have attained their full growth; topping and tailing them; and carting the roots into an adjoining new-made dry ditch, covering them with ſtraw, and protecting them with hurdles or faggots from the cattle; or ſtill better, by ſtacking them in the field with layers of ſtraw between, covered and thatched with ſtraw; either on the ground, or if the land will bear it, in beds or pits dug one or two feet deep or more, three yards wide, and of what length you want them. If ſtraw be ſcarce, old haulm or ſtubble will anſwer the purpoſe. Or elſe to carry them home, and pile them in ſmall ſtacks in a clean home paſture, or near the yard; or to houſe them where there is room, always ſcreening them with ſtraw, and putting ſome between the layers to abſorb the moiſture. This practice not only preſerves ſome Turneps from the rot, and furniſhes cattle and ſheep with feed in time of the greateſt diſtreſs; but prevents the crop from exhauſting and impoveriſhing the land, and gives time for preparing it for the ſucceeding crop of Barley[r].

After all, the provident farmer will not abſolutely depend upon his Turnep crop for feed late in the ſpring; but have in reſerve ſome Cabbages, Coleſeed, Rie, or winter Tares, according to his convenience and the nature of his land; not only to guard againſt failures in his Turnep crop, from froſt, *&c.* but to have ſome proviſion for the couples, by the time the lambs begin to feed, which will put them on much faſter than the beſt Turneps[s].

Quantity.

A ſquare perch of Turneps (ſixteen feet and a half) drilled in rows three feet apart, has been found to contain eighty-four roots, weighing ſeven hundred two quarters; which is ſixty tons to a ſtatute acre: eighty-four turneps, picked within fifteen yards of the above perch, weighed fifteen hundred, fifteen quarters, ſeventeen pounds; which is one hundred and twenty-five tons, twenty-nine hundred, twenty pounds to an acre. Two weighed each thirty-two pounds; and one was three feet eight inches in circumference[t]. But whoever calculates on ſuch a produce as this will find himſelf grievouſly miſtaken. A more moderate eſtimate is the following. An acre is 4840 ſquare yards or 43560 ſquare feet. Now if we reckon one Turnep of two pounds weight to every ſquare foot, we ſhall have forty-ſix tons upon an acre[u]. But even here we muſt make conſiderable abatements, for vacant ſpaces, deficient roots; and in the application for waſte, *&c.*

We are told indeed, that an acre twice hoed will, if the land be good, produce about fifty tons of Turneps[x]: and that the roots will average at ſix or even eight pounds. But ſuch crops are not general, and it is probable that the farmer has more frequently twenty, and fifteen or ſixteen, nay even ſo low as ten tons on an acre, than forty or fifty. Twenty cart loads, ſuch as three horſes uſually draw, is called a fair crop, and from thirty to forty a large one. An acre is a common allowance to a middling bullock, and ſuch a beaſt is eſtimated to conſume thirty loads of Turneps in ſix months; or according to others two hundred weight a day, with ſtraw; which is ſomewhat more than eighteen tons in ſix months. Eight ſheep are uſually allowed to an acre, and they are computed each to eat from ſixteen to twenty pounds a day; that is from about ten to thirteen tons in ſix months[y]. From ten to eighteen tons therefore is the ſuppoſed common crop of Turneps on an acre, according to this calculation; and we may conclude that more is ſeldom grown, except on very fine land, and with extraordinary exertions.

CABBAGE.

Colewort, *Cole* or *Kale*.

Coleworts are greens that never cloſe or cabbage, but always continue looſe and open.]

The common Colewort, or Dorſetſhire Kale, is now almoſt loſt near London, where the markets are uſually ſupplied with Cabbage plants, inſtead of it; theſe being tenderer, and more delicate in winter, are much more cultivated than the common Colewort, which is better able to reſiſt the cold in ſevere winters than thoſe, but is not near ſo delicate till pinched by froſt. And ſince the winters in England have been generally temperate of late years, the common Cabbage plants have conſtantly been cultivated by the gardeners near London, and ſold in the markets as Coleworts, which, if they are of the Sugar-loaf kind, are the ſweeteſt greens from december to april yet known.

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[k] Marſh. Norf. 2. p. 298. 291. Young's ann. 6. 195. & 2. 377. Kent's report on Norfolk.

[l] Marſh. Norf. 2. p. 297. 287.

[m] Marſh. midl. 2. p. 178. Young's ann. 10. p. 214. & 12. p. 336.

[n] Tranſ. ſoc. arts, vol. 10. for 1792. p. 59, 62.

[o] Marſh. Norf. 2. p. 33. Liſle's huſb. p. 239.

[p] Id. ibid. p. 35.

[q] Young's ann. vol. 11. p. 324. 327, 332.

[r] Young's ann. 7. p. 526. & 3. p. 131. Bath papers, 2. p. 289. Marſh. Norf. 2. p. 109. Kent's hints, p. 129.

[s] Macro, in Young's ann. 3. 303.

[t] Young's tour in Ireland, 1. 402.

[u] Bath papers, 2. 371.

[x] Ibid. 101.

[y] Young's ann. 3. p. 297. & 16. p. 93, &c.

The ſeeds ſhould be ſown in july, in an open ſpot of ground, and tranſplanted as ſoon as the leaves are two or three inches broad into rows a foot aſunder, and ſix inches diſtant in the rows. The rows may be drawn alternately for Coleworts, and the remainder left to cabbage.

To continue them for ſpring drawing, ſome ſeed ſhould again be ſown at the beginning of auguſt.

Field Culture of Coleworts.

Where farmers ſow Coleworts to feed their milch-cattle in the ſpring, when there is a ſcarcity of herbage, the common Colewort is to be preferred, as being ſo very hardy that no froſt will deſtroy it. The beſt method to cultivate this plant in the fields is, to ſow the ſeeds about the beginning of july, chooſing a moiſt ſeaſon, which will bring up the plants in about ten days or a fortnight; the quantity of ſeed for an acre of land is nine pounds: when the plants have got five or ſix leaves, they ſhould be hoed, as is practiſed for Turneps, cutting down all the weeds from amongſt the plants, and alſo thinning the plants where they are too thick; but they ſhould be kept thicker than Turneps, becauſe they are more in danger of being deſtroyed by the fly: this work ſhould be performed in dry weather, that the weeds may be killed; for if it ſhould prove moiſt ſoon after, the weeds will take root again, and render the work of little uſe. About ſix weeks after, the plants ſhould have a ſecond hoeing, which, if carefully performed in dry weather, will entirely deſtroy the weeds, and make the ground clean, ſo that they will require no farther culture. In the ſpring they may either be drawn up and carried out to feed the cattle, or they may be turned in to feed upon them as they ſtand; but the former method is to be preferred, becauſe there will be little waſte; whereas, when the cattle are turned in amongſt the plants, they will tread down and deſtroy more than they eat, eſpecially if they are not fenced off by hurdles.

The perennial Colewort is alſo little cultivated in the gardens near London at preſent. This is very hardy, and may be cultivated in the ſame manner as the former ſort. This will continue two years before it runs up to feed, and will afterwards produce many ſide ſhoots, and in poor land will continue three or four years; but in rich ſoils it will not laſt ſo long. This may be uſed as the former ſort, to feed cattle; for it is not ſo good for the table (unleſs in very ſevere froſt) as the plants which are now cultivated for that purpoſe.

Early or Summer heading Cabbages.

The Early and Sugar-loaf-Cabbages are commonly ſown for ſummer uſe, and are called by the gardeners about London michaelmas Cabbages. The ſeaſon for ſowing theſe is about the end of july, or beginning of auguſt, in an open ſpot of ground; and when the plants have got eight leaves, you muſt prick them into beds at about three inches diſtance every way, that the plants may grow ſtrong and ſhort ſhanked; and in the middle of october you ſhould plant them out for good; the diſtance that theſe require is, three feet row from row, and two feet and a half aſunder in the rows. The gardeners near London commonly plant theſe Cabbages upon the ſame ſpot of ground, where their winter Spinach is ſown; ſo that when the Spinach is cleared off in the ſpring, the ground will have a crop of Cabbages upon it; you muſt therefore clear off the Spinach juſt round each plant early in the ſpring, that with a hoe you may draw the earth up to the ſtem; and when all your Spinach is cleared off, which is commonly in the beginning of april, you muſt hoe down all the weeds, and draw up the earth again about your Cabbage plants.

In may, if your plants were of the early kind, they will turn in their leaves for cabbaging; at which time, the gardeners near London, in order to obtain them a little ſooner, tie in their leaves cloſe with a ſlender Oſier-twig to blanch their middle; by which means, they have them at leaſt a fortnight ſooner than they could have if they were left untied.

The early Cabbage being the firſt, we ſhould chooſe (if for a gentleman's uſe) to plant the fewer of them and a greater quantity of the Sugar-loaf kind, which comes after them; for the early kind will not ſupply the kitchen long, generally cabbaging apace when they begin, and ſoon grow hard, and burſt open, but the Sugar-loaf kind is longer before it comes, and is as ſlow in its cabbaging; and, being of a hollow kind, will continue good for a long time. I have known a large quarter of ground, which was planted with this ſort of Cabbage for market uſe, which has afforded a ſupply for near three months together. This, though of ſingular ſervice to a gentleman's garden, is not ſo much for the advantage of the market gardener, who wiſhes to have his ground cleared ſooner, that he may have another crop of Celeri, Endive, *&c.* which is more to his purpoſe, that he may have as many crops in a year as poſſible.

Although I have adviſed planting out Cabbages finally in october, yet the Sugar-loaf ſort may be planted out in february, and will ſucceed as well as if planted earlier, with this difference only, that the plants will be later before they cabbage.

Some plants of the early ſort ſhould alſo be reſerved in ſome well-ſheltered ſpot, as a ſupply in caſe of a failure; for in mild winters many of the plants run to ſeed, eſpecially when ſown too early; and in ſevere winters they are often deſtroyed.

The Ruſſian Cabbage, muſt be ſown late in the ſpring, and managed as above directed; with this difference only, that it muſt be finally planted out ſooner, muſt have an open clear ſpot of ground, and requires much leſs room, being a very ſmall hard Cabbage. It will be fit for uſe in july or auguſt, but will not continue long before it breaks, and runs up to ſeed. The way to have this ſort good is to procure freſh ſeeds every year from abroad, for it ſoon degenerates in England.

Late or Winter heading Cabbages.

The common white, red, flat, and long-ſided Cabbages are chiefly cultivated for winter uſe: the ſeeds of theſe ſorts muſt be ſown the end of march, or beginning of april, in beds of good freſh earth; and in may, when the young plants will have about eight leaves, they ſhould be pricked out into ſhady borders, about three inches ſquare, that they may acquire ſtrength, and to prevent their growing long-ſhanked.

About the beginning of june you muſt tranſplant them out, where they are to remain for good (which in the kitchen-gardens near London, is commonly between Cauliflowers, Artichokes, *&c.* at about two feet and a half diſtance in the rows;) but if they are planted for a full crop in a clear ſpot of ground, the diſtance from row to row ſhould be three feet and a half, and in the rows two feet and a half aſunder: if the ſeaſon ſhould prove dry when they are tranſplanted out, they muſt be watered every other evening, until they have taken freſh root; and afterwards, as the plants advance in height, the earth ſhould be drawn about their ſtems with a hoe, which will keep the earth moiſt about their roots, and greatly ſtrengthen the plants. Weeds, if ſuffered to grow among them, will draw them up tall, and often ſpoil them.

Some of theſe Cabbages will be fit for uſe ſoon after michaelmas, and will continue until the end of february, if they are not deſtroyed by bad weather; to prevent which, the gardeners near London pull up their Cabbages in november, and trench their ground up in ridges, laying their Cabbages againſt their ridges as cloſe as poſſible on one ſide, burying their ſtems in the ground: in this manner they let them remain till after chriſtmas, when they cut them for the market; and although the outer part of the Cabbage be decayed (as is often the caſe in very wet or hard winters,) yet, if the Cabbages were large and hard when laid, the inſide will remain ſound.

The Savoy Cabbage is alſo cultivated for winter uſe, being beſt when pinched by froſt. It muſt be ſown about the middle of april, and treated as the common White Cabbage; with this difference, that it may be planted cloſer; two feet and a half ſquare being ſufficient. This ſort ſhould have an open ſituation, clear of trees and hedges; for in cloſe places it is very ſubject to be eaten by caterpillars, and other vermin, eſpecially if the autumn prove dry. If early Savoys are deſired, ſome ſeed muſt be ſown ſooner, as in march, february, or autumn. The autumn-raiſed plants will be very large, and in order for the table from the end of auguſt through ſeptember and october.

The Muſk Cabbage may be cultivated in the ſame manner as the Common Cabbage; and the plants ſet out at the ſame diſtance. It is in uſe from the beginning of october until chriſtmas; and is apt to ſuffer in very ſevere winters.

[*Field Culture of Cabbage.*

Sorts.

The ſorts moſt commonly cultivated for feeding cattle are the *Scotch*, the *Drum-head*, and the *American*. The firſt, if it be the true flat-topped firm ſort, is never affected by froſt, a few of the outſide leaves excepted[z]. The true Drum-head is ſaid to be hardy, and the heavieſt of any for the ſize; it may be planted cloſer than the large American[a]. It is called in ſome places the Tallow-loaf, (though others diſtinguiſh them) and being too tender to bear very ſharp froſt, a mixed ſtock has been procured, by planting this and the common red Cabbage together, and when the ſeed-pods were formed, cutting down the red, and leaving the other for ſeed: this mongrel is of a deep green colour with purple veins, retains the ſize of the Drum-head, and has acquired the hardneſs of the Red Cabbage[b]. The American comes to a great ſize, and laſts good very late in the ſpring[c]. There are many other varieties, as the Flat Dutch, Yorkſhire, *&c.* and the ſame variety is known under ſeveral names in different parts of the country. Mr. Bakewell is ſaid to cultivate a large green Cabbage, which is a valuable one[d].

Soil.

The Cabbage culture is beſt adapted to ſtrong land, and comes peculiarly in aid to the farmer who cannot to much purpoſe avail himſelf of Turneps. It ſucceeds admirably on a rich moiſt friable loam.

Tillage, &c.

The tillage for Cabbages differs very little from that which is given for Turneps. They are commonly planted on ſtubbles, after Wheat, Barley, Oats, or Beans. The land is ploughed up at michaelmas, lies till ſpring, is then ploughed again three or four times; is manured with fifteen or twenty-three horſe loads of dung, or elſe with from twenty to thirty loads of compoſt to an acre, before the laſt ploughing, which lays the land in three-feet ridges, towards the end of may or the beginning of june; in which ſtate it muſt be left for rain to enable the farmer to plant[e]. Some perſons ſpread the dung upon the ſtubble, and bury it with the firſt ploughing; becauſe if the weather ſhould ſet in dry at the time of planting, the dung opens the ſoil too much, lets in the drought, and thus deſtroys, or at leaſt ſtunts the plants[f].

Seed-bed.

The beſt method of raiſing plants is to ſow the ſeed as early in ſpring as the weather will permit (the end of february or beginning of march), upon good land, well ſheltered, digged, and dunged; on beds from four to five feet wide, for the conveniency of cleaning them, and deſtroying the fly. Plants may thus be obtained of ſufficient ſtrength to plant out by the third or fourth week in may, at the lateſt; and theſe plants will be in perfection by the third week in october, and will continue to the end of march or the middle of april.

The beſt ſeed ſown on a poor ſoil without dung will produce many runaway plants. Theſe alſo are frequently ſpoiled by being ſown too thick. An ounce and half of ſeed on a bed fourteen yards long, and five feet wide, will, allowing for all accidents, produce two thouſand good plants[g]. Half a pound of ſeed is fully ſufficient to produce plants for an acre; or a pound of ſeed ſown on ten rods of land, may do for three acres, according to the goodneſs of the land, and the ſeaſon[h]. Seven thouſand plants are fully ſufficient for an acre.

Though ſpring plants are moſt commonly reputed the beſt for general uſe, not ſo much on account of their ſize as their duration, becauſe the ſlugs are apt to deſtroy much of the autumn ſowing in winter; and becauſe by good management as large and heavy a Cabbage may be produced from ſpring ſowing; yet ſome perſons are attached to ſowing in autumn, about the middle of auguſt, and pricking the plants out into a warm place, where they may be ſheltered from very ſevere froſt: they may thus be planted out in may, whereas the ſpring ſown ones can hardly ever be planted out till near midſummer, perhaps in a dry time, when they will be ſcorched up[i]; and are ſcarcely ever ſo large. It is to be conſidered however that the great uſe of Cabbages is for feed late in the ſpring, when the early ſown ones will be run up to ſeed. Some perſons prick out the young ſpring ſown plants from the ſeed-bed: it is certainly an advantage to them, but is attended with too much expenſe and trouble for thoſe who cultivate this crop on a large ſcale.

Planting.

The operation of planting depends upon the weather, and may be performed as ſoon after the middle of may as that will admit. But it is vain to attempt it till there has been a ground rain, and then it muſt be done as quick as poſſible. The plants are commonly ſet in one row on each ridge, at the diſtance of two or three feet, or according to ſome of four: in the rows they are planted two feet and a half aſunder by moſt perſons; ſome are for ſmaller diſtances, as two feet or eighteen inches; others for larger, as three feet[k]. The diſtance however ought to be regulated by the ſize of the Cabbage, and the ſtrength of the ſoil. They ſhould be planted wide enough to admit of being cleaned with the plough, and yet ſo near as to afford a full crop[l]. On land that will admit of it, to plant them at equal diſtances every way, ſo that the plough may paſs croſſwiſe as well as long-wiſe between the rows, in cleaning them, muſt be a great advantage[m]. In the common way, the rows are kept clean by hand-hoeing; and at the ſame time any clods that may have rolled on the plants in ploughing between the rows are removed. About three weeks after planting, taking the opportunity of rain, replant what vacancies there are from failures[n].

Application.

Cabbages are applied to feeding milch cows, to fattening bullocks, to ſheep and ſwine. We have not heard of their being given to horſes; and yet it is probable, that either alone, or mixed with chaff or cut-meat, they might be a valuable horſe-feed[o].

They are very generally and ſucceſsfully applied to feeding milch cows in the great dairy farms of

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[z] Bath papers, 2. 103.
[a] Young's ann. 9. 395.
[b] Bath papers, 1. 17.
[c] Young's ann. 2. 161.
[d] Marſhall's midl. 1. p. 260.
[e] Young's ann. 2. 161. 3. 182. 5. 200. & 18. 106.
[f] Ibid. 9. 393. & 19. 470.
[g] Forby, in Young's ann. 9. 392. & 11. 330.
[h] Ibid. 2. 161. 3. 182.
[i] Bath papers, 4. 336.
[k] Young's ann. 2. 140, 161. 9. 135. & 18. 107.
[l] Marſh. midl. 1. 261.
[m] Young's ann. 15. 626.
[n] Ibid. 3. 183.
[o] Marſhall's midl. 1. 262.

High Suffolk ; where they have eight or ten acres of the great Scotch and American Cabbage to forty cows ; and in ſome parts they are of opinion, that one good acre of Cabbages will do for ſeven or eight cows, yielding as much food as three acres of Turneps, and making the cows give more and better butter[p]. A more common proportion however is four cows to an acre, without Hay or Straw ; and ſix or ſeven, with Straw and ſome Hay[q]. One acre and one rood, producing forty-five tons of Cabbages, fed nine cows and a bull thirteen weeks and two days[r].

The report concerning the effect of Cabbages upon milk is different : ſome aſſerting that the butter is as bad as from Turneps ; others, that they yield not only more milk, but better butter[s].

Cabbages are alſo reputed excellent for weanling calves ; Turneps being apt to give them the garget, which Cabbages never do[t].

In fattening beaſts, three quarters of an acre, of a middling crop, will do for two beaſts of fifty ſtone each, that have had the ſummer graſs[u]. A middling bullock will eat about two hundred pounds in twenty-four hours, and therefore a ſcore may be kept on an acre for near a month, if the crop be tolerably good[x]. Fifteen fatting oxen, nine hundred weight each when fat, were kept from the 5th of november to the 31ſt of december, that is, eight weeks, on two acres of autumn-ſown Cabbages, with the addition of four tons of Hay[y]. Upon the whole, an acre of Cabbages is ſuppoſed to fatten one beaſt in four more than Turneps, and all in two-thirds of the time. For the grazier, another circumſtance of conſequence is, that they are ſaid to have a remarkable effect in laying on the fat on the grazier's points[z].

With reſpect to ſheep, one of twenty pounds a quarter will eat fifteen pounds of Cabbage in twenty-four hours ; one acre therefore will nearly maintain two hundred ſheep a month, if it be a good crop[a]. Thirteen fat wethers, who had nothing elſe to eat, except what they picked up in open weather on a bare graſs field, conſumed one load a week ; that is, in the proportion of an acre to twenty-ſix ſheep, for one hundred and twenty days, or more than ſixteen weeks[b]. When the autumn-ſown plants run up to ſeed in april ; ſheep will eat every morſel of them clean up, when they will not touch a Turnep. When the plants are ſuffered to run up, that part of the land ſhould have a light dreſſing of pigeon's dung, ſoot or malt-duſt, to make it amends for ſupporting the Cabbage-ſtalks ſo much longer[c].

Hogs do very well on Cabbages, and prefer them to Turneps. When they get into a field where there are both, they conſtantly take to the former, and will ſcarcely touch the latter[d].

By ſowing early in the ſpring, or by ſowing ſome in autumn, and ſome then, a ſucceſſion of Cabbages may be obtained from the third week in october, or a month after michaelmas, to the end of march ; or, if deſired, even to the middle or end of april. They ought however, in the general opinion, to be off by the middle of march, becauſe they then ſhoot, and exhauſt the land[e]. How valuable therefore muſt this crop be, thus adapted as it is to feeding milch kine, bullocks, ſheep, &c. and which is in perfection during the months of february, march, and part of april, when the anxiety of farmers, particularly of thoſe who keep large flocks, for a ſupply of food, is at the height. On moſt ſoils, Turneps however valuable they be, are ſo much affected by the viciſſitudes of the ſeaſon, as to be a very uncertain proviſion. For how often does it happen, that after a year's fallow, an ample and expenſive manuring, great care to prevent the ravages of the fly, ſlug, caterpillar, &c. unremitting attention to the hoers, and altogether an expenſe of from three to five pounds an acre ; one ſharp froſt, ſucceeding a wet ſeaſon, in the months of january or february, deſtroys all the farmer's hopes, and leaves his flock or bullocks deſtitute of food when they want it moſt ; or reduces him to the neceſſity of feeding them on Hay, which perhaps is ſo dear, as to devour all his profits. Now Cabbages are by no means ſo liable to theſe accidents ; for, unleſs a long-continued drought ſucceed the planting out, they are in a manner a certain crop ; neither froſt nor ſnow will materially injure it ; and as a farther recommendation it is more grateful to the conſumers[f].

The dung of the cattle fed on Cabbages is better and more in quantity than when they are fed on Turneps. They are an excellent preparation for Barley and Oats, as well as Turneps ; or if they be, as ſome think, in a ſmall degree inferior in that reſpect, it ought to be conſidered that the crop in itſelf is more valuable, being worth from four to ſeven pounds an acre[g].

Accidents.

Cabbages, in the ſeed-bed, are liable to be deſtroyed by the beetle or fly, as well as Turneps. But in this ſituation theſe inſects are eaſily deſtroyed by ſowing wood-aſhes, ſoot, &c. the moment they appear ; and at the ſame time the plants are invigorated by the dreſſing[h].

They are attacked alſo both in the ſeed-bed and the field by the caterpillar of the *Papilio Braſſicæ* or Cabbage Butterfly. This inſect, though deſtructive to the plants in gardens, is of little conſequence in field culture ; becauſe it comes too late to injure the ſeed-bed ; and if the plants proſper after they are ſet out, they become ſo ſtrong and numerous as to ſet it at defiance. I have practiſed an eaſy method of ſtopping the ravages of theſe caterpillars, in the garden, by turning up the leaves, when I have obſerved the white butterflies buſy about the plants, and rubbing off the eggs, which are depoſited along the ribs of them, with the back of a knife ; this operation is performed in a very ſhort time, whereas the picking of the caterpillars after they are hatched and diſperſed is operoſe and tedious.

The Slug, that common enemy to all crops, attacks the Cabbage, but is by no means ſo injurious to that as to the Turnep, becauſe it ſtands up above the ground, whereas the leaves of the latter ſpread upon it.

From Froſt, Cabbages ſuſtain little or no damage, if they be of an hardy ſort, a few of the outſide leaves excepted. In the laſt ſevere froſt of 1788-9, the early ſown Turneps were univerſally deſtroyed, and the late ſown ones much injured : whereas the Cabbage crop endured all the ſeverity of the winter, and ſupplied food, when nothing elſe, beſides Hay, could be procured ; was got up with nearly as much eaſe as in open weather ; and the ſtock did well on it, even when the plants were much frozen[i].

There is a diſeaſe to which Cabbages are ſubject, which is the roots becoming ſwollen or knobbed, and the plant at the ſame time ſmaller. It is occaſioned by grubs which are the *larvæ* of flies ; and is incident chiefly to ſuch Cabbages as are ſown or planted for ſeveral years together on the ſame land[k]. This diſeaſe therefore does not affect the field culture, unleſs indeed the ſeed-bed ſhould be continued on the ſame piece.

Objections.

The two principal objections to the field culture of Cabbages are, the impoveriſhment of the land, and the difficulty of carting them off.

That it is an exhauſting crop is generally allowed, and that it is much more ſo than Turneps[l]. A gentleman however who has given it repeated trials for twelve years, on a wet clayey loam, declares himſelf fully aſſured that it does not impoveriſh the ſoil, but on the contrary meliorates and cleans the land to which it is adapted, better than Turneps. One acre of his Cabbages is often worth three and ſometimes four acres of adjoining Turneps, on land five ſhillings an acre better than his. The average crop of Cabbages twenty-ſix tons; of Barley after it, thirty-ſeven buſhels; of Wheat, thirty buſhels; of Oats, ſixty buſhels; of Clover, when mown twice, three tons from an acre[m].

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[p] Young's ann. 2. 151, 152.
[q] Idem 3. 183. & 5. 199.
[r] Id. 9. 392.
[s] Ib. 2. 140. 5. 199, 200. & 9. 392.
[t] Id. 3. 183.
[u] Id. 3. 184.
[x] Bath papers, 2. 103.
[y] Young's ann. 11. 333.
[z] Id. 4. 177.
[a] Bath papers, 2. 103.
[b] Young's ann. 5. 199.
[c] Id. 9. 393.
[d] Id. 3. 184.
[e] Id. 3. 183. & 9. 393.

[f] Young's ann. 11. 334.
[g] Id. 3. 185. & 5. 198.
[h] Id. 9. 392.
[i] Id. 11. p. 327, 332.
[k] Stokes in Withering's arrangement.
[l] Young's ann. 5. 197, 200.

His courſe of crops is worth remarking. The Cabbages being diſpoſed of, by carrying the beſt to the cows and other cattle in the ſtraw-yard, and folding ewes and lambs upon the remainder in march and april; the land is ſown with Barley and Clover; the autumn following the Clover lay is broken up, and ſet with Wheat; the year after Oats are ſown upon the Wheat ſtubble; and at michaelmas following from twelve to fourteen loads of compoſt being ploughed in, the may or june after Cabbages are again planted[n].

Another great advantage of Cabbages is, by their being planted on four-furrow work, the land lays drier, and works better for Barley or Oats than Turnep land: there is always mould to ſow in ſpring, after feeding off with ſheep, which is by no means the caſe in the ſame ſort of land with Turneps; if the ſeaſon be wet when they are feeding, and ſets in dry in ſeed-time, it is not poſſible to get the ſeed in properly[o].

Many are inclined to attribute the exhauſting of land by Cabbages to the practice of leaving the ſtalks in the ground, which throw out ſprouts, and thus draw the land when the effect of the crop ought entirely to have ceaſed. But if we ſhould allow, what however ſome diſpute, that Barley after Turneps is better by eight buſhels an acre, than after Cabbages; yet if one acre of Cabbages be more valuable, as is commonly thought, than two acres of Turneps, there will be a gain upon the whole, and Cabbages ought not to be ſtigmatized as an exhauſting crop[p]. It is found however that to enſure a good crop of Barley, the Cabbages ſhould not be taken off too late.

As the crop cannot be fed upon the land by heavy cattle, this occaſions an expenſe in carting it off, and that damages the land, by cutting it up and poaching it in a dreadful manner. The Turneps however are moſt damaged, becauſe they are on ſteaches nearly flat, whereas the Cabbages being on three-feet ridges, the poaching is chiefly in the furrows, and no part of the crop which is left for the ſheep is injured. The carting alſo is done at half the expenſe, and the food is cleaner for the flock[q]. If broad-arched ridges were uſed, all the carting being in the furrows alone, the productive part of the field would be ſecure from injury, in the caſe both of Cabbages and Turneps[r].

Quantity.

The quantity of the Cabbage crop will of courſe vary with the quality of the land, the quantity of manure, the degree of tillage, the goodneſs of the plant, and the ſeaſon at and after planting. From partial meaſurements the crop has been eſtimated at forty-two, fifty-four, and even ſixty-eight tons to the acre; but theſe are extraordinary weights not to be depended upon. Crops are ſtated more generally at from thirty-ſix to twenty-ſix tons, and ſome ſo low as fourteen[s]; and a good one may be laid at thirty tons. Allowing indeed a Cabbage of twenty-eight pounds to every ſquare yard, an acre will yield upwards of ſixty tons; but every cultivator knows that a conſiderable abatement muſt be made in ſuch eſtimates, for failures of plants, and deficiency in weight of thoſe which ſucceed.

The great aim of the farmer is to have large plants of a firm ſort; and ſuch cannot be obtained without great care and attention in procuring or ſaving good ſeed. For this purpoſe it is not ſufficient to have a good ſort; but the plants which ſtand for ſeed muſt be removed from all other ſorts and varieties of the Cabbage kind, when in flower. To this end ſome plant them in a piece of Wheat: but in this ſituation it is difficult to keep them from birds.

Turnep Cabbage, and *Turnep-rooted Cabbage.*

Theſe two plants are ſometimes confounded, and indeed they are not eſſentially different. The firſt produces its bulb or protuberance, which approaches to roundneſs, chiefly above ground; but in the ſecond it is oblong, and deſcends into the ground[t].

The Turnep Cabbage, though ſaid not to be ſo hardy as the other, is hardy enough, for it ſtood the ſevere winter of 1788-9, when moſt of the Turneps were deſtroyed. It is eatable when young, about the ſize of a moderate garden Turnep, and thoſe which are ſown in june will continue good all the winter. The root muſt be ſtripped of its thick fibrous rind, and then it may be treated as a Turnep. The largeſt roots are twenty-three inches in circumference, and weigh upwards of twelve pounds[u]. Their chief uſe, as well as that of the Turnep-rooted Cabbage, is for feeding cattle and ſheep; their culture is the ſame; and their principal excellence is their hardineſs.

For domeſtic uſe,] the ſeeds are ſown in april, on a bed of light freſh earth, and when the plants are an inch high, they ſhould be tranſplanted into a ſhady border, at two inches diſtance every way, kept clean from weeds, and watered till they have taken root; if the ſeaſon ſhould prove extremely dry, they ſhould be watered afterwards every four or five days, to prevent the mildew. In the beginning of june they ſhould be tranſplanted where they are to remain, at two feet diſtance every way, and watered till they have taken root. As their ſtems advance draw the earth up to them with a hoe, but not too high, ſo as to cover the globular part, which is eaten.

[The manner of cultivating theſe plants in the field is much the ſame as that of the Cabbage. Sow a pound of ſeed very early in march for every three acres intended to be planted. Prepare the land by three or four earths, the firſt given at michaelmas. Before the laſt earth manure as for Turneps. Finiſh the whole ready for planting by the firſt week in june. The firſt ground rain after that ſet all hands to planting; the rows two feet aſunder, and the plants eighteen inches apart in good land, and twelve in poorer ſoils. Plough the intervals three times, and keep the rows perfectly clean by hand-hoeing. When the plants are to be taken up, plough the rows without a coulter, and a round ſhare with a blunt edge[x].

Others ſow broadcaſt, and hoe out as for Turneps. Others again ſow the ſeed in drills the middle of april, where it is to remain; having obſerved a great difference between the plants left in the ſeed-bed, and thoſe planted juſt beſide them, to the advantage of the former[y]. When they are ſown broadcaſt, they ſhould be put in earlier, becauſe they are longer in coming to the hoe, than Turneps.

This crop is in no danger from the fly; and if it be attacked by caterpillars or ſlugs, they may be checked by rolling very early in the morning.

Turnep-rooted Cabbage will produce from twenty-five to thirty tons on an acre; and for late ſpring-feed is certainly a moſt valuable crop. It is invulnerable to froſt; and when farmers are in the greateſt diſtreſs for ſheep-feed in april, it is an unfailing ſupply, and affords abundant milk for the lambs. It is a firmer and more ſubſtantial food than Turneps, and may be kept long out of the ground[z].

Every farmer therefore ſhould cultivate ſo much of this root as will enſure him proviſion for his cattle and ſheep three or four weeks in the latter part of the ſpring, unleſs he be otherwiſe provided. A greater quantity is not to be wiſhed, becauſe the conſumption of them, particularly when drawn, and carried off the land, is attended with more trouble and expenſe than Turneps, eſpecially if the ſoil be wet and heavy [a]. But on ſuch a ſoil Turneps ſeldom ſucceed; nor can they be either fed on the land or carted off from it in ordinary ſpring ſeaſons without materially injuring the ſucceeding crop.

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[m] Forby, in Young's ann. 19. 470.

[n] Id. 19. 566.

[o] Id. 567. & 9. 301.

[p] Id. 5. 197 to 201.

[q] Id. 202. & 19. 567.

[r] Id. 5. 202.

[s] Young's ann. 9. 391. 16. 93, 262. 19, 481, 566. Bath papers, 2. 103, 227. 4. 336.

[t] Young's ann. 2. 345.

[u] Bath papers, 5. 454.

[x] Young's ann. 2. 364.

[y] Ibid. 365. & 345.

[z] Bath papers, 2. 102.

If the ground be wanted for Barley, the turnep-rooted Cabbages may be ploughed up in february or march, and ſpread on a lay or dry paſture, or elſe ſtacked up. They are of ſo firm a nature, that they will keep good out of the ground near twelve months, through the extremes of heat and cold [b]. Or on light land, Buck-wheat may be ſown on the firſt earth upon the land from which they are fed off; and the Clover or other ſeeds may be ſown with it, in the ſame manner as with Oats or Barley [c].

The Swediſh Turnep or *Roota Baga*, is of the ſame nature with theſe, and equally hardy. The root is ſweet and firm, being nearly twice as heavy as one of our Turneps of the ſame ſize. When dreſſed for the table it is preferred to ours; and it is particularly grateful to all ſorts of cattle. Hares and pheaſants will take to it, and leave Cabbages and common Turneps untouched. The culture and application of the Swediſh Turnep is the ſame as that of theſe. The roots are as ſound in may as at chriſtmas; they may be pulled up at this time, and kept till april, either piled up with ſand or ſtraw in a barn, or thrown on a paſture. Their heads are not ſo large and buſhy as thoſe of the turnep-rooted Cabbage, and therefore will not produce ſo much green food [d].

Borecole, or *Fringed Cabbage*.

The varieties are, 1. Green curled. 2. Red curled. 3. Thick-leaved curled. 4. Finely fringed. 5. Siberian, or Scotch Kale.]

For the garden, theſe may be treated in the manner directed for winter Cabbages; but they need not be planted above one foot aſunder in the rows, and theſe need not be more than at two feet diſtance. The Borecoles are never eaten till froſt has rendered them tender; for before that they are tough and bitter.

The ſeeds of the Siberian Borecole may be ſown the beginning of july; and when the plants are ſtrong enough, they ſhould be ſet in rows eighteen inches aſunder, and ten inches diſtant in the rows. This work muſt be done in a moiſt time. They will be fit for uſe after chriſtmas, and continue good to april.

[All theſe plants bear our ſevereſt winters, are a uſeful reſerve for the table in ſuch ſeaſons, and then eat very ſweet and tender.

Green Borecole is alſo a very uſeful green food for ſheep, becauſe it is not only hardy, but growing three feet high it may at all times in deep ſnows be got at by theſe animals, who frequently ſuffer much for want of food in ſuch caſes. It may be cultivated exactly as is directed above for the turnep-rooted Cabbage [e].]

Cauliflower.

Cauliflowers by the ſkill of the gardener, are continued for ſeveral months together; but the moſt common ſeaſon for the great crop, is in may, june, and july. I ſhall therefore begin with directions for obtaining them in this ſeaſon.

Having procured a parcel of good ſeed, of an early kind, you muſt ſow it about the twenty-firſt of auguſt, upon an old Cucumber or Melon-bed, ſifting a little earth over the ſeeds, about a quarter of an inch thick; and if the weather ſhould prove extremely hot and dry, you ſhould ſhade the bed with mats, to prevent the earth from drying too faſt, which would endanger the ſpoiling your ſeed; and give it gentle waterings, as you may ſee occaſion. In about a week's time your plants will appear above ground, when you muſt take off your coverings by degrees, but do not expoſe them too much to the open ſun at firſt. In about a month's time after ſowing, your plants will be fit to prick out, you ſhould therefore put ſome freſh earth upon your old Cucumber or Melon-beds; or where theſe are not to be had, ſome beds ſhould be made with a little new dung, which ſhould be trodden down cloſe, to prevent the worms from getting through it; but it ſhould not be hot dung, which would be hurtful to the plants at this ſeaſon, eſpecially if it proves very hot; into this bed you ſhould prick your young plants, at about two inches ſquare, obſerving to ſhade and water them at firſt planting; but do not water them too much after they are growing, nor ſuffer them to receive too much rain, if the ſeaſon ſhould prove wet, which would be apt to make them black-ſhanked (as the gardeners term it,) which is no leſs than a rottenneſs in their ſtems, and is the deſtruction of the plants ſo affected.

In this bed they ſhould continue till about the 30th of october, when they muſt be removed into the place where they are to remain during the winter ſeaſon, which, for the firſt ſowing, is commonly under bell or hand-glaſſes, to have early Cauliflowers, and theſe ſhould be of an early kind: but in order to have a ſucceſſion during the ſeaſon, you ſhould be provided with another more late kind, which ſhould be ſown four or five days after the other, and managed as was directed for them.

In order to have very early Cauliflowers, you ſhould make choice of a good rich ſpot of ground, that is well defended from the north, eaſt, and weſt winds, with hedges, pales, or walls; but the firſt is to be preferred, if made with reeds, becauſe the winds will fall dead in theſe, and not reverberate as by pales or walls. This ground ſhould be well trenched, burying therein a good quantity of rotten dung; then level your ground, and if it be naturally a wet ſoil, you ſhould raiſe it up in beds about two feet and a half, or three feet broad, and four inches above the level of the ground; but if your ground is moderately dry, you need not raiſe it at all: then ſet your plants, allowing about two feet ſix inches diſtance from glaſs to glaſs, in the rows, always putting two good plants under each glaſs, which may be at about four inches from each other; and if you deſign them for a full crop, they may be three feet and a half, row from row: but if you intend to make ridges for Cucumbers or Melons between the rows of Cauliflower plants (as is generally practiſed by the gardeners near London,) you muſt then make your rows eight feet aſunder.

When you have ſet your plants, if the ground is very dry, you ſhould give them a little water, and then ſet your glaſſes over them, which may remain cloſe down upon them, until they have taken root, which will be in about a week or ten days time; unleſs there ſhould be a kindly ſhower of rain, in which caſe you may ſet off the glaſſes, that the plants may receive the benefit of it; and in about ten days after planting, you ſhould be provided with a parcel of forked ſticks or bricks, with which you ſhould raiſe your glaſſes about three or four inches on the ſide toward the ſouth, that your plants may have free air. In this manner your glaſſes ſhould remain over the plants night and day, unleſs in froſty weather, when you ſhould ſet them down as cloſe as poſſible: or if the weather ſhould prove very warm, which many times happens in november, and ſometimes in december; in this caſe, you ſhould keep your glaſſes off in the day-time, and put them on only in the night, leſt, by keeping the glaſſes over them too much, you ſhould draw them into flower at that ſeaſon, which is many times the caſe in mild winters, eſpecially if unſkilfully managed.

Toward the latter end of february, if the weather proves mild, you ſhould prepare another good ſpot of ground, to remove ſome of the plants into from

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[a] Bath papers, 5. 423. [b] Ibid. 2. 102. [c] Ibid, 3. 112.

[d] Young's ann. 16. 173. Bath papers, 5. 425 & 457.

[e] Young's ann. 2. 364.

under the glaſſes, which ſhould be well dunged and trenched (as before;) then ſet off the glaſſes, and, after making choice of one of the moſt promiſing plants under each glaſs, which ſhould remain, take away the other plant, by raiſing it up with a trowel, ſo as to preſerve as much earth to the root as poſſible; but have a great regard to the plant that is to remain, not to diſturb or prejudice its roots: then ſet your plants which you have taken out, at the diſtance before directed, *viz.* if for a full crop, three feet and a half, row from row; but if for ridges of Cucumbers between them, eight feet, and two feet four inches diſtance in the rows: then with a ſmall hoe, draw the earth up to the ſtems of the plants which were left under the glaſſes, taking great care not to let the earth fall into their hearts; and ſet your glaſſes over them again, raiſing your props an inch or two higher than before, to give them more air, obſerving to take them off whenever there may be ſome gentle ſhowers, which will greatly refreſh the plants.

In a little time after, if you find your plants grow ſo faſt as to fill the glaſſes with their leaves, you ſhould then ſlightly dig about the plants, and raiſe the ground about them in a bed broad enough for the glaſſes to ſtand about four inches high, which will give your plants a great deal of room by raiſing the glaſſes ſo much higher, when they are ſet over them; and by this means they may be kept covered until april, which otherwiſe they could not, without prejudice to the leaves of the plants: and this is a great advantage to them; for many times we have returns of ſevere froſts at the latter end of march, which prove very hurtful to theſe plants, if expoſed thereto, eſpecially after having been nurſed up under glaſſes.

After you have finiſhed your beds, you may ſet your glaſſes over your plants again, obſerving to raiſe your props pretty high, eſpecially if the weather be mild, that they may have free air to ſtrengthen them; and in mild ſoft weather ſet off your glaſſes, as alſo in gentle ſhowers of rain; and now you muſt begin to harden them by degrees to endure the open air: however, it is adviſeable to let your glaſſes remain over them as long as poſſible, if the nights ſhould be froſty, which will greatly forward your plants: but be ſure do not let your glaſſes remain upon them in very hot ſun-ſhine, eſpecially if their leaves preſs againſt the ſides of the glaſſes; for I have often obſerved, that the moiſture which has riſen from the ground, and the perſpiration of the plants, which, by the glaſſes remaining over them, has been detained upon the leaves, and when the ſun has ſhone hot upon the ſides of the glaſſes, has acquired a powerful heat, have ſcalded all their larger leaves, to the no ſmall prejudice of the plants: nay, ſometimes I have ſeen large quantities of plants ſo affected therewith, as never to be worth any thing after.

If your plants have ſucceeded well, toward the end of april ſome of them will begin to produce; you muſt therefore look over them carefully every other day, and when you ſee white ſtalk, which is commonly called the flower, plainly appear, you muſt break down ſome of the inner leaves over it to guard it from the ſun, which would make it yellow and unſightly, if expoſed thereto; and when you find it at its full bigneſs (which you may know by its outſide parting, as if it would run,) you muſt then draw the plant out of the ground, and not cut it off, leaving the ſtalk in the ground, as is by ſome practiſed; and if they are deſigned for preſent uſe, you may cut them out of their leaves; but if deſigned to keep, you ſhould preſerve their leaves about them, and put them into a cool place: the beſt time for pulling them is in a morning, before the ſun has exhaled the moiſture; for Cauliflowers, pulled in the heat of the day, loſe that firmneſs which they naturally have, and become tough.

But to return to our ſecond crop (the plants being raiſed and managed as was directed for the early crop, until the end of october;) you muſt then prepare ſome beds, either to be covered with glaſs-frames, or arched over with hoops, to be covered with mats, *&c.* Theſe beds ſhould have ſome dung laid at the bottom, about ſix inches or a foot thick, according to the ſize of your plants; for if they are ſmall, the bed ſhould be thicker of dung, to bring them forward, and *vice verſa:* this dung ſhould be beat down cloſe with a fork, in order to prevent the worms from finding their way through it; then lay ſome good freſh earth about four or five inches thick thereon, in which you ſhould ſet your plants about two inches and a half ſquare, obſerving to ſhade and water them until they have taken freſh root; but be ſure do not keep your coverings cloſe, for the warmth of the dung will occaſion a great damp in the bed, which, if pent in, will injure the plants.

When your plants have taken root, you muſt give them as much free open air as poſſible, by keeping the glaſſes off in the day-time as much as the weather will permit; and in the night, or at ſuch times as the glaſſes require to be kept on, raiſe them up with bricks or other props to let in freſh air, unleſs in froſty weather; at which time the glaſſes ſhould be covered with mats, ſtraw, and Peaſe-haulm, *&c.* but this is not to be done except in very hard froſts: you muſt alſo obſerve to guard them againſt great rain, which in winter time is very hurtful to them; but in mild weather, if the glaſſes are kept on, they ſhould be propped to admit freſh air; and if the under leaves grow yellow and decay, be ſure to pick them off; for if the weather ſhould prove very bad in winter, ſo that you ſhould be obliged to keep them cloſe covered for two or three days together, as it ſometimes happens, theſe decayed leaves will render the incloſed air very noxious; and the plants perſpiring pretty much at that time, are often deſtroyed in vaſt quantities.

In the beginning of february, if the weather proves mild, you muſt begin to harden your plants by degrees, that they may be prepared for tranſplantation; and the ground where you intend to plant your Cauliflowers out to remain (which ſhould be quite open from trees, *&c.* and rather moiſt than dry) having been well dunged and dug, ſhould be ſown with Radiſhes a week or fortnight before you intend to plant out your Cauliflowers: the reaſon why I mention the ſowing of Radiſhes particularly, is this, *viz.* that if there are not ſome Radiſhes amongſt them, and the month of may ſhould prove hot and dry, as it ſometimes happens, the fly will ſeize your Cauliflowers, and eat their leaves full of holes, to their prejudice, and ſometimes their deſtruction; whereas, if there are Radiſhes upon the ſpot, the flies will take to them, and never meddle with the Cauliflowers ſo long as they laſt. Indeed, the gardeners near London mix Spinach with their Radiſh-ſeed, and ſo have a double crop, which is an advantage where ground is dear, or where perſons are ſtraitened for room; otherwiſe it is very well to have only one crop amongſt the Cauliflowers, that the ground may be cleared in time.

Your ground being ready, and the ſeaſon good, about the middle or end of february, you may begin to plant out your Cauliflowers: the diſtance which is generally allowed by the gardeners near London (who plant other crops between their Cauliflowers to ſucceed them, as Cucumbers for pickling, and winter Cabbages) is every other row four feet and a half apart, and the intermediate rows two feet and a half, and two feet two inches diſtance in the rows; ſo that in the latter end of may, or beginning of june, when the Radiſhes and Spinach are cleared off, they put in ſeeds of Cucumbers for pickling, in the middle of the wide rows, at three feet and a half apart; and in the narrow rows, plant Cabbages for winter uſe, at two feet two inches diſtance, ſo that theſe ſtand each of them exactly in the middle of the ſquare between four Cauliflower-plants; and theſe, after the Cauliflowers are gone off, will have full room to grow, and the crop be hereby continued in a ſucceſſion through the whole ſeaſon.

About three weeks or a month after your Cauliflowers are planted out, the Radiſhes between them will be fit to hoe; at which time, when you are hoeing out the Radiſhes where they are too thick, you ſhould cut off all ſuch as grow immediately about the Cauliflowers, and would prove hurtful to them, by drawing them up tall and weak; and alſo at that time draw the earth up to the ſtems of the plants, being careful not to let any get into their hearts, as was before directed; and when your Radiſhes are fit to pull, be ſure to clear round the Cauliflowers firſt, and keep drawing the earth up to their ſtems as they advance in height, which will keep their ſtems from being hardened by the weather, and be of ſingular ſervice to your plants.

There are many people who are very fond of watering Cauliflower-plants in ſummer, but the gardeners near London have almoſt wholly laid aſide this practice, as finding a deal of trouble and charge to little purpoſe; for if the ground be ſo very dry as not to produce tolerable good Cauliflowers without water, it ſeldom happens, that watering them renders them much better; and when once they have been watered, if it is not conſtantly continued, it had been much better for them if they never had any; as alſo if it be given them in the middle of the day, it rather helps to ſcald them: ſo that, upon the whole, if care be taken to keep the earth drawn up to their ſtems, and clear them from every thing that grows near them, that they may have free open air, you will find that they will ſucceed better without than with water, where any of theſe cautions are not ſtrictly obſerved.

When your Cauliflowers begin to ſhow, you muſt often look over them, to turn down their leaves, as was before directed, to preſerve their whiteneſs; and when they are full grown, obſerve the former directions in pulling them, *&c.* but wherever you meet with an extraordinary good Cauliflower, whoſe curd is hard and white, and perfectly free from any frothineſs about the edges, you ſhould ſuffer it to remain for ſeed, keeping the leaves cloſe down upon it until the flower has ſhot out ſtems, and then remove the leaves from it by degrees, but do not expoſe it too much to the open air at firſt. As the ſtems advance, you muſt take the leaves quite away; and when they begin to branch out, you ſhould fix three pretty ſtrong ſtakes, at equal angles, about it, ſurrounding them with packthread, *&c.* to ſupport the branches, which would be otherwiſe liable to break with the wind.

When your pods begin firſt to be formed, if the weather proves dry, you ſhould give them a little water all over (with a watering-pot that has a roſe to it;) which will promote the progreſs of the ſeeds, and preſerve them from mildew, which is often hurtful to the ſeeds; and, when your ſeeds are ripe, you muſt cut it off, and hang it up to dry, and rub it out as was directed for Cabbage-ſeed: and although your flowers do not produce ſo much ſeed as thoſe which were of a ſofter or frothy nature, yet the goodneſs of ſuch ſeeds will ſufficiently recompenſe for the quantity; and any perſon who was to purchaſe his ſeeds, had better give ten ſhillings an ounce for ſuch ſeed than two for the ſeeds commonly ſaved for ſale, as the gardeners about London have experienced, who will never buy any ſeeds of this kind, if they do not know how they were ſaved.

But in order to have a third crop of Cauliflowers, you ſhould make a ſlender hot-bed in february, in which you ſhould ſow the ſeeds, covering them a quarter of an inch thick with light mould, and covering the bed with glaſs-frames: you ſhould now and then gently refreſh the bed with water, obſerving to raiſe the glaſſes with bricks or props in the day-time, to let in freſh air; and when the plants are come up, and have gotten four or five leaves, you ſhould prepare another hot-bed to prick them into, at the diſtance of about two inches every way; and in the beginning of april harden them by degrees, to fit them for tranſplanting, which ſhould be done the middle of that month; at the diſtance directed for the ſecond crop; and muſt be managed accordingly: theſe (if the ſoil be moiſt where they are planted, or the ſeaſon cool and moiſt) will produce good Cauliflowers about a month after the ſecond crop is gone; whereby their ſeaſon will be greatly prolonged.

There is alſo a fourth crop of Cauliflowers, which is raiſed by ſowing the ſeed about the 23d of may; and being tranſplanted, as has been before directed, will produce good Cauliflowers in a kindly ſeaſon and good ſoil, after michaelmas, and continue through october and november; and, if the ſeaſon permit, often a great part of december.

The reaſon why I fix particular days for the ſowing of this ſeed, is becauſe two or three days often make a great difference in their plants; and becauſe theſe are the days uſually fixed by the gardeners near London, who have found the crops to ſucceed beſt when ſown at thoſe times, although one day, more or leſs, will make no great odds.

Broccoli.

The ſeeds of the Broccoli, of which there are ſeveral kinds, *viz.* the Roman, or purple, and the Neapolitan, or white, and the black Broccoli, with ſome others; (but the Roman is chiefly preferred to them all) ſhould be ſown about the latter end of may, or beginning of june, in a moiſt ſoil; and when the plants are grown to have eight leaves, tranſplant them into beds, as was directed for the common Cabbage; and toward the middle of july they will be fit to plant out finally, which ſhould be into ſome well ſheltered ſpot of ground, but not under the drip of trees: the diſtance theſe require is about a foot and a half in the rows, and two feet row from row. The ſoil, in which they ſhould be planted, ought to be rather light than heavy, ſuch as are the kitchen gardens near London: if your plants ſucceed well (as there will be little reaſon to doubt, unleſs the winter prove extremely ſevere) they will begin to ſhow their ſmall heads, which are ſomewhat like a Cauliflower, but of a purple colour, about the end of december, and will continue eatable till the middle of april.

The brown or black Broccoli is by many perſons greatly eſteemed, though it does not deſerve a place in the kitchen-garden, where the Roman Broccoli can be obtained, which is much ſweeter, and will continue longer in ſeaſon: indeed, the brown ſort is much hardier, ſo that it will thrive in the coldeſt ſituations, where the Roman Broccoli is ſometimes deſtroyed in very hard winters. The brown ſort ſhould be ſown in the middle of may, and managed as has been directed for the common Cabbage, and ſhould be planted at the ſame diſtance which is about two feet and a half aſunder. This will grow very tall, and ſhould have the earth drawn up to the ſtems as it advances in height. This does not form heads ſo perfect as the Roman Broccoli; the ſtems and hearts of the plants are the parts which are eaten.

The Roman Broccoli (if well managed) will have large heads, which appear in the center of the plants, like cluſters of buds. Theſe heads ſhould be cut before they run up to ſeed, with about four or five inches of the ſtem; the ſkin of theſe ſtems ſhould be ſtripped off, before they are boiled: theſe will be very tender and little inferior to Aſparagus. After the firſt heads are cut off, there will be a great number of ſide ſhoots produced from the ſtems, which will have ſmall heads to them, but are full as well flavoured as the large. Theſe ſhoots will continue good until the middle of april, when the Aſparagus will come in plenty to ſupply the table.

The Naples Broccoli has white heads, very like thoſe of the Cauliflower, and eats ſo like it, as not to be diſtinguiſhed from it. This being much tenderer than the Roman Broccoli, is not ſo much cultivated in England; for as the gardens near London generally produce great plenty of late Cauliflowers, which, if the ſeaſon prove favourable, will continue till chriſtmas, the Naples Broccoli, coming at the ſame time, is not ſo valuable.

Beſides this firſt crop of Broccoli (which is uſually ſown the end of may,) it will be proper to ſow another crop the beginning of july, which will come in to ſupply the table the latter end of march, and the beginning of april, and being very young, will be extremely tender and ſweet.

In order to ſave good ſeeds of this kind of Broccoli in England, you ſhould reſerve a few of the largeſt heads of the firſt crop, which ſhould be let remain to run up to ſeed, and all the under ſhoots ſhould be conſtantly ſtripped off, leaving only the main ſtem to flower and ſeed. If this be duly obſerved, and no other ſort of Cabbage permitted to ſeed near them, the ſeeds will be as good as thoſe procured from abroad, and the ſort may be preſerved in perfection many years.

The manner of preparing the Naples Broccoli for the table is this: when your heads are grown to their full bigneſs (as may be eaſily known by their dividing, and beginning to run up,) then you ſhould cut them off, with about four inches of the tender ſtem to them; then ſtrip off the outer ſkin of the ſtem, and after having waſhed them, boil them in a clean linen cloth as is practiſed for Cauliflowers, and, if they are of a right kind, they will be tenderer than any Cauliflowers, though very like them in taſte.

[The White or Neapolitan Broccoli may alſo be ſown in the beginning or middle of february, upon a wall border having an eaſtern aſpect. So ſoon as the plants have got five leaves, tranſplant them into a more ſoutherly aſpect, upon a very good rich ſoil, where they may remain. The reaſon of this tranſplanting is, that they may thereby acquire more fibres, whereby they ſuck more nouriſhment from the ſoil, than thoſe plants which are continued in their ſeed-beds: for by every tranſplantation they acquire a new ſet of fibres, and of conſequence, if they are twice or thrice tranſplanted in nurſery-beds, they are much better in their productions than plants of the ſame kind, which have not been tranſplanted.

In order to have Broccoli produce well, tranſplant it into the alleys of your Onion, Carrot, *&c.* beds, the beginning of july; preſerving it from ſnails, and hilling it up, it will produce moſt noble heads in january and february, and will furniſh the table until it is quite over. By thus ſowing very early in the ſpring, the moſt forward will ſucceed the autumnal-ſown crops, by which means there will be a conſtant ſucceſſion.

The Roman or Blue Broccoli ſhould be ſown by the 10th of march; when the plants have five leaves tranſplant them into nurſery-beds at three inches diſtance; at the end of june plant them out into a good ſoil in rows three feet diſtant, and two feet between the plants: hill, dig, and keep them clear from weeds; and in november they will ſhow their heads: theſe muſt be cut off, except in ſevere froſt, that their ſide ſprouts may advance in the ſpring; for theſe will be fit for ſervice long after the other ſorts are quite gone. All the varieties of Broccoli proſper beſt in a rich loamy ſoil, not much expoſed to the ſun; but they muſt never be planted under the drip of trees[f].]

Saving Seeds.

The beſt method to ſave the ſeeds of all the beſt ſorts of Cabbages is, about the end of november to make choice of ſome of your beſt Cabbages, which you ſhould pull up, and carry to ſome ſhed, or other covered place, where you ſhould hang them up for three or four days by their ſtalks, that the water may drain from between their leaves; then plant them in ſome border, under a hedge or pale, quite down to the middle of the Cabbage, leaving only the upper part of the Cabbage above ground, obſerving to raiſe the earth about it, ſo that it may ſtand a little above the level of the ground; but if the ground be wet, it will require to be raiſed pretty much above the ſurface.

If the winter ſhould prove very hard, you muſt lay a little ſtraw or Peaſe-haulm lightly upon the Cabbages, to ſecure them from the froſt, taking it off as often as the weather proves mild, leſt by keeping them too cloſe they ſhould rot. In the ſpring of the year they will ſhoot out ſtrongly, and divide into a great number of ſmall branches: you muſt therefore ſupport their ſtems, to prevent their being broken off by the wind; and if the weather ſhould be very hot and dry when they are in flower, you ſhould refreſh them with water once a week all over the branches, which will greatly promote their ſeeding, and preſerve them from mildew.

When the pods begin to change brown, you will do well to cut off the extreme part of every ſhoot with the pods, which will ſtrengthen your ſeeds; for it is generally obſerved, that thoſe ſeeds which grow near the top of the ſhoots, are very ſubject to run to ſeed before they cabbage; ſo that by this there will be no loſs, but a great advantage, eſpecially if you have more regard to the quality than to the quantity of the ſeeds, which indeed is not always the caſe, when it is intended for ſale; but thoſe who ſave it for their own uſe, will be careful to have it good.

When your ſeeds begin to ripen, you muſt be particularly careful, that the birds do not deſtroy it; for they are very fond of theſe ſeeds. In order to prevent their miſchief, ſome uſe old nets, which they throw over their ſeeds, to prevent their getting to it: but this will not always do, for unleſs the nets are very ſtrong, they will force their way through them, as I have often ſeen; but the beſt method I know, is to get a quantity of birdlime, and daub over a parcel of ſlender twigs, which ſhould be faſtened at each end to ſtronger ſticks, and placed near the upper part of the ſeed, in different places, ſo that the birds may alight upon them, by which means they will be faſtened thereto, where you muſt let them remain a conſiderable time, if they cannot get off themſelves: and although there ſhould be but few birds caught, yet it will ſufficiently terrify the reſt, that they will not come to that place again for a conſiderable time after, as I have experienced.

When your ſeed is fully ripe, you muſt cut it off: and, after drying, threſh it out, and preſerve it in bags for uſe.

But in planting Cabbages for ſeed, I would adviſe never to plant more than one ſort in a place, or near one another: as for example, never plant red and white Cabbages near each other, nor Savoy with either white or red Cabbages; for I am very certain they will produce a mixture of ſorts; and it is wholly owing to this neglect, that the gardeners rarely ſave any good red Cabbage-ſeed in England, but are obliged to procure freſh ſeeds from abroad, as ſuppoſing the ſoil or climate of England alters them from red to white, and of a mixed kind between both; whereas, if they would plant red Cabbages by themſelves for ſeeds, and not ſuffer any other to be near them, they might continue the kind as good in England, as in any other part of the world; for in the Dutch gardens, from whence the beſt ſeeds of red Cabbages are procured, they cultivate no other ſort.

10. This is an open Colewort. It is an annual plant, and if ſown in april, will flower in july and perfect its ſeeds in october. Even when it has been frozen, it is much worſe than the common Colewort, and therefore not worth propagating.

13. When this is propagated for ſalads, the ſeeds ſhould be ſown in drills, in the ſame manner as is practiſed for other ſmall ſalad herbs, but if it be not eaten young, it will be too ſtrong for moſt palates. When ſown in ſummer, the plants ſoon run up to ſeed, and are too rank. When cultivated for the ſeed, which is ſometimes uſed in medicine, it ſhould be ſown in march on an open ſpot of ground; and when the plants have put out four leaves, they ſhould be hoed to three or four inches diſtance; in five or ſix weeks they ſhould have a ſecond hoeing. When the ſeeds are ripe, the plants ſhould be

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[f] Juſtice Brit. Gard. director, p. 187.

drawn up, and ſpread upon a cloth in the ſun two or three days to dry; when the ſeeds may be beaten out of the pods, and put up for uſe.

The wild Rockets may be cultivated, by ſowing the ſeeds in march or april. When the plants come up, they require no other culture but to thin them, and keep them clear from weeds.

[Brassica. See *Arabis, Arum, Turritis.*

——— marina. See *Convolvulus, Soldanella* and *Crambe.*

——— monenſis. See *Siſymbrium.*

——— ſpinoſa. See *Bunias.*

BRATHYS. (Βραθυς or Βραθυ, *the name of a plant in Dioſcorides.*)

Mutis. Lin. ſuppl: n. 1402. *p.* 43. *Lin. gen. Schreb. n.* 937. *Juſſ.* 254.

Claſſ. 13. 5. Polyandria Pentagynia.

Nat. order of *Rotaceæ. Hyperica* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* lanceolate, acute, permanent.

Cor. *Petals* five, lanceolate, twice as long as the calyx.

Stam. *Filaments* many, more than twenty, capillary, the length of the calyx. *Anthers* twin.

Pist. *Germ* ſuperior, ovate. *Styles* five, patulous, filiform. *Stigmas* capitate.

Per. *Capſule* ovate, with five little ſwellings, one celled.

Seeds very many, roundiſh.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Pet.* five. *Nect.* none. *Capſ.* one-celled, many-ſeeded.

SPECIES.

1. Brathys juniperina.
Lin. ſyſt. 506. *ſuppl.* 268.

DESCRIPTION, *&c.*

This is a ſhrub of a habit between Heath and Juniper, very branching, and upright, the branches covered with leaves. Leaves oppoſite, very much crowded, aceroſe, an inch long, acute, unarmed, evergreen. Flowers terminating the branches, ſeveral together, ſeſſile. Found in New Granada, by Mutis[a].

Bread-Fruit Tree. See *Artocarpus.*

Bread-Nut Tree. See *Broſimum.*]

[BREYNIA. (*So named by Forſter, in memory of Jac. Breynius, and his ſon Jac. Phil. Breynius, M. D. both celebrated botaniſts.*)

Forſt. gen. t. 73. *Lin. gen. Schreb. n.* 1605.

Claſſ. 23. 2. Polygamia Dioecia.

GENERIC CHARACTER.

* *Hermaphrodite Flowers.*

Cal. *Perianth* one-leafed, turbinate, minute, ſix-parted: *parts* concave, blunt, cloſely converging, depreſſed flat at the end, ſo that it is pervious only by a ſmall hole.

Cor. none.

Stam. *Filaments* none. *Anthers* five, linear, upright, faſtened longitudinally to the ſtyle, approximating.

Pist. *Germ* very ſmall. *Style* cylindric, the length of the calyx. *Stigma* blunt.

Per. *Berry* dry, globular, three-celled, propped on the perianth, now become three times its former ſize, and ſpreading very much: the ſegments orbiculate, and nearly equal.

Seeds two, convex at the back, flat on the ſides.

* *Male flowers.*

Cal. *Perianth* one-leafed, five-parted: *leaflets* roundiſh, concave, almoſt equal.

Cor. none. *Nectary* five glands, ſubpedicelled, alternate with the ſtamens.

Stam. *Filaments* five, very ſhort. *Anthers* roundiſh, the length of the calyx.

* *Female flowers.*

Cal. & Cor. as in the Male.

Pist. *Germ.* globoſe. *Style* none. *Stigmas* five, obcordate, reſembling petals.

Per. *Capſule* five-celled.

Seeds ſolitary, ſubtriquetrous.

ESSENTIAL CHARACTER.

Cal. one-leafed. *Cor.* none.

Herm. *Cal.* ſix-parted. *Anthers* five, linear, faſtened to the ſtyle. *Berry* three-celled. *Seeds* two.

Male. *Cal.* five-parted. *Filaments* five. *Anthers* roundiſh.

Fem. *Stigmas* five, obcordate, petaloid, without any ſtyle. *Capſ.* five-celled. *Seed* ſolitary.

SPECIES.

1. Breynia diſticha.
Forſt. fl. auſtral. n. 40.
Native of New Caledonia, and the iſle of Tanna, in the South Seas.]

Breynia. See *Capparis* [and *Seriphium.*

Breyniæ affinis. See *Capparis.*

Briony. See *Bryonia.*

Britannica. See *Rumex.*]

[BRIZA. (Βρίζω, *to nod* or *ſleep.*)

Lin. gen. n. 84. *Reich. n.* 90. *Schreb. n.* 115. *Gærtn. t.* 1.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

Cal. *Glume* many-flowered, bivalve, ſpreading, collecting the flowers into a heart-ſhaped diſtich ſpike: *valves* heart-ſhaped, concave, equal, obtuſe.

Cor. bivalve: *lower valve* the ſize and figure of the calyx; *upper* very ſmall, flat, roundiſh, incloſing the body of the other. *Nectary* two-leaved; *leaflets* linear, crenulate.

Stam. *Filaments* three, capillary. *Anthers* oblong.

Pist. *Germ* roundiſh. *Styles* two, capillary, recurved. *Stigmas* plumoſe.

Per. none. *Corolla* unchanged contains the ſeed, gapes, and drops it.

Seed one, roundiſh, compreſſed, very ſmall.

ESSENTIAL CHARACTER.

Cal. bivalve, many-flowered. *Spikelet* diſtich with heart-ſhaped obtuſe valves, the lower of which is minute.

SPECIES.

1. Briza minor. *Small quaking-graſs.*
Lin. ſpec. 102. *Reich.* 193. *hort. cliff.* 23. *Hudſ. angl.* 38. *With.* 92. *Villars dauph.* 2. 137.
Poa. *Hall. helv. n.* 1449.
Gr. tremulum, &c. *Bauh. pin.* 2. *n.* 4. *prodr.* 4. *n.* 9. *theatr.* 24. *Mor. hiſt.* 3. 203. *ſ.* 8. *t.* 6. *f.* 47. *Raii hiſt.* 1274. *n.* 1. *ſyn.* 412. *n.* 2. *Scheuch. gram.* 205. *t.* 4. *f.* 9. *Park.* 1165. 5. *Barr. ic.* 16. *Lob. obſ.* 12.
Spikelets triangular, calyx longer than the ſeven floſcules.

2. Briza virens. *Green quaking-graſs.*
Lin. ſpec. 103. *Reich.* 194. *Allion. pedem. n.* 2216.
Gr. paniculatum minus, locuſtis magnis tremulis. *Tourn. inſt.* 523.
Spikelets ovate, calyx equal to the ſeven floſcules.

3. Briza media. *Middle,* or *common quaking-graſs, Cow-quakes, Shakers, Ladies-hair, Bird's-eyes.*
Lin. ſpec. 103. *Reich.* 194. *hort. cliff.* 23. *ſuec. n.* 86. *Hudſ. angl.* 38. *With.* 92. *Relh. cantabr. n.* 73. *Fl. ruſt. t.* 39. *Pollich pal. n.* 97. *Neck. gallob.* 56. *Leers herborn. n.* 64. *t.* 7. *f.* 2. *Scop. carn. n.* 109. *Fl. dan. t.* 258. *Krock. ſileſ. n.* 146. *Villars dauph.* 137.
Poa. *Hall. helv. n.* 1448.
Gr. tremulum. *Bauh. hiſt.* 2. 469. *Mor. f.* 45. 46. *Monti* 45. *f.* 39. *Scheuch. gram.* 204. *t.* 4. *f.* 8, 9. *Raii hiſt.* 1274. *n.* 3. *Park.* 1165. 2.
Phalaris pratenſis. *Ger.* 80. 2. *emac.* 86. 2.
Spikelets ovate, calyx ſhorter than the ſeven floſcules.]

4. Briza maxima. *Greateſt quaking-graſs.*
Lin. ſpec. 103. *ſyſt.* 115. *Reich.* 194. *hort. cliff.* 23. *upſ.* 20. *Jacqu. obſ.* 3. 10. *t.* 60. *Gærtn. fruct.* 1. *p.* 4. *t.* 1.
Gr. trem. maximum. *Bauh. pin.* 2. *prodr.* 5. *t.* 1. *Bauh. hiſt.* 2. 470. *Mor. f.* 48. *Raii hiſt.* 1274. *Park.* 1166. *n.* 5. *Scheuch. gram.* 202. *t.* 4. *f.* 7. *Mill. dict. n.* 7.
Phalaris pratenſis altera. *Ger. emac.* 87. *n.* 3.
Spikelets heart-ſhaped, floſcules 17.

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[a] Linn. ſuppl.

[5. Briza Eragroſtis. *Branched quaking-graſs*, or *Love-graſs.*
Lin. ſpec. 103. *ſyſt.* 116. *Reich.* 195. *Scop. carn. n.* 110. *Schreb.* 2. 83. *t.* 39. *Krock. ſileſ. n.* 147. *t.* 27. *Villars dauph.* 2. 136.
Poa. *Hall. helv. n.* 1450.
Uniola. *Gron. virg.* 136.
Gr. paniculis elegantiſſimis. *Bauh. pin.* 2. *theat.* 25. *Scheuch. gram.* 194. *t.* 4. *f.* 4. *Mor.* 204. *t.* 6. *f.* 52. (conf. f. 53.) *Raii hiſt.* 1274. *n.* 5. *Barr. rar. t.* 43, 44 & 744. *Ger. emac.* 9. *f.* 2.
Spikelets lanceolate, floſcules 20. (15 to 20 and more.)

6. Briza monſpeſſulana. *Montpelier quaking-graſs.*
Allion. pedem. n. 2220. *Gouan. hort. n.* 1.
Gr. trem. minus panic. magna. *Bot. mont.* 113.
Spike nodding ſimple, ſpikelets alternate peduncled ſubſolitary ovate, calyx five-flowered.

DESCRIPTIONS, &c.

1. The Small Quaking Graſs is annual; at leaſt it is ſo marked by Linneus and Villars: by Hudſon and in the Kew catalogue it is marked as perennial. The culms are about a foot and half in height; and the panicles are very much branched. Dr. Withering affirms, that Caſpar Bauhin's plant is only a ſmaller ſpecimen of *Briza media*; and Haller ſays, that he never ſaw a different ſpecies from that in Switzerland. That however which was ſent him from warmer climates he deſcribes as low, with leaves leſs than a line in breadth, a ſparſe panicle, with long ſlender pedicels, the ſpikelets ſmaller, inclining to purple, the glumes of the calyx ovate, hollow, of the ſame length with thoſe of the corolla, and having five or ſix floſcules together. Native of Germany, Switzerland, the South of France, Italy, and Britain. With us it was firſt obſerved by Dr. Sherard, in the iſland of Jerſey, and ſince near Bath by Mr. Alchorne. It flowers from june to auguſt.

2. This is very like the common ſort (n. 3.), but the leaves are twice as broad, flatter, and run down by an acute ſtrap. The panicle is very like that, but more copious, green not purple, with the diviſions more branched and divaricate, having callous knots depreſſing them at the baſe. The flowers are rather ſmaller, and readily fall off when handled. It is an annual graſs, native of the Levant, Spain[a], and the county of Nice; flowering in july. Introduced in 1787, by Mr. Zier[b].

3. Root perennial. Culm upright, ſix or ſeven inches high in a dry ſoil, but in wet boggy places, two or three feet in height; having four or five knots on it, three of which are near the root. Leaves from two to three or four inches in length, and a line or a line and half in breadth; the upper one forms a ſheath for the panicle, which continues a long time within it. The panicle is handſome, ſpreads very much when in flower, and has two ſpikelets on each branch, placed on ſuch long ſlender pedicels, as to ſhake with the leaſt air or motion: each ſpikelet is compoſed of ſeven, eight, or nine florets, is heart-ſhaped, flatted, ſhining, ſmooth, varying in colour, uſually variegated with green, white and purple, but ſometimes entirely white. The ſmaller glume of the corolla is ſlightly emarginate.

This beautiful graſs is very common in paſtures, eſpecially dry ones, in moſt parts of Europe, and is eaſily diſtinguiſhed by the continual ſhaking of the ſpikelets. Hence moſt of its common Engliſh names, as well as that by which it was known among old authors, *Gramen tremulum.* The French call theſe Quaking Graſſes *Amourettes.* It flowers from may to july.

Cattle eat it, both green, and made into hay with other graſſes, but it has no peculiar excellence that we are acquainted with, nor has it ever been cultivated ſeparately. Indeed it furniſhes very little food, and generally indicates a poverty of ſoil.]

4. Great Quaking Graſs has an annual root, ſending up many broad hairy leaves, between which ariſe ſlender ſtiff ſtalks, from a foot to near two feet high, dividing at top into a large looſe panicle; [which is rather a raceme, than a panicle[c]. It is a native of the South of Europe, and was cultivated here in 1633[d].

5. Root annual. Culms decumbent at bottom, very ſmooth, round, finely ſtreaked, from a ſpan to a foot in height; they have ſeveral joints towards the baſe, tinged ſlightly with red. Sheaths ſmooth, very finely ſtreaked, where the ligule or ſtrap is crowned with very ſlender white hairs. Leaves ſmooth, except that they are roughiſh about the edge, as may be perceived by drawing the fingers along them backwards; they are of a bright green, have five nerves, and cover only the lower part of the culm. Panicle at firſt contracted, but afterwards diffuſed, a ſpan in length, the loweſt pedicels largeſt, the uppermoſt ſmalleſt, decreaſing proportionably, alternate, ſtiff; hence the ſpikelets are upright and divaricate; they are hoary or ſilvery, perfectly diſtich, compreſſed, compact, and have eighteen or twenty florets in each. Valves of the calyx lanceolate, ſwelling, ſmaller than thoſe of the corolla. Outer valve of the corolla concave, pellucid, with a nerve running along the middle, and two along the edge[e]. This laſt character is ſtriking, and may ſerve to diſtinguiſh this ſpecies from *Poa Eragroſtis*, (Schreb. t. 38.) with which otherwiſe it may eaſily be confounded[f]. The number of flowers varies; for in ſpecimens from Auſtria Scopoli obſerved fifteen; in thoſe from Carniola twenty; and in Italian ſpecimens more.

This graſs varies much; being commonly ſmall and decumbent, but ſometimes riſing to the height of ſeveral feet, at others of a middling ſize, with longer and more contracted ſpikelets[g].

Native of the South of Europe. Ray firſt remarked it about Frankfort, and afterwards commonly through Germany, Italy, and the South of France[h]. It flowers in july and auguſt.

Johnſon calls it Fern-graſs, and ſays that the white tops are gathered where they grow naturally to beautify garlands[i]. It was introduced in 1776, by Monſ. Thouin[k].]

PROPAGATION AND CULTURE.

If the ſeeds of theſe be permitted to ſcatter, or elſe be ſown in the autumn, the plants will come up ſtronger, and flower much earlier, than when they are ſown in the ſpring.

BROCCOLI. See *Braſſica.*

BROME GRASS. See *Bromus.*

BROMELĬA. (*In memory of Olaus Bromel, a Swede, author of Lupulogia. Stockh.* 1687. 12°. *and Chloris Gothica*, 1694. 8°.)
Lin. gen. n. 395. *Reich.* 427. *Schreb.* 540. *Juſſ.* 50. *Plum.* 8. Pinguin. *Dill. elth.* 240. Ananas. *Tournef.* 426, 427, 428. *Mill. dict. Gærtn. t.* 11. Karatas. *Plum.* 33. *Mill. dict.*
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Coronariæ. Bromeliæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* three-cornered ſmall, ſuperior, permanent; diviſions three, ovate.

COR. *Petals* three, narrow-lanceolate, erect, longer than the calyx. *Nectary* faſtened to each petal above the baſe, converging.

STAM. *Filaments* ſix, ſubulate, ſhorter than the corolla, inſerted into the receptacle. *Anthers* erect, ſagittate.

PIST. *Germ* inferior. *Style* ſimple, filiform, the length of the ſtamens. *Stigma* obtuſe, trifid.

PER. *Berry* roundiſh, umbilicate, one or three-celled.

SEEDS numerous, incumbent, ſomewhat oblong, obtuſe.

ESSENTIAL CHARACTER.

Cal. trifid, ſuperior. *Pet.* three, and a nectareous ſcale at the baſe of each. *Berry* three-celled.

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[a] Linn.
[b] Hort. kew.
[c] Linn. & Jacq.
[d] Hort. kew. from Ger. emac.
[e] Krock. ſileſ.
[f] Villars.
[g] Idem.
[h] Hiſt. 1275.
[i] Ger. emac.
[k] Hort. kew.

SPECIES.

1. Bromelia Ananas. *Ananas* or *Pineapple.*
Lin. ſpec. 408. *Reich.* 2. 6. *hort. cliff.* 127. *upſ.* 73. *Lour. cochinch.* 192. *Raii hiſt.* 1332. 1. *Ger. emac.* 1550, 1552. *n.* 15. *Park.* 1626. *Mor. hiſt.* 3. 169. *ſ.* 7. *t.* 37. *f.* 1. *laſt row.*
α. Ananas ovata. *Mill. dict. n.* 1. *Queen Pine.*
Comm. hort. 1. 109. *t.* 57. *Trew. Ehret. t.* 2. *Blackw. t.* 567. *Sabb. hort.* 1. *t.* 72. *Plenck, ic. t.* 249.
Carduus braſilianus, fol. aloes. *Bauh. pin.* 384.
Anaſſa. *Rumph. amb.* 5. 227. *t.* 81.
Kapa-Tsjakka. *Rheed. mal.* 11. 1. *t.* 1, 2.
β. A. pyramidalis. *Mill. dict. n.* 2. *Sugar-loaf Pine.*
A. acul. fr. conico, carne aurea. *Plum. ſpec.* 20.—fr. pyramidato, carne aurea. *Tourn. inſt.* 653. *Blackw. t.* 568.
γ. A lucida. *Mill. dict. n.* 4. *King Pine.*
A. lucide virens, fol. vix. ſerrato. *Dill. elth.* 25. *t.* 21. *f.* 23, 24.
A. non acul. Pitta dictus. *Plum. ſpec.* 20.
δ. A. glabra. *Mill. dict. n.* 3. *Smooth Pine.*
Boerh. ludgb. 2. 83.
ε. A. ſerotina. *Mill. dict. n.* 5. *Late Pine.*
ζ. A viridis. *Mill. dict. n.* 6. *Green Pine.*
Leaves ciliate-ſpiny mucronate, ſpike comoſe.

2. Bromelia Pinguin. *Pinguin* or *broad-leaved wild Ananas.*
Lin. ſpec. 408. *ſyſt.* 313. *Reich.* 2. 6. *hort. cliff.* 129. *Jacqu. amer.* 91. *ed.* 2. *pict.* 47. *Swartz obſ.* 120. *Trew. Ehr. t.* 51. *Brown. jam.* 193. *n.* 4. *Raii hiſt.* 1333. 2.
Karatas Penguin. *Mill. dict.*
Pinguin. *Dill. elth.* 320. *t.* 240. *f.* 311.
A. amer. ſylveſtris altera minor. *Pluk. mant.* 29. *t.* 258. *f.* 4.
Leaves ciliate-ſpiny mucronate, raceme terminal.

[3. Bromelia Karatas. *Karatas,* or *upright-leaved wild Ananas.*
Lin. ſpec. 408. *ſyſt.* 313. *Reich.* 2. 7. *mant.* 362. *Jacqu. amer.* 90. *hort.* 31, 32. *amer. pict.* 47. *t.* 260. *f.* 24.
K. fol. altiſſimis anguſtiſſimis & aculeatis. *Plum. gen.* 10?
Leaves erect; flowers ſtemleſs ſeſſile aggregate.]

4. Bromelia lingulata. *Tongue-leaved Bromelia.*
Lin. ſpec. 409. *Reich.* 2. 7. *Mill. dict. n.* 2. *Plum. gen.* 26. *ic.* 64. *f.* 1.
Leaves ſerrate-ſpiny obtuſe, ſpikes alternate.

5. Bromelia nudicaulis. *Naked-ſtalked Bromelia.*
Lin. ſpec. 409. *Reich.* 2. 7. *Mill. dict. n.* 1. *Plum. gen.* 46. *ic.* 62.
Radical leaves tooth-ſpiny; ſtem-leaves quite entire.

[6. Bromelia humilis. *Dwarf Bromelia.*
Lin. ſyſt. 313. *Reich.* 2. 7. *Jacqu. vind.* 306.
Almoſt ſtemleſs; flowers aggregate, ſeſſile; axillas ſtoloniferous.

7. Bromelia Acanga.
Lin. ſpec. edit. 1. 285. *ſyſt.* 313. *Reich.* 2. 7. *hort. upſ.* 73.
Caraguata. *Piſ. braſ.* 90. *t.* 91.
Mexocotl. ſ. Manguei. *Hern. mex.* 272. *Mor. hiſt.* 2. *ſ.* 4. *t.* 22. *f.* 7. *Raii hiſt.* 1200. *n.* 3.
Panicle diffuſed; leaves ciliate-ſpiny mucronate recurved.

8. Bromelia bracteata.
Swartz prodr. 56.
Leaves ſerrate-ſpiny, bractes ovate-lanceolate, ſcape elongated, raceme compound, racemules ſubdivided, flowers ſeſſile.

9. Bromelia paniculigera.
Swartz prodr. 56.
Leaves ſerrate-ſpiny, bractes lanceolate, raceme compound, racemules ſubdivided, flowers peduncled.

DESCRIPTIONS, &c.

Theſe are herbaceous plants, and ſome of them paraſitical; the root-leaves are channelled, and moſtly toothed and ſpiny about the edge. Plumier and others have ſeparated this genus into three, and in that have been followed by Mr. Miller, who treats of it under three ſeparate articles, *Ananas*, *Bromelia*, and *Karatas*. The original Bromelias of Plumier have the flowers on a looſe ſpike or panicle, on a ſcape or ſtalk, and the fruits can hardly be called berries. In the Karatas, the flowers are in a cloſe radical corymb, and the fruits are ovate berries. The flowers of the Ananas are in a cloſe ſpike on a ſcape which is leafy at top; as the ſpike ripens, it takes the form of a fleſhy ſcaly ſtrobile, vulgarly called the fruit, and compoſed of many coadunate berries, which have ſcarcely any cells, or ſeeds[a].]

1. The fruit now ſo well known in Europe, by the name of Ananas or Pine-Apple, and ſo much eſteemed for the richneſs of its flavour, is produced from an herbaceous plant, which has leaves ſomewhat reſembling thoſe of Aloe, and for the moſt part ſerrate on their edges; but much thinner, and not ſo ſucculent as thoſe of the Aloe. The fruit reſembling in ſhape the cone of ſome ſpecies of the Pine-tree, has its vulgar name of Pine-Apple from that circumſtance.

As ſome of the fruits produce ſeeds in England, when the greater number have no appearance of any, I doubt whether there may not be ſome with male, and others with hermaphrodite flowers; becauſe thoſe fruits which have ſeeds are remarkably different from the others, when cut through the cells in which the ſeeds are lodged; for in theſe they lie near to the centre of the fruit, whereas in thoſe which have abortive cells they are chiefly cloſe to the rind.

Where this plant is a native is hard to determine, but it is probably an indigenous plant of Africa, where it grows in uncultivated places in great plenty. [Linneus aſcribes it to New Spain and Surinam: and Acoſta ſays, that it was firſt ſent from the province of Santa Croce in Braſil into the Weſt, and afterwards into the Eaſt Indies. Probably it is common to the tropical parts of the three continents, of Aſia, Africa, and America.

It is commonly ſaid, that Sir Matthew Decker of Richmond was the firſt who raiſed the Ananas here; but it was introduced into England, ſo far back as the year 1690, by Mr. Bentick[b].

A picture is reported to be extant of King Charles (I ſuppoſe the ſecond) with his gardener preſenting him a Pine-apple; but the fruit might come from Holland, or the picture might be painted abroad.]

There are many varieties of this fruit, and I doubt not but if the ſeeds were ſown frequently in their native country, the varieties might be as numerous as thoſe of Apples or Pears in Europe. This is rendered probable by ſome trials which I have made in ſowing the ſeeds, which have always produced a variety of ſorts from the ſame fruit.

α. The Queen Pine is the moſt common in Europe, but the Sugar-loaf is much preferable to it, the fruit being larger and much better flavoured; the juice alſo is not ſo aſtringent as that of the firſt, ſo that this fruit may be eaten in greater quantity with leſs danger.

β. The Sugar-loaf Pine is eaſily diſtinguiſhed from all the others, by its leaves having purple ſtripes on their inſide the whole length. The fruit is of a paler colour when ripe, inclining to a ſtraw-colour. This was brought from Braſil to Jamaica, where it is eſteemed far beyond the others.

The next in goodneſs to this is what the inhabitants of the iſlands in America call the Montſerrat Pine. The leaves are of a dark brown, inclining to purple on their inſide. The protuberances of the fruit are longer and flatter than thoſe of the common ſort. I raiſed ſeveral plants of this from ſeeds which I received from the iſland of St. Thomas, where this fruit is in greater perfection than in any of the Britiſh iſlands.

γ. The King Pine was raiſed from ſeeds taken out of a rotten fruit, which came from the Weſt Indies to Henry Heathcote, Eſq. from whom I received one plant, which has produced large fruit. I have ſince raiſed ſome plants of this ſort from ſeeds, which were brought me from Jamaica.

[a] Juſſieu gen.

[b] Hort. kew.

δ. The Smooth Pine is preſerved by ſome curious perſons for the ſake of variety, but the fruit is not worth any thing.

ζ. The Green Pine is at preſent the moſt rare in Europe. This has been eſteemed the beſt ſort known, by ſome of the moſt curious perſons in America, many of whom have thrown out all the others from their gardens, to cultivate this only.

The fruit, if ſuffered to ripen well, is of an olive colour; to have it green it muſt be cut before it is ripe, when it is not fit to be eaten. Plants of this may be procured from Barbadoes and Montſerrat; but the fruit of the Sugar-loaf is much to be preferred to it.

[Loureiro mentions a variety that occurs in Cochinchina, not inferior in flavour to the beſt Pines, which continues quite green when ripe, with a white fleſh.

Other varieties, moſt known among the growers of Pines, are the following.

1. Black Antigua or Ripley.
2. Granada Pine, with marbled leaves and very large fruit.
3. Bog-warp Pine, with broad green leaves.
4. Smooth, long, narrow-leaved Pine.
5. Montſerrat.
6. Surinam Pine, with ſilver-ſtriped leaves.
7. The ſame, with gold-ſtriped leaves.

But it is unneceſſary to be more particular in ſuch varieties, becauſe they are not permanent, new ones may be produced every day, and after all, the oval whitiſh-fleſhed or Queen Pine, and particularly the pyramidal yellow-fleſhed or Sugar-loaf Pine, are confeſſedly ſuperior in flavour to all the reſt.

2. The leaves of the *Pinguin* are very thick about the root; and from the centre of theſe ſprings the ſtalk, which generally riſes to the height of twelve or ſixteen inches above the foliage, and divides into many little lateral branches, bearing ſo many ſingle flowers. When the plant begins to ſhoot into bloſſom, all the leaves become of a fine ſcarlet colour towards the ſtalk, and continue ſo until the fruit begins to ripen, but it then begins to change, and afterwards fades gradually away. The fruits are ſeparate, each nearly of the ſize of a walnut; the pulp has an agreeable ſweetneſs, but joined with ſuch a ſharpneſs, that if it be ſuffered to lie any time in the mouth, it will corrode the palate and gums, ſo as to make the blood ouze from thoſe tender parts[c]. The fruit is thus deſcribed by the accurate Gærtner. It is an inferior berry, of an ovate-pyramidal ſhape, obſcurely three-cornered, covered with rind which is rugged with raiſed confluent dots, within three-celled. Rind thick, ſuberoſe-fleſhy, producing three membranaceous partitions on the inſide, which meet at the axis. Fleſh pulpy-membranaceous of a pale watery colour, and divided into ſeveral partial cells. Receptacle none, but the ſeeds neſtle in their proper cells, directing their navels towards the axis of the berry: they are of an ovate-globular form, ſwelling lenticular, narrower at the navel, having a ſmall brown tubercle at the top, ſmooth, ſhining, of a ferruginous cheſnut colour.]

This plant, having a tuft of leaves growing above the fruits, has the appearance of the Pine-Apple; but on a cloſer inſpection, the difference is eaſily diſcerned, the fruits not being coadunate as in that, but produced ſeparately in cluſters.

[It is now very common in Jamaica, growing wild in moſt of the Savannas and on the rocky hills. It is commonly uſed there, and in the other iſlands of the Weſt Indies for fencing paſture lands, its leaves being very formidable to cattle, the edges being very prickly, and the prickles arched backwards. Theſe ſtripped of their pulp, ſoaked in water, and beaten with a wooden mallet, yield a ſtrong thread, which is twiſted into ropes and whips, and by the Spaniards is manufactured into hammocks; it has alſo been worked into good linen cloth.

A ſmall quantity of the juice of the fruit in water, makes an admirable cooling draught in fevers; a tea-ſpoonful corrected with ſugar, deſtroys worms in children, cleanſes and heals the thruſh, and other ulcerations in the mouth and throat; and is extremely diuretic: it alſo makes a very fine vinegar[d].

Dampier ſays, the Penguin fruit is of two ſorts, the yellow and the red. The yellow grows on a green ſtem, as big as a man's arm, above a foot high; the leaves are half a foot long, and an inch broad, the edges full of ſharp prickles. The fruit grows at the head of the ſtalk, in two or three great cluſters, ſixteen or twenty in a cluſter: it is as big as a pullet's egg, round and yellow; the rind is thick, and the inſide is full of ſmall black ſeeds. It is a ſharp pleaſant fruit. The red, (B. Karatas, n. 3.) is of the bigneſs and colour of a ſmall dry onion, and is in ſhape much like a nine-pin: it grows not on a ſtem, as the other, but one end on the ground, the other ſtanding upright: ſixty or ſeventy grow cloſe together from the ſame cluſter of roots. The leaves are a foot and half or two feet long, prickly like the former. They are both wholeſome, and grow ſo plentifully in the bay of Campeachy, that there is no paſſing for their high prickly leaves.

The Pinguin was cultivated in the Eltham garden; and before that, in 1690, in the royal garden at Hampton Court[e].

3. This ſpecies generally grows at the root of ſome ſhady tree, in hilly and woody places in America and the Caribbee iſlands. It is an elegant plant, producing numerous radical leaves, which are of a ſubulate-linear ſhape, ſharp pointed, and edged with ſpines. The flowers are ſcentleſs, ſeated in the boſom or middle part of the plant, roſe-coloured, with the calyx and germ downy. The length of the leaves is ſix or ſeven feet. The fruits are oval, two or three hundred in number, and grow ſeſſile in a heap or central group, ſurrounded by paleaceous expanded leaves or bractes; they contain a ſucculent whitiſh or yellowiſh fleſh, under a coriaceous and yellowiſh bark. When ripe they are far from unpleaſant, but when unripe they ſet the teeth on edge, and excoriate the mouth. The œconomy of this plant in the preſervation of its fruit to maturity is wonderful: being ſo protected by the ſpines of the ſurrounding leaves, as to be ſecure from all injuries. It propagates itſelf by mucus produced amongſt the leaves, which become procumbent, after the fruit is ripened.]

4. This has ſhorter leaves than the next ſpecies, ſtanding erect, narrow at the baſe, increaſing in width gradually to the top, ſharply ſerrate, and of a deep-green colour. The flower-ſtem ariſes from the centre of the plant, dividing at top into ſeveral branches; the upper parts of theſe have cloſe ſpikes of flowers, which come out alternately from the ſides, each having a narrow entire leaf juſt below it, which is longer than the ſpike.

5. The leaves both of this and the foregoing are very like thoſe of the Aloe, but not ſo thick and ſucculent; the edges are indented, and armed with ſtrong black ſpines. The flower-ſtem is near three feet high: the lower part has entire leaves, placed alternately at every joint: at the upper part are the flowers, ſet in a looſe ſpike or thyrſe. Theſe are ſucceeded by ovate ſeed-veſſels, having a longitudinal partition, in the centre of which, on every ſide, are faſtened ſmooth cylindrical ſeeds.

Father Plumier found both theſe plants in the French Weſt Indian iſlands. Dr. Houſtoun obſerved them in Jamaica, and ſeveral parts of the Spaniſh Weſt Indies. The fourth was ſent from St. Chriſtopher's, and the fifth from the coaſt of Guinea, to Mr. Miller, who cultivated them before the year 1733.

[6. The leaves of this ſpecies reſemble thoſe of the other kinds, but are the moſt ſtrong and rigid of any. They are alſo ſomewhat ſhorter and more ſpreading.

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[c] Browne jam.

[d] Long's jamaica, 3. 738.

[e] Hort. kew.

ſpreading. The flowers are blue, about thirty in number, ſituated in the ſame manner as in the Bromelia Karatas of Plumier. The firſt alſo is ſimilar, but ſomewhat ſmaller. The plant readily propagates itſelf by runners or ſhooting proceſſes, which proceed from the axilla of the lower leaves, and which produce a young plant from their extremities. It therefore differs in this reſpect from the Bromelia Karatas of Plumier, and from the Bromelia Pinguin, in having the flowers ſeſſile. In other reſpects it much reſembles that ſpecies.

7. Native of Braſil.]

PROPAGATION AND CULTURE.

The Ananas has been long cultivated in the hotteſt iſlands of the Weſt Indies, where this fruit is in great plenty, and of extraordinary goodneſs; but it has not been many years in the European gardens, ſo as to produce fruit: the firſt perſon who ſucceeded in cultivating the fruit, was Monſieur Le Cour of Leyden in Holland, who, after a great many trials, with little or no ſucceſs, did at length hit upon a proper degree of heat and management, ſo as to produce fruit equally good (though not ſo large) as that which is produced in the Weſt Indies, as has often been affirmed by perſons who have lived many years there: and it is to this worthy cultivator of gardening, who did not ſpare any pains or expenſe to accompliſh it, that all the lovers thereof are obliged, for introducing this king of fruits amongſt them; and it was from him that our gardens in England were firſt ſupplied, though we have ſince had large quantities brought from America. I cannot here avoid taking notice of a common error which prevails amongſt many people, which is, that the plants brought from America are not ſo good as thoſe which came from M. Le Cour; which is a great miſtake, for were the people who ſend over theſe plants from America careful to ſend the beſt kinds, there would be found many better than thoſe cultivated by M. Le Cour, who had his from thence at firſt, as his gardener aſſured me; and I have ſeen as good fruit produced from American plants, as any I have yet ſeen, and ſome three times larger than any I ſaw in M. Le Cour's garden.

The Ananas or Pine-apple is propagated by planting the crowns which grow on the fruit, or the ſuckers which are produced either from the ſides of the plants, or under the fruit, both of which I have found to be equally good; although by ſome perſons the crown is thought preferable to the ſuckers, as ſuppoſing it will produce fruit ſooner than them, which is certainly a miſtake; for by conſtant experience I find the ſuckers (if equally ſtrong) will fruit as ſoon, and produce as large fruit as the crowns.

The ſuckers and crowns muſt be laid to dry in a warm place for four or five days or more (according to the moiſture of the part which adhered to the old fruit;) for if they are immediately planted, they will rot, eſpecially the crowns. The certain rule of judging when they are fit to plant, is by obſerving if the bottom be healed over and become hard; for if the ſuckers be drawn off carefully from the old plants, they will have a hard ſkin over the lower part, and need not lie ſo long as the crowns, or thoſe whoſe bottoms are moiſt. But whenever a crown is taken from the fruit, or the ſuckers from old plants, they ſhould be immediately diveſted of their bottom leaves, ſo high as to allow depth for their planting; ſo that they may be thoroughly dry and healed in every part. If they are taken off late in the autumn, or during the winter, or early in the ſpring, they ſhould be laid in a dry place in the ſtove, for a fortnight or three weeks, but in the ſummer ſeaſon they will be fit for planting in a few days.

As to the earth in which theſe ſhould be planted, if you have a rich good kitchen-garden mould, not too heavy, ſo as to detain the moiſture too long, nor over light and ſandy, it will be very proper for them without any mixture: but where this is wanting, you ſhould procure ſome freſh earth from a good paſture; which ſhould be mixed with about a third part of rotten neats dung, or the dung of an old Melon or Cucumber-bed, which is well conſumed. Theſe ſhould be mixed ſix or eight months at leaſt before they are uſed, but if it be a year, it will be the better; and ſhould be often turned, that their parts may be the better united, as alſo the clods well broken. This earth ſhould not be ſcreened very fine, but only cleared of the great ſtones. You ſhould always avoid mixing any ſand with the earth, unleſs it be extremely ſtiff, and then it will be neceſſary to have it mixed at leaſt ſix months or a year before it is uſed: and it muſt be frequently turned, that the ſand may be incorporated in the earth, ſo as to divide its parts: but you ſhould not put more than a ſixth part of ſand, for too much is very injurious to theſe plants.

In the ſummer ſeaſon, when the weather is warm, the plants muſt be frequently watered, but you ſhould not give them large quantities at a time: you muſt alſo be very careful, that the moiſture is not detained in the pots, by the holes being ſtopped, for that will ſoon deſtroy the plants. In very warm weather they ſhould be watered twice or three times a week; but in a cool ſeaſon, once a week will be often enough: and during the ſummer ſeaſon, you ſhould once a week water them gently all over their leaves, which will waſh the filth from off them, and thereby greatly promote the growth of the plants.

There are ſome perſons who frequently ſhift theſe plants from pot to pot, but this is by no means to be practiſed by thoſe who propoſe to have large well flavoured fruit; for unleſs the pots be filled with the roots, by the time the plants begin to ſhow their fruit, they commonly produce ſmall fruit, which have generally large crowns on them, therefore the plants will not require to be potted oftener than twice in a ſeaſon: the firſt time ſhould be about the end of april, when the ſuckers and crowns of the former year's fruit (which remained all the winter in thoſe pots in which they were firſt planted) ſhould be ſhifted into larger pots, i. e. thoſe which were in halfpenny, or three-farthing pots, ſhould be put into penny, or at moſt three-halfpenny pots, according to the ſize of the plants; for you muſt be very careful not to over-pot them, nothing being more prejudicial to theſe plants. The ſecond time for ſhifting them is in the beginning of auguſt, when you ſhould ſhift thoſe plants which are of a proper ſize for fruiting the following ſpring, into two-penny pots, which are full large enough for any of theſe plants. At each of theſe times of ſhifting the plants, the bark-bed ſhould be ſtirred up, and ſome new bark added, to raiſe the bed up to the height it was at firſt made; and when the pots are plunged again into the bark-bed, the plants ſhould be watered gently all over their leaves, to waſh off the filth, and to ſettle the earth to the roots of the plants. If the bark-bed be well ſtirred, and a quantity of good freſh bark added to the bed, at this latter ſhifting, it will be of great ſervice to the plants; and they may remain in the ſame tan until the beginning of november, or ſometimes later, according to the mildneſs of the ſeaſon, and will require but little fire before that time. During the winter ſeaſon theſe plants will not require to be watered oftener than once a week, according as you find the earth in the pots to dry: nor ſhould you give them too much at each time, for it is much better to give them a little water often, than to over-water them, eſpecially at this ſeaſon.

You muſt obſerve never to ſhift thoſe plants which ſhow their fruit, into other pots; for if they be removed after the fruit appears, it will ſtop the growth, and retard its ripening, ſo that many times it will be october or november before the fruit is ripe; therefore you ſhould be very careful to keep the plants in a vigorous growing ſtate, from the firſt appearance of the fruit, becauſe upon this depends the goodneſs and ſize of the fruit; for if they receive a check after this, the fruit is generally ſmall and ill taſted.

When you have cut off the fruit from the plants, whoſe kind you are deſirous to propagate, you ſhould trim the leaves, and plunge the pots into a moderate hot-bed, obſerving to refreſh them frequently with water, which will cauſe them to put out ſuckers in plenty; ſo that a perſon may be ſoon ſupplied with plants enough of any of the kinds, who will but obſerve to keep the plants in health.

There is not any thing which can happen to theſe plants of a more dangerous nature, than to have them attacked by ſmall white inſects, which appear at firſt like a white mildew, but ſoon after have the appearance of lice: theſe attack both root and leaves at the ſame time, and if they be not ſoon deſtroyed, will ſpread over a whole ſtove in a ſhort time; and in a few weeks will entirely ſtop the growth of the plants, ſo that the leaves will appear yellow and ſickly, and have generally a great number of yellow tranſparent ſpots all over them. Theſe inſects, after they are fully grown, appear like bugs, and adhere ſo cloſely to the leaves, as not to be eaſily waſhed off, and ſeem as if they had no life in them. They were originally brought from America upon the plants which were imported from thence, and I believe they are the ſame inſects which have deſtroyed the ſugar-canes of late years in ſome of the Leeward iſlands. Since they have been in England, they have ſpread greatly in ſuch ſtoves, where there has not been more than ordinary care taken to deſtroy them. They have alſo attacked the Orange-trees in many gardens near London, and have done them incredible damage; but I do not find they will endure the cold of our climate in winter, ſo that they are never found on ſuch plants as live in the open air. The only method I have been yet able to diſcover for deſtroying theſe inſects, is by waſhing the leaves, branches, and ſtems, of ſuch plants as they attack, frequently with water, in which there has been a ſtrong infuſion of Tobacco-ſtalks, which I find will deſtroy the inſects, and not prejudice the plants. But this method cannot be practiſed on the Ananas plants, becauſe the inſects will faſten themſelves ſo low between the leaves, that it is impoſſible to come at them with a ſponge to waſh them off; ſo that if all thoſe which appear to ſight are cleared off, they will ſoon be ſucceeded by a freſh ſupply from below, and the roots will be alſo equally infeſted with them. Therefore, wherever theſe inſects appear on the plants, the ſafeſt method will be, to take the plants out of the pots, and clear the earth from the roots; then prepare a large tub, which ſhould be filled with water, in which there has been a ſtrong infuſion of Tobacco-ſtalks; into this tub you ſhould put the plants, placing ſome ſticks acroſs the tub, to keep the plants immerſed in water. In this water they ſhould remain twenty-four hours; then take them out, and with a ſponge waſh off all the inſects from the leaves and roots, which may be eaſily effected when the inſects are killed by the infuſion; then cut off all the ſmall fibres of the roots, and dip the plants into a tub of fair water, waſhing them therein. Then you ſhould pot them in freſh earth, and having ſtirred up the bark-bed, and added ſome new tan to give a freſh heat to the bed, the pots ſhould be plunged again, obſerving to water them all over the leaves (as was before directed) and this ſhould be repeated once a week during the ſummer ſeaſon; for I obſerve theſe inſects always multiply much faſter where the plants are kept dry, than in ſuch places where the plants are ſometimes ſprinkled over with water, and kept in a growing ſtate. And the ſame is alſo obſerved in America, for it is in long droughts that the inſects make ſuch deſtruction in the ſugar-canes. And in thoſe iſlands where they have had ſeveral very dry ſeaſons, they have increaſed to ſuch a degree, as to deſtroy the greateſt part of the canes in the iſlands, rendering them not only unfit for ſugar, but poiſon the juice of the plant, ſo as to diſqualify it for making rum, whereby many planters have been ruined.

As theſe inſects are frequently brought over from America on the Ananas plants, thoſe perſons who procure their plants from thence, ſhould look carefully over them when they receive them, to ſee they have none of theſe inſects on them; for if they have, they will ſoon be propagated over all the plants in the ſtove where theſe are placed: therefore, whenever they are obſerved, the plants ſhould be ſoaked (as was before directed) before they are planted into pots.

It was formerly the practice to build dry ſtoves, in which the plants were kept in winter, placed on ſcaffolds, after the manner in which Orange-trees are placed in a green-houſe; and in the ſummer, in hot-beds of tanners bark under frames. But it is now the practice of thoſe who are deſirous to propagate the fruit, to erect low ſtoves, called the ſucceſſion-houſe, with pits therein for the hot-bed, in the manner hereafter deſcribed and figured; but it will be alſo neceſſary to have a bark-pit under a deep frame, in which you ſhould plunge the ſuckers, and crowns: ſo that this frame will be a nurſery to raiſe the young plants to ſupply the ſucceſſion-houſe. But theſe plants ſhould not remain in theſe frames longer than till the beginning of november, unleſs the frame is built with brick-work with flues in it. Such are very uſeful, to keep the young plants till they are of a proper ſize to produce fruit; ſo that the ſtove may be every autumn filled only with bearing plants, whereby a much greater quantity of fruit may be annually produced, than can be where young and old plants muſt be crowded into the ſame ſtove. But where there are no conveniences of this kind, the young plants, about the middle or latter end of october, muſt be removed into the ſtove, and being ſmall, may be crowded in among the larger plants; for as they will not grow much during the winter ſeaſon, they may be placed very cloſe together. The beginning of march, where there is no nurſery for the young plants, they muſt be removed out into the hot-bed again, which ſhould be prepared a fortnight before, that the tan may have acquired a proper heat: but you ſhould be careful that the tan be not too hot, for that might ſcald the fibres of the plants. In this caſe you ſhould not plunge the pots above two or three inches into the tan, letting them remain ſo until the heat of the tan is a little abated, when you ſhould plunge the pots down to their rims in the bed. If the nights ſhould continue cold after theſe plants are removed into the bed, you muſt carefully cover the glaſſes with mats; otherwiſe by coming out of a warm ſtove, they may receive a ſudden check, which will greatly retard their growth; and the ſooner the plants are ſet growing in the ſpring, the more time they will have to gain ſtrength, in order to produce large fruit the following ſeaſon.

You ſhould not plunge the pots too cloſe together in this frame, but allow them a proper diſtance, that the lower part of the plants may increaſe in bulk, for it is on this that the magnitude of the fruit depends; becauſe when the plants are placed too cloſe, they draw up very tall, but do not obtain ſtrength; ſo that when they are taken out of the bed, the leaves are not able to ſupport themſelves; but all the outward long leaves will fall down, leaving the ſmaller middle leaves naked, and this ſometimes will cauſe them to rot in the centre. You muſt alſo obſerve, when the ſun is very warm, to raiſe the glaſſes of the hot-bed, in order to let out the ſteam of the bed, and to admit freſh air: for one neglect of this kind, in a very hot day, may deſtroy all the plants, or at leaſt ſo ſcald them, that they will not get over it in ſeveral months. It will be alſo very proper, in extreme hot weather, to ſhade the glaſſes in the middle of the day with mats; for the glaſſes, lying ſo near to the leaves of the plants, will occaſion a prodigious heat at ſuch times.

During the ſummer ſeaſon theſe plants muſt be frequently watered, giving them but little each time; and in hot weather, they muſt have free air admitted to them every day, from ten o'clock till four; for if they are kept too cloſe, or have too much wet, they will receive a check in their growth, when the inſects will immediately ſpread over them; for there are generally ſome of theſe inſects on all theſe plants, which do not much injury to them while they are in a growing ſtate; but whenever they are unhealthy, the inſects multiply greatly, and contribute to their decay. There are ſome perſons who regulate the heat of their ſtoves by thermometers in ſummer, but at that ſeaſon this is unneceſſary, for the outward air in hot weather is frequently greater than the Ananas heat marked on the thermometers, ſo that the heat of the ſtoves at that ſeaſon will be much greater. The uſe of the thermometer is only in the winter, during the time the fires are continued, by which it is eaſy to judge when to increaſe or diminiſh the fires; for at that ſeaſon, the ſtoves ſhould not be kept to a greater warmth than five or ſix diviſions above Ananas, nor ſuffered to be more than as many diviſions below it. In winter the plants muſt have leſs water, but they will require to have it repeated once a week, giving them but little each time: when the plants are placed into the tan for the winter ſeaſon (which ſhould be done about the beginning of october) the tan-bed ſhould be renewed, adding two-thirds of new tan, to one-third of the old. If this be well mixed, and the new tan is good, the bed will maintain a proper degree of warmth till february, at which time it will be proper to ſtir up the bed, and add a load or two of new tan, ſo as to raiſe the bed as much as it ſunk ſince the autumn; this will give a freſh heat to the bed, and keep the plants growing; and as the fruit will now begin to appear, it will be abſolutely neceſſary to keep the plants in a growing ſtate, otherwiſe the fruit will not be large.

In april it will be proper to ſtir up the tan again, and if the bed has ſunk ſince the laſt ſtirring, it will be proper to add ſome freſh tan to it; this will renew the warmth of the bed, and forward the fruit. At this time it will be proper to ſhift the young plants, which are deſigned to produce fruit the following year; the tan-bed into which theſe are plunged muſt be renewed, in order to forward their growth, that they may have ſtrength enough in autumn to produce good fruit, for in this is the principal care required.

Thoſe plants which ſhow their fruit early in february, will ripen about june; ſome ſorts are at leaſt a month or five weeks longer in ripening their fruit than others, from the time of the appearance of the fruit: but the ſeaſon in which the fruit is in greateſt perfection, is from the beginning of july, to the end of ſeptember; though in march, april, and october, I have frequently eaten this fruit in pretty good perfection; but then the plants have been in perfect health, otherwiſe they ſeldom are well flavoured.

The method of judging when the fruit is ripe, is by the ſmell, and from obſervation; for as the ſeveral ſorts differ from each other in the colour of their fruit, that will not be any direction when to cut them; nor ſhould they remain ſo long as to become ſoft to the touch before they are cut, for then they become flat and dead, as they do alſo when they are cut long before they are eaten, therefore the ſureſt way to have this fruit in perfection, is to cut it the ſame day it is eaten; but it muſt be cut early in the morning, before the ſun has heated the fruit, otherwiſe it will be hot, obſerving to cut the ſtalk as long to the fruit as poſſible, and lay it in a cool, but dry place, preſerving the ſtalk and crown unto it, until it is eaten.

2, 3. *Pinguin* and *Karatas.* Theſe plants are propagated by ſeeds, for though there are often ſuckers ſent forth from the old plants, yet they come out from between the leaves, and are ſo long, ſlender, and ill-ſhapen, that if they are planted they ſeldom make regular plants. Theſe ſeeds ſhould be ſown early in the ſpring, in ſmall pots filled with light rich earth, and plunged into a hot-bed of tanner's bark. When the plants are ſtrong enough to tranſplant, they ſhould be carefully taken up, and each planted into a ſeparate pot filled with light rich earth, and plunged into the hot-bed again, obſerving to refreſh them frequently with water, until they have taken new root, after which time they ſhould have air and water in proportion to the warmth of the ſeaſon. In this bed the plants may remain till michaelmas, at which time they ſhould be removed into the ſtove, and plunged into the bark-bed, where they ſhould be treated in the ſame manner as the Ananas.

Theſe plants will not produce their fruit in England until they are three or four years old, therefore they ſhould be ſhifted into larger pots, as the plants advance in their growth; for if their roots are too much confined, they will make but little progreſs. They ſhould alſo be placed at a pretty great diſtance from each other, for their leaves will be three or four feet long, which turning downward occupy a large ſpace.

The leaves are ſtrongly armed with crooked ſpines, which render it very troubleſome to ſhift or handle the plants; for being ſome bent one way, and others the reverſe, they catch both ways, and tear the ſkin or clothes of the perſons who handle them, where there is not the greateſt care taken.

4, 5, &c. *Bromelias properly ſo called.* Theſe plants are propagated by ſeeds, which muſt be procured from the country where they grow naturally, for they do not produce any in England. Theſe muſt be ſown in ſmall pots filled with light kitchen-garden earth, and plunged into a moderate hot-bed of tanners bark; the earth in theſe pots ſhould be ſprinkled over with water two or three times a week, according to the heat of the weather, but muſt not have too much moiſture. If the ſeeds are good, the plants will appear in about five or ſix weeks, and in a month after will be fit to tranſplant, when they ſhould be carefully ſhaken out of the pots, and each planted in a ſeparate ſmall pot filled with the ſame earth as before; then they muſt be plunged again into a moderate hot-bed, obſerving frequently to ſprinkle them over with water, but be cautious of giving them too much, leſt the roots ſhould be thereby rotted.

During the ſummer ſeaſon the plants ſhould have a moderate ſhare of air, in proportion to the heat of the weather; and, in autumn, they muſt be removed into the bark-ſtove, and treated in the ſame manner as the Ananas, or Pine-apple, with which management they will make good progreſs; but after the firſt winter, they may be placed upon ſtands in the dry ſtove, though they will thrive much better if they are conſtantly kept in the tan-bed, and treated like the Ananas, and will flower in three or four years; whereas thoſe in the dry ſtove will not flower in twice that time.

The other parts of their culture is only to ſhift them into freſh earth when they require it; but they ſhould by no means be put into large pots, for they will not thrive if they are over-potted; nor muſt they have much wet, eſpecially in winter.

Theſe plants making a pretty variety in the hot-houſe, thoſe who have room, may allow a plant or two of each ſort to have a place in their collection of exotic plants.

[BROMUS. (Βρῶμα, *eſca*, *food.*)

Lin. gen. n. 89. *Reich.* 95. *Schreb.* 120. *Monti*, 32. *Dill. gen.* 3.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

CAL. *Glume* many-flowered, bivalve, ſpreading, collecting the floſcules into a ſpike: *valve* ovate-oblong, acuminate, awnleſs; the loweſt ſmalleſt.

COR. bivalve: *lower valve* larger, the ſize and form of the calyx, concave, obtuſe, bifid, putting out a ſtraight *awn*, below the top: *upper valve* lanceolate, ſmall, awnleſs.

Nectary two-leaved: *leaflets* ovate, acute, gibbous at the baſe.

STAM. *Filaments* three, capillary, ſhorter than the corolla. *Anthers* oblong.

PIST.

Pɪsᴛ. *Germ* turbinate. *Styles* two, ſhort, reflex, villoſe. *Stigmas* ſimple.

Pᴇʀ. *Corolla* very ſtraitly cloſed, adhering, not gaping.

Sᴇᴇᴅ one, oblong, covered, convex on one ſide, furrowed on the other.

ESSENTIAL CHARACTER.

Cal. two-valved. *Spikelet* oblong, columnar, diſtich: awn below the top.

SPECIES.

1. Bromus ſecalinus. *Field Brome-graſs.*

Lin. ſpec. 112. *Reich.* 208. *ſuec.* 96. *Hudſ. angl.* 49. γ. *With.* 103. *Relh. cantabr. n.* 86. *Leers herborn. n.* 81. *t.* 11. *f.* 2. *Pollich pal. n.* 108. *Neck. gallob.* 1. 63. *Hall. helv. n.* 1502. *Krock. ſileſ. n.* 160. *Villars dauph.* 2. 113. *Weig. obſ.* 2. *t.* 1. *f.* 1. *Reliqu. Rudb. t.* 14. *f.* 1.

Feſtuca. *Lin. lapp.* 28. *Bauh. pin.* 9. *n.* 1. *theatr.* 143. *Scheuch. gram.* 250. *t.* 5. *f.* 9. *Bauh. hiſt.* 2. 438. *Raii hiſt.* 1289. *n.* 7. *ſyn.* 414. 8.

Gr. avenaceum, &c. *Mor. hiſt.* 3. *ſ.* 8. *t.* 7. *f.* 16.

β. B. hordeaceus.

Lin. ſuec. 1. *n.* 87. *ſpec.* 1. 77. *Mor. f.* 19. *With.* 104.

B. Polymorphus δ. *Hudſ.* 49?

Panicle expanding, ſpikelets ovate: awns ſtraight: ſeeds diſtinct.

2. Bromus japonicus. *Japan Brome-graſs.*

Lin. ſyſt. 119. *Thunb. jap.* 52. *t.* 11.

Panicle ſpreading branching, ſpikelets oblong ſmooth: awns divaricate.

3. Bromus mollis. *Soft Brome-graſs.*

Lin. ſpec. 112. *Reich.* 209. *With.* 105. *Relh. cantabr. n.* 87. *Curt. lond.* 1. 8. *Fl. ruſt. t.* 99. *Schreb. gram.* 60. *t.* 6. *f.* 1. *Neck. gallob.* 65. *Pollich pal. n.* 110. *Leers herborn. n.* 82. *t.* 11. *f.* 1. *Hall. helv. n.* 1504. *Weig. obſ.* 7. *t.* 1. *f.* 4. *Krock. ſileſ. n.* 161. *Villars dauph.* 2. 114.

Feſt. aven. hirſuta, panic. minus ſparſis. *Raii hiſt.* 1289. *ſyn.* 413. *n.* 5. *Dill. giſſ.* 71.

Gr. avenaceum, &c. *Scheuch. gram.* 254. *t.* 5. *f.* 12. *Mor.* 213. *f.* 18.

Panicle rather erect, ſpikelets ovate pubeſcent: awns ſtraight; leaves very ſoftly villoſe.

4. Bromus ſquarroſus. *Open-awned Brome-graſs.*

Lin. ſpec. 112. *Reich.* 210. *Hudſ. angl.* 49. *With.* 106. *Krock. ſileſ. n.* 162. *Villars dauph.* 2. 115.

Avena. *Hall. helv. n.* 1501.

Feſtuca. *Scheuch. gram.* 251. *t.* 5. *f.* 11. *Bauh. prodr.* 64. *theatr.* 144.

Gr. phalaroides, &c. *Barr. ic.* 24. *f.* 1, 2. *Monti ic.* 32.

β. Gr. feſtuceum majus, loc. craſſis languinoſis. *Buxb. cent.* 5. 19. *t.* 38. *f.* 1.

Panicle nodding, ſpikelets ovate; awns divaricate.

5. Bromus purgans. *Purging Brome-graſs.*

Lin. ſpec. 113. *Reich.* 210. *Krock. ſileſ. n.* 163.

Gr. bromoides catharticum. *Feu. peruv.* 705. *t.* 1.

Panicle nodding, curled; leaves naked on both ſides; ſheaths hairy; glumes villoſe.

6. Bromus inermis. *Awnleſs Brome-graſs.*

Lin. ſyſt. 119. *Reich.* 210. *mant.* 186. *Schreb. gram.* 97. *t.* 13. *Krock. ſileſ. n.* 166.

Panicle erect, ſpicules ſubcolumnar ſubulate naked, almoſt awnleſs.

7. Bromus bifidus. *Bifid Brome-graſs.*

Lin. ſyſt. 119. *Thunb. jap.* 53.

Panicle erect branching, ſpicules ovate ſubtriflorous; glumes bifid-ſetaceous; awn divaricated.

8. Bromus aſper. *Rough Brome-graſs.*

Lin. ſyſt. 119. *ſuppl.* 111. *Reich.* 211. *With.* 108. *Krock. ſileſ. n.* 164. *t.* 24.

B. nemoralis. *Hudſ. angl.* 51. *Hall. helv. n.* 1503? potius, *n.* 1506. *Villars dauph.* 2. 117. & giganteus. *ejuſd.* 118.

B. ramoſus. *Lin. ſyſt. edit.* 13. 102. *Hudſ. edit.* 1. 40. *Lightf. ſcot.* 1087.

B. hirſutus. *Curt. lond.* 2. 8. *Relh. cantabr. n.* 92.

B. giganteus. *Scop. carn. n.* 116. *var.* 2. villoſa & major.

B. ſylvaticus. *Vogler ſchediaſm.*

B. altiſſimus. *Wiggers.*

B. montanus. *Retz. obſ.* 2. *n.* 4. *Pollich pal.* 116.

Feſtuca. *Bauh. pin.* 9. *n.* 4. *theatr.* 144. *Mor. hiſt.* 3. 213. *ſ.* 8. *t.* 7. *f.* 27.

Gr. aven. villoſum, &c. *Scheuch. agr.* 253. *t.* 5. *f.* 10.

Gr. aven. dumetorum, pan. ſparſa. *Raii hiſt.* 1289. *ſyn.* 415. Sec. Curtis: ſee B. arvenſis.

Panicle branched nodding ſcabrous; ſpikelets linear roundiſh, ten-flowered hairy-awned; culm and leaves rough with hairs.

9. Bromus ciliatus. *Ciliate Brome-graſs.*

Lin. ſpec. 113. *Reich.* 211.

Panicle nodding; leaves on both ſides and ſheaths ſomewhat hairy; glumes ciliate.

10. Bromus ſterilis. *Barren Brome-graſs.*

Lin. ſpec. 113. *Reich.* 212. *Hudſ. angl.* 50. *With.* 108. *Curt. lond.* 1. 9. *Pollich pal. n.* 112. *Neck. gallob.* 65. *Leers herborn. n.* 83. *t.* 11. *f.* 4. *Hall. helv. n.* 1505. *Scop. carn. n.* 113. *Retz. obſ.* 1. *p.* 11. *n.* 12. *Krock. ſileſ. n.* 165. *Villars dauph.* 2. 115. *Ger.* 69. 1. *emac.* 76. 1. *Park.* 1148. 1. *Bauh. hiſt.* 2. 439. 2.

B. grandiflorus. *Weig. obſ.* 9. *t.* 1. *f.* 6.

Feſtuca. *Bauh. pin.* 9. *n.* 7. *Mor.* 212. *t.* 7. *f.* 11. *Raii hiſt.* 1289. *n.* 5. *ſyn.* 412. *n.* 1.

Gr. avenaceum, &c. *Scheuch. agroſt.* 258. *t.* 5. *f.* 14.

Gr. loliaceum, &c. *Monti* 35. *ic.* 1.

Panicle ſpreading, ſpikelets oblong diſtich, glumes ſubulate-awned.

11. Bromus arvenſis. *Corn Brome-graſs.*

Lin. ſpec. 113. *Reich.* 212. *ſuec. n.* 97. *lapp.* 27. *hort. cliff.* 25. *Hudſ. angl.* 50? *With.* 109. *Lightf. ſcot.* 104. *Hall. helv. n.* 1509. *Pollich pal. n.* 113. *Neck. gallob.* 62. *Leers herborn. n.* 84. *t.* 11. *f.* 3. *Weig. obſ.* 6. *t.* 1. *f.* 3. *Oed. dan.* 293. *Krock. ſileſ. n.* 167. *Villars dauph.* 2. 116.

Feſtuca graminea, juba effuſa. *Bauh. pin.* 9. *prodr.* 19. *theat.* 144. *Scheuch. agroſt.* 262. *t.* 5. *f.* 15. *Rudb. elyſ.* 1. 87. *f.* 7. *Reliqu. Rudb. t.* 14. *f.* 2. *t.* 15. *f.* 2. *t.* 20. *f.* 1. *Bauh. hiſt.* 2. 479. *Raii ſyn.* 414. 9.

Gr. aven. dumetorum panic. ſparſa. *Raii hiſt.* 1289. *ſyn.* 415. *Vaill. par.* 93. *Mor. hiſt.* 3. 213. See n. 8.

Gr. av. pan. ſparſa locuſtis majoribus & ariſtatis. *Sch. agr.* 258. *t.* 5. *f.* 14.

Panicle nodding, ſpikelets ovate-oblong.

12. Bromus geniculatus. *Kneed Brome-graſs.*

Lin. ſyſt. 120. *Reich.* 213. *mant.* 33. *Schreb. gram.* 60. *t.* 31.

Panicle erect, floſcules diſtant, peduncles angular, culm with a procumbent knee.

13. Bromus tectorum. *Wall Brome-graſs.*

Lin. ſpec. 114. *Reich.* 213. *ſuec.* 98. *Neck. gallob.* 64. *Pollich pal. n.* 114. *Leers herborn. n.* 85. *t.* 10. *f.* 2. *Hall. helv. n.* 1508. *Krock. ſileſ. n.* 172. *Villars dauph.* 2. 117. *Reliqu. Rudb. t.* 16. *f.* 1.

Feſtuca avenacea ſterilis, humilior. *Bauh. pin.* 10. *theat.* 148. *Raii hiſt.* 1289. *Sch. agr.* 254. *t.* 5. *f.* 12.

Panicle nodding, ſpikelets linear.

14. Bromus giganteus. *Tall Brome-graſs.*

Lin. ſpec. 114. *Reich.* 214. *ſuec. n.* 99. *Hudſ. angl.* 51. *With.* 110. *Curt. lond.* 5. 7. *Hall. helv. n.* 1510. *Pollich pal. n.* 115. *Neck. gallob.* 66. *Leers herborn. n.* 86. *t.* 10. *f.* 1. *Weig. obſ.* 11. *t.* 1. *f.* 5. *Scop. carn. n.* 116. *Schreb. gram.* 88. *t.* 11. *Retz. obſ.* 1. *p.* 11. *n.* 11. *Krock. ſileſ. n.* 168.

Feſtuca gigantea. *Villars dauph.* 2. 110.

Gr. ſylvaticum glabrum, panic. recurva. *Vaill. par.* 93. *t.* 18. *f.* 3. (Haller refers this fig. to his n. 1509. B. arvenſis).

Gr. bromoides, &c. *Sch. agr.* 264. *t.* 5. *f.* 17. (*f.* 19. fig. non deſcr. *Retz.*)

Gr. avenaceum glabrum, &c. *Raii hiſt.* 1909. *ſyn.* 415. *n.* 11.

β. Bromus. *Hall. n.* 1506. (ſee n. 8.) *Sch. agr.* 263. *t.* 5. *f.* 16.
Panicle nodding, ſpikelets four-flowered: awns ſhorter.

15. Bromus rubens. *Red* or *Spaniſh Brome-graſs.*
Lin. ſpec. 114. *Reich.* 215. *amæn.* 4. 265. *Cavan. hiſp. n.* 51. *t.* 45. *f.* 2. *Reliqu. Rudb. t.* 16. *f.* 2? *Lamarck dict.* 468. *n.* 11.
Gr. panic. molli rubente. *Bauh. hiſt.* 2. 464?
Panicle faſcicled, ovate; ſpikelets ſubſeſſile villoſe, ſeven-flowered: awns erect.

16. Bromus ſcoparius.
Lin. ſpec. 114. *Reich.* 215. *amæn.* 4. 266. *Lamarck dict.* 468. *n.* 12.
Panicle faſcicled, ſpikelets ſubſeſſile ſmooth: awns ſpreading.

17. Bromus rigens. *Stiff Brome-graſs.*
Lin. ſyſt. 120. *Reich.* 215. *mant.* 33.
Panicle ſpiked, ſpikelets ſubſeſſile erect pubeſcent ſubquadriflorous.

18. Bromus racemoſus. *Racemed Brome-graſs.*
Lin. ſpec. 114. *Reich.* 215. *Villars dauph.* 2. 121?
B. erectus. *Hudſ. angl.* 49?
Feſtuca avenacea ſpicis ſtrigoſioribus e glumis glabris compactis. *Raii ſyn.* 414. Sec. Linn. (referred by Hudſon to his B. polymorphus β.)
F. aven. ſterilis ſpicis erectis. *Raii ſyn.* 413.
Raceme entirely ſimple, peduncles one-flowered, ſpikelets ſix-flowered even awned.

19. Bromus triflorus. *Three-flowered Brome-graſs.*
Lin. ſpec. 115. *Reich.* 215. *Hall. helv. n.* 1511. *Pollich pal. n.* 119. *Oed. dan. t.* 440? *Krock. ſileſ. n.* 170.
Gr. bromoides, &c. *Scheuch. agr.* 511. *t.* 5. *f.* 19. —ſec. Hallerum 266. *t.* 5. *f.* 18. & *Gmelin* 111. *n.* 45.
Panicle ſpreading, ſpikelets ſubtriflorous.

20. Bromus madritenſis. *Madrid Brome-graſs.*
Lin. ſpec. 114. *Reich.* 216. *amæn.* 4. 265. *With.* 107.
B. muralis. *Hudſ. angl.* 50.—ciliatus *edit.* 1. 40.
B. villoſus Forſk. *Vahl. ſymb.* 2. 23.
B. ſterilis, erecta panicula, major. *Barr. ic.* 76. *f.* 1.
Gr. bromoides, &c. *Scheuch. agr.* 260.
Panicle thinner expanding-erect, ſpicules linear: the intermediate ones in pairs; pedicels thicker upwards.

21. Bromus ramoſus. *Branched Brome-graſs.*
Lin. ſyſt. 120. *Reich.* 216. *mant.* 34. *Villars dauph.* 2. 121.
Gr. juncifolium loliaceum corniculatum veluti fruteſcens glabrum, orientale. *Scheuch. agr.* 38.
Culm much branching; ſpicules ſeſſile; leaves involute-ſubulate.

22. Bromus pinnatus. *Pinnated* or *Spiked Brome-graſs.*
Lin. ſpec. 115. *Reich.* 216. *ſuec.* 100. *lapp.* 29. *Leers herborn. n.* 87. *t.* 10. *f.* 3. *Pollich pal. n.* 117. *Weig. obſ.* 14. *t.* 1. *f.* 10. *Scop. carn. n.* 118. *Oed. dan. t.* 164. *D'Aſſo. arag. n.* 84. *Krock. ſileſ. n.* 169. *Villars dauph.* 2. 120.
Feſtuca pinnata. *Hudſ. angl.* 48. *With.* 102, 110. *Relh. cantabr. n.* 84.
Triticum. *Hall. helv. n.* 1431, 2, 3.
Poa. *Gmel. ſib.* 1. 112.
Gr. ſpica brizæ majus. *Bauh. pin.* 9. *prodr.* 19. (with a fig. in p. 18.) *theatr.* 133. *Rudb. elyſ.* 1. 80. *f.* 1. *Reliqu. Rudb. t.* 11. *f.* 2. *Raii hiſt.* 1257. *ſyn.* 392. *Petiv. gram. t.* 3. *f.* 1. *Mor. ſ.* 8. *t.* 6. *f.* 4.
Gr. loliaceum, &c. *Scheuch. agr.* 35. *t.* 1. *f.* 7. H. *Monti* 42. *f.* 16.—corniculatum. *Tourn. par. edit. angl.* 1. 285, 286.
β. Gr. loliaceum, &c. *Sch. agr.* 36. (who gives as a ſynonym, Gr. aven. dumetorum ſpicatum. *Raii hiſt.* 1262. *ſyn.* 394. & Feſtuca dum. *Bauh. pin.* 10. *prodr.* 19. *n.* 69. *theatr.* 148.) *Scheuch.* 38. n. 4. (With.)
Feſtuca ſylvatica. *Hudſ. angl.* 48. *With.* 102. (who refers to this the above ſynonyms of *Fl. dan. Mor.* & *Petiv.*) *Leers* 10. 3. *Bar.* 83. 2. (according to With.)
B. ſylvaticus. *Pollich pal. n.* 118. *Krock. ſileſ. n.* 171.
B. gracilis. *Weig. obſ.* 1. 11.—dumoſus. *Villars dauph.* 2. 119.
Culm undivided, ſpikelets alternate ſubſeſſile columnar ſubawned.

23. Bromus criſtatus. *Creſted Brome-graſs.*
Lin. ſpec. 115. *Reich.* 217. *amæn.* 2. 339.
Triticum criſtatum. *Schreb. gram.* 12. *t.* 23. *f.* 2.
Feſtuca. *Gmel. ſib.* 1. 32. *t.* 50. *f.* 3.
Gr. triticeum, &c. *Buxb. cent.* 1. 32. *t.* 50. *f.* 3. bad.
Spikelets imbricate in a double row ſeſſile depreſſed.

24. Bromus diſtachyos. *Two-ſpiked Brome-graſs.*
Lin. ſpec. 115. *ſyſt.* 120. *Reich.* 217. *amæn.* 4. 304. 450. *Ger. prov.* 98. *t.* 3. *f.* 1. *Weig. obſ.* 16. *t.* 1. *f.* 8.
Feſtuca ciliata. *Gouan. hort.* 48. 547.
Gr. feſtuceum myurum elatius, ſp. heteromalla gracili. *Barr. ic.* 99. *f.* 2.
Gr. ſpica brizæ minus. *Bauh. pin.* 9. *prodr.* 19. *n.* 59. *Pluk. alm.* 173. *t.* 33. *f.* 1.
Spikes two erect alternate.

25. Bromus ſtipoides.
Lin. ſyſt. 121. *mant.* 557. *Reich.* 217.
Panicle ſomewhat erect, peduncles enſiform.

DESCRIPTIONS, &c.

The ſpecies of this genus of Graſſes are numerous and not well diſtinguiſhed. Some authors have made ſeveral ſpecies out of one, whilſt others have united under one ſeveral which are reputed different. They have a looſe panicle, like the Oat, whence old writers called them *Oat-graſſes*; the awn or beard proceeds from the back of the glume or chaff, or is an elongation of the keel or midrib, as in the genus *Avena*; but in that the awn is commonly twiſted, whereas in this it is ſtraight; modern writers therefore diſtinguiſh them by the name of *Brome-graſſes.* The *Feſtuca* is ſcarcely different from the *Bromus* as a natural genus; in that however the chaff is either very much pointed, or terminates in an awn; whereas that of *Bromus* always comes out below the tip. The genus *Triticum* or Wheat agrees with it in this reſpect; and therefore Scopoli cannot diſcover any mark of diſtinction between them: it is however diſtinct enough from them all, in the inflореſcence or manner of flowering, in a ſpike; whereas *Bromus, Feſtuca,* and *Avena* bear their flowers in a panicle. Amidſt this variety of opinion, in conſulting different authors, we ſhall meet with ſpecies of *Bromus* under all theſe genera.

1. *Field Brome-graſs* has an annual root. Culm from one to two feet in height, in paſtures; among corn three and even four feet high, upright, ſtiff, leafy, ſmooth; with from four to ſix ſubglobular, naked knots. Sheaths grooved, ſmooth, ending in a ſhort, triangular, browniſh ſtrap, a little notched. Leaves half a foot in length, above two lines broad, flat and ſtrong, having a few ſhort hairs, and being roughiſh, eſpecially round the edge. Panicle from four to ſix inches in length, ſpreading and finally nodding: peduncles long, ſpreading, ſome branching, others ſimple, compreſſed, rough; pedicels flexuoſe. Spikelets ovate-oblong, eight or ten lines long, roundiſh, naked; when ripe diſtich or two-rowed and three or four lines broad; compoſed of from ſeven to nine or ſometimes eleven flowers, ſmooth, greeniſh, membranaceous at the edge. Calyx and corolla roughiſh. Calyx rather blunt, two to three lines long, ribbed. Outer valve of the corolla with ſeven ribs, dotted, edged with white, cloven at top: awn thickiſh, often ſomewhat flexuoſe, the length of the corolla, from the middle of the dorſal nerve, below the cleft. Nectaries two, ovate, acute. The ſeeds when ripe are diſtinct, by the elongation of the rachis[a].

β. Is a variety, according to Linneus, ariſing only from dryneſs of ſoil; and cultivated in a garden becomes the ſame with the other. Leers conſiders it as a variety of *Bromus mollis.* The culm is from nine to thirty-ſix inches long. The leaves pubeſcent on both ſides, with ſoft longer hairs on the upper ſurface. Lower ſheaths hairy, upper ſmooth. Panicle about four inches long ſimple. Spikelets yellowiſh, ſometimes only two, or even a ſingle one, five or ſix lines long, tapering to a point. Florets three or four, moſtly ſix, ſometimes ſeven. Native chiefly of barren paſtures [b].

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[a] Leers.

Weigel is of opinion, that two ſpecies are here confounded under one. He ſeparates them under the names of *B. vitioſus* and *multiflorus.* The firſt he deſcribes as having ovate ſpikelets, diſtinct glumes, the awns awl-ſhaped, ſhorter than the corolla, ſtraight but flexuoſe. The ſecond, as having lanceolate ſpikelets, the glumes edged and imbricate, acuminate at the end; and the awns capillary, equal to the corolla and ſtraight.

Field Brome-graſs is wild among corn, and among that only, according to foreign authors, and Dillenius in Ray's ſynopſis. It abounds particularly in Rie, whence its trivial name; and is a deſtructive weed to that crop in wet ſeaſons. With us it is not ſo common, at leaſt ſo far as my experience has reached. Varieties of *Bromus mollis* ſeem to have been taken for it in England.

When ground among flour, it is ſaid to render the rie-bread bitter and unpleaſant, and to have the ſame narcotic quality with *Lolium temulentum* or annual Ray-graſs or Darnel. In Scania they uſe the panicles for dying green: and Linneus informs us it is a vulgar error there, that Rie degenerates into this graſs; which is the more remarkable, becauſe they have no reſemblance to each other. It has been a popular notion in England, that the ſeveral ſpecies of corn degenerate into graſſes which bear ſome reſemblance to them; and that they are only theſe graſſes improved by cultivation.

2. Japoneſe Brome-graſs differs from the foregoing and following ſpecies in having oblong ſpikelets and divaricate awns; from the foregoing alſo in having the glumes imbricate, not diſtant: from the *ſquarroſus* in having the ſpikelets much narrower and ſmooth, and the panicle branched. Root annual. Stem round, ſimple, upright, jointed at the baſe, almoſt decumbent, from ſeven to twelve inches in length. Leaves acute, entire, ſtreaked, villoſe eſpecially the ſheaths, ſhorter than the ſtem. Spikelets ſmooth, having from five to ſeven flowers in each. Glume, a little membranaceous on the edge, ſtreaked. Awn a little longer than the calyx. Native of Japan [c].

3. Soft Brome-graſs reſembles the firſt ſort, but is white with downy hairs. The joints are thicker, cylindrical, very hairy eſpecially on the lower part. The leaves are extremely ſoft on both ſides, and the ſheaths are ſtreaked. The panicle is more ſhortly pedicelled [d].

It is of a lower ſtature than the *ſecalimus*, more hairy, and much leſs frequent: the panicle ſtraighter and more compact; ſpikelets oval, pointed, manifeſtly hairy, compoſed of ſeven to nine florets; the awns often approximating, and ſhorter than the glume [e].

Root in corn fields annual, in uncultivated places biennial. Culms from one to two feet in height, upright, leafy, thickened at the joints, which are three in number, ſubcylindric, and villoſe. Leaves broadiſh, flat, ſeven-nerved, very ſoft and whitiſh with hairs on both ſides, eſpecially on the upper ſurface. Strap ſhort, ſemimultifid. Sheaths ſtreaked; the lower ones villoſe. Panicle upright, ſomewhat contracted. Internodes compreſſed, ſomewhat tomentoſe. Peduncles ſhort, upright, depreſſed, pubeſcent, ſimple, one-flowered, ſeldom two-flowered. Spikelets upright, ovate, ſlightly compreſſed, pubeſcent, containing each from five to ſeven flowers: (ſome confine the number to ſeven or eight, whilſt others extend it from five to fourteen.) Outer valve of the corolla ſharply bifid at the tip. Awn ſlender, ſtraight, as long or a little longer than the valves. Nectaries two, ovate, obtuſe. Germ villoſe at top. Styles inſerted below the tip, ſpreading and reflex [f].

Our Engliſh writers obſerve, that the ſtalk is from one to three feet in height, with five or ſix joints; the panicle ſometimes cloſe, ſometimes ſpreading, in meadows becoming perfectly ſmooth; the ſpikelets from four to eight lines long, and from one and a half to two and a half broad; the inner valve of the calyx three or four lines long, the outer narrower and about a line ſhorter; the outer valve of the corolla broad, hollow, ſtriated, awned, the inner flattiſh, fringed at the edge with briſtly hairs; the awn from three to five lines long, inſerted half a line below the point of the valve; the filaments very ſmall; the germ ovate with a ſlight depreſſion at top; the ſtyles feathered quite to the bottom, and proceeding from one ſide of the germ [g].

There are certainly many varieties of this Graſs, both in degrees of pubeſcence from univerſal hoarineſs to almoſt perfect ſmoothneſs, and in ſize from three and even four feet in height, to that of a few inches, not to mention other concomitant and leſs ſtriking circumſtances.

Scopoli can diſcern no certain limits between this, the *ſecalinus, ſquarroſus, arvenſis,* and *tectorum*; he therefore unites them all under the name of *polymorphus*, and gives theſe as the common marks. Four knots on the culm, thick, and marked with a band of duſky red; the ſheaths of the leaves villoſe; ſpikelets cylindric, lanceolate, thick; calyx the length of the firſt petal, both that and the corolla ſtreaked; petals or glumes of the corolla equal, cloven, the inner flat, edged, truncate, ciliate; the nectary, compoſed of two briſtle-ſhaped chaffs at the baſe of the germ; anthers yellow becoming ferruginous [h].

Mr. Hudſon, though he does not go ſo far as Scopoli, joins however the *mollis* with the *ſecalinus*, under the ſame name of *polymorphus.* His firſt variety is the *mollis* of Linneus, and is covered all over with very ſoft hairs. His ſecond has hairy leaves, and a ſmoothiſh panicle. Theſe two are common in paſtures. His third variety has the whole plant ſmooth; this is the *ſecalinus* of Linneus. His fourth has the lower leaves a little hairy, and the panicle ſmooth. Theſe are weeds among corn.

Soft Brome-graſs is a native of moſt parts of Europe, by way ſides, on banks, in uncultivated places, on walls, in corn fields particularly among barley, in meadows and paſtures eſpecially in a dry ſandy ſoil: flowering in may and june.

With us it forms a principal part of many mowing grounds. Mr. Curtis affirms, that it abounds in moſt of our beſt meadows; he remarks very juſtly that it ſprings early, and ripens its ſeeds about the time of haymaking; that the ſeed is large, each panicle containing nearly as much as a common oat: hence he obſerves, that although cattle may not be fond of the leaves and green panicle, yet that it may perhaps contribute to render the hay more nutritive. It has however a bad property, for the panicle is ſo heavy, that it is very apt to be laid by rain; it is alſo ſo much earlier than many other graſſes, that by the ordinary time of mowing it is in a manner withered away, and what ſeeds have not fallen are loſt in the making and carting: finally, the ſeeds are ſaid to bring on a temporary giddineſs in the human ſpecies and in quadrupeds, and even to be fatal to poultry; if this be in any degree true, it is an objection to the cultivation of this graſs, which in other reſpects does not rank among the beſt kinds.

It is recommended for ſubduing or conſolidating ſhifting ſands; but ſurely a perennial graſs with creeping roots would anſwer this purpoſe much better.

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[b] Withering.

[c] Thunberg.

[d] Linneus.

[e] Villars.

[f] Leers.

[g] Curtis and Withering.

[h] Fl. carn. n. 115. p. 79, 80.

Dr. Withering affirms, that it is known by the name of Oat-graſs among the farmers, and that they ſow it with clover. I have frequently obſerved it to come up abundantly among artificial graſſes, as they are called, particularly among Saintfoin, but I always preſumed that it came there by chance, and not by deſign. In this latter crop it wears out in two or three years, being an annual graſs, and not ſpreading by the root.

4. This is an annual graſs, but more robuſt than the foregoing ſorts. Panicle ſcattered, nodding as it ripens. Spikelets ſmooth, thicker than the others, at firſt lanceolate, afterwards oblong. Pedicels filiform, thicker towards the top. Awns divaricating more or leſs, according to the age of the graſs, or the dryneſs of the atmoſphere[i].

Native of England, France, Germany, Switzerland, and Siberia. With us in corn fields near Glaſtenbury, in Somerſetſhire, and Maresfield in Suſſex. Flowering in july.

5. Culm a foot high, firm. Leaves as broad as thoſe of reed, keeled. Panicle flexuoſe, with from eight to fourteen flowers, oblong. Awn below the tip of the outer glume. The European differs from Feuillée's Canadian plant, in having fibrous, and not ſcaly roots, and narrower ſpikelets[k].

6. Root extremely creeping, like quich. Culms a foot or eighteen inches in height, upright, round, ſtreaked, ſmooth, dark green, the joints ſometimes tinged with purple, ſmooth. Leaves broad, acuminate, ſmooth, dark green, midrib whitiſh, rough; ſtrap blunt. Panicle from ſix inches to a foot and more in length, at firſt contracted and upright; but afterwards ſpreading very much, and nodding a little at top. Pedicels ſeveral together, unequal, the lower ones very long, the upper ones very ſmall, almoſt horizontal in flowering time, often quite ſimple, waved and briſtle-ſhaped. Spikelets an inch in length cylindric or ſubconical, ſomewhat compreſſed, blunt, nodding, containing from ſeven to ten flowers. Glumes of the calyx unequal, lanceolate, concave, blunt, ſmooth, greeniſh, with broad, ſilvery, thin, membranaceous edges; the larger glume thrice the ſize of the ſmaller, with one green nerve, whilſt the ſmaller has three. Glumes of the corolla alſo unequal; the larger glume concave, with ſeven greeniſh raiſed ſtreaks, the middle one terminating in a very ſhort awn, which however is frequently wanting; the ſmaller flat, membranaceous, narrower, the edges rolled back, and ſurrounded by two green, rough ſtreaks[l].

Native of Germany and Switzerland.

7. This has rather the habit of an *Avena* than of a *Bromus*. It differs from *ſquarroſus* in having a branched panicle, ſpikelets many times ſmaller, few-flowered, ſmooth, a bifid glume, not merely emarginate, but terminating in two briſtles: it differs from the other ſpecies, by its bifid glume terminating in two awl-ſhaped ſegments, nearly the length of the glume itſelf, its minute ſmooth ſpikelets, and jointed, reflex awn. Native of Japan[m].

8. Few plants have had a greater variety of names, or have been conſidered as more diſtinct ſpecies, than this Rough or hairy-ſtalked Brome-graſs. It is the talleſt of our Engliſh Graſſes, according to the obſervation of Mr. Curtis, often exceeding ſix feet in height, and it is diſtinguiſhed from them all by the hairineſs of its ſtalk, and eſpecially of the ſheaths of the leaves which cover it.

Bromus giganteus, which is probably often miſtaken for this graſs, is not uſually above half its height; the ſpikelets are not above one-third of the length, oval, green, four or five-flowered, the awns longer than the valves, white, pliant, and full of flexures; and the whole plant much weaker and ſmoother.

This has the leaves a foot long, rough and hairy; the panicle a foot long or more, branched, and nodding one way in a curve; peduncles very long, in pairs, rough when handled the wrong way; the ſpikelets linear and ſubulate, more than an inch long, ſlender, roundiſh, generally tinged duſky red, eſpecially in decay, containing ten flowers, and marked at the baſe with a pellucid ring; they generally grow two together. Valves of the calyx unequal; the larger concave, ſhining within, having three rough ribs on the outſide, and terminating in a ſhort point, the ſmaller having only one rib, and a more tapering point. Valves of the corolla unequal; the outer having three prominent ribs, the middle one terminating in a ſtraightiſh awn, ſhorter than the corolla, the inner flattiſh, edged with hairs, and ſhorter. Nectary, two little glumes at the baſe of the germ[n].

It ſeems to be an annual graſs, though Mr. Curtis aſſerts it to be perennial. Schreber obſerves, that the root is not at all creeping. The leaf-ſheaths are covered with long, rigid hairs, bending backwards; the leaves themſelves have fewer and ſhorter hairs, and thoſe chiefly along the edges and midrib[o].

It grows in hedges and woods in Britain, Germany, Switzerland, &c. and flowers with us from june to auguſt.

It appears to be too coarſe a graſs to be cultivated for cattle[p].

There is much confuſion in the ſynonyms. Dr. Withering aſſerts, that it is not the *montanus* of Pollich; Dr. Stokes, that it is not the *verſicolor* of the ſame author, nor 1503 of Haller. According to Retzius, it is 1506 of Haller, and 414. n. 7. of Ray's ſynopſis; the ſynonyms of Bauhin and Moriſon, according to him, are doubtful. Haller cites the above name of Ray under both numbers 1503 and 1506. Ray's plant cannot be this, becauſe the panicles of that are compact, and it grows in meadows and paſtures. It is much more likely to be n. 10. p. 415 of Ray's ſynopſis, as Mr. Curtis gives it. Krocker's figure, is from a young plant, growing in the ſhade.

9. Culms ſlender. Leaves on both ſides and ſheaths ſcarce apparently pubeſcent. Panicle much nodding; peduncles not curled. Spikelets oblong, compreſſed, the edges of the petals but not the back very hairy. Flowers eight, awned under the tip. Calyxes naked. Glumes of the corolla lanceolate. Native of Canada, where it was found by Kalm[q].

10. Root annual. Culms from one to two feet high, nearly upright, round and ſmooth, at bottom crooked, the joints ſwelled. Leaves flat, both they and their ſheaths covered with ſhort ſoft hairs; ſtrap triangular, toothletted and ciliate. Panicle large, nodding, half a foot long. Peduncles generally ſimple, and ſwelled at their baſe. Spikelets two inches long, flattiſh, diverging towards the extremity, ſix or ſeven-flowered. Awn nearly twice the length of the corolla, ſtraight. Valves of the calyx unequal, long and narrow; outer valve of the corolla longer, ſeven-nerved, at top membranous and ſharply bifid, inner nearly flat, ciliate. Nectary, two ſmall, acuminate glumes, with a gland at the baſe of each. Germ oblong, ſlightly emarginate at top; the bottom, whence the ſtyles proceed, and which ſeems to be the true germ, ſmooth and ſhining. Seeds purpliſh brown[r]; aſſerted by ſome to arrive rarely at maturity, whence the name *ſterilis* or barren. Mr. Curtis however affirms that this graſs is ſo named, from its inutility with reſpect to cattle. Ray calls it great wild Oat-graſs or *Drank*; which I preſume ſhould be *Drauk* from the Flemiſh *Dravich*. It is very common under hedges, flowering in may and june.

It is a troubleſome weed in Saintfoin, being ſo ſoft as to let the ſcythe ſlip over it, ripening very early, and being very difficult to ſeparate from Saintfoin ſeed. It is called by the common people in ſome places *Black-graſs*[s].

Villars mentions a variety of this, with larger and leſs numerous ſpikelets, on a lower plant, known to Monti, Micheli, and Scheuchzer under the name of *Gramen bromoides locuſtis maximis lanuginoſum italicum.* Agroſt. 261.

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[i] Linn. Hall. St. in With. Villars.
[k] Linn.
[l] Krocker.
[m] Thunberg.

[n] Curtis and Lightfoot.
[o] Curtis.
[p] Ibid.
[q] Linn.
[r] Curtis and Leers.
[s] Le Blanc in Young's ann. 7. 575.

Leers has another, with a taller culm, broader leaves, all villoſe; panicle fuller of flowers, a foot long; ſpikelets ſmaller, with ſhorter awns, pubeſcent all over, and pendulous. He looks upon it as an intermediate link between *Br. ſterilis* and *tectorum*; and thinks it may be n. 1507. of Haller, which that celebrated author thought might be only a variety of *Br. ſterilis*. Allioni has given this as a ſpecies, under the name of *Bromus agreſtis*. Weigel has joined it to *B. tectorum*, and has called it *Bromus grandiflorus*; obſerving no difference except the ſize, and that the peduncles in *ſterilis* are rugged not hairy; in *tectorum* hairy, not rugged.

11. Root annual. Culms upright, often the thickneſs of a gooſe-quill, two, three, or four feet high, decumbent at bottom. Sheaths and upper ſurface of the leaves pubeſcent with white hairs. Leaves flat, the lower ſurface and the edges very rugged: ſtrap ſharpiſh, multifid. Panicle almoſt a foot in length, nearly upright, diffuſed, knotty at the ramifications, with filiform, ſpreading, divaricate, flexuoſe peduncles. Spikelets oblong, linear, gray above, green beneath, ten-flowered (ſix to ten), nodding, ſmooth, but viewed through a glaſs pubeſcent. Glumes membranous about the edge; the larger glume of the calyx ovate; awn a little longer than the corolla, ſtraight [t].

By way ſides, and on the borders of corn fields, flowering in july.

This ſpecies has been confounded with the firſt, but the culms are double the ſize, whereas the ſpikelets, which are twice as many, are leſs by half, more oval, and have a greater number of flowers [u].

According to Leers, it varies with ſmaller, more coloured, pubeſcent ſpikelets: perhaps Haller's n. 1503. Weigel ſays that it varies with and without awns. Lightfoot gives a ſmall marine variety. Dr. Stokes thinks that three diſtinct plants may have been referred to this ſpecies.

1. *Fl. ſuec. n.* 97. *Leers n.* 84. Spikelets linear, at firſt ovate at the baſe, and tapering, three times as long as the calyx, pubeſcent in the microſcope. Calyx ovate. Awn ſomewhat longer than the corolla.

2. *Scheuch.* 262. *Pollich, n.* 113. Spikelets linear-lanceolate, about as long again as the calyx, which is lanceolate. Awn ſomewhat ſhorter than the corolla, and almoſt from the very point of the valve.

3. *Fl. dan. t.* 293. *Scheuch. p.* 251. *n.* 2. variety without awns. *Lightf. p.* 104. Culms five inches high; root-leaves ſmooth, ſtiff, channelled, ſubulate, thoſe on the ſtalks broader, ſheathing them like ſpathes; the cloſe panicle, or rather ſpike, conſiſts of eight or ten ſpikelets, nearly ſeſſile, ſmooth, awnleſs, growing on one ſide, with about five flowers in each [x]. They are oblong-ovate, with ſmooth, imbricate blunt glumes; calyx ovate; awn half as long as the corolla, ſometimes wanting [y], and ſometimes of ſome length [z]. Probably the ſea water occaſions the convolution of the leaves, and the poverty of the ſoil the other differences [a].

12. Culms ſcarcely four inches high, decumbent to the laſt knot, brown; thence riſing. Leaves ſmooth and even. Peduncle ſhorter than the panicle, which is ſpreading; with the pedicels not attenuated, but compreſſed, ancipital, ſubtriquetrous, rugged. Spikelets oblong, four-flowered. Flowers rugged, ſcarcely pubeſcent. Awn ſtraight, the length of the flower. Native of Portugal [b].

Bromus ambiguus, *Cyrilli plant. rar. neap. faſc.* 1. *p.* 10. *t.* 2. is probably this graſs. He deſcribes it as annual; the culms a ſpan in height, the loweſt joint ſhort, procumbent, rufous, the reſt upright, diſtant; leaves capillary, acuminate, even; culms diſtant, each terminated by three pedicels, bearing five or ſix flowers; glumes of the calyx ſmall, ſharp, the outer larger; glumes of the corolla linear, one awnleſs, the other with a long divaricate awn. Native of the maritime hills near Naples.

13. Root annual, or at moſt biennial. Culms a ſpan or a foot high, ſlender, upright, with three, four, or five ſwelling joints, after flowering lying on the ground, and becoming of a browniſh red colour. Leaves narrow, flat, pubeſcent on their lower ſurface, white-villoſe on their upper, ciliate towards the baſe: ſtrap truncate, ſemimultifid: lower ſheaths villoſe, rufeſcent. Panicle, when it burſts from the ſheath, almoſt upright, afterwards nodding one way. Peduncles capillary, looſe, with the internodes pubeſcent, rugged, the lower ones in fives; when the ſeed is ripe ſomewhat ſquarroſe. Spikelets five-flowered (four to eight); the upper ones commonly barren. Awn ſtraight, very ſlender, the length of the corolline glume, which is awl-ſhaped [c].

It differs from *Br. ſterilis* in having a ſhorter culm, and narrower leaves, ſoft on both ſides, with villoſe ſheaths. Panicle cloſer and ſmaller, nodding forward. Branches four or five, ſhorter, divided into much ſmaller pedicels. Spikelets leſs and villoſe, ſcarcely an inch long to the end of the awns. The larger glume of the calyx pubeſcent, four lines long, the ſmaller three. The outer valve of the corolla terminates in a very ſharp bifid point, is pubeſcent, green and purple with a ſilvery edge, and is five lines long; half a line below the tip it puts forth a ſtraight awn, near half an inch in length: all the glumes are ſtriated [d].

Native of moſt parts of Europe on walls, buildings, and in dry paſtures; but not of England. It flowers from may to july. Introduced in 1776, by Monſ. Thouin [e].

Linneus quotes n. 2. p. 413. of Ray's ſynopſis, which is the *erectus* of Hudſon: and Villars makes the *tectorum* of Linneus ſynonymous with the *muralis* of Hudſon. See n. 18 & 20.

Wall Brome-graſs, when approaching to a ſtate of maturity, may be uſeful in dying, where it can be collected in ſufficient quantity [f].

14. Root perennial. Culms almoſt the height of a man, upright, ſtrong, ſmooth, with three or four knots, frequently tinged with ruſſet colour. Leaves the breadth of a finger, flat, ſmooth, ſhining underneath, with two purpliſh-brown appendages or ſtraps at the baſe on each ſide embracing the culm. Sheaths below (and the upper ſurface of the leaf, with the end of the lower ſurface) a little rugged to the touch, but not hairy; above ſmooth: the membrane very ſhort, truncate and ruſſet. Panicle ten or twelve inches and more in length, looſe and nodding one way: peduncles uſually in pairs, ſometimes however ſingle, and ſometimes three from a joint, ſpreading, long, angular-compreſſed, rugged. Spikelets cylindric, half an inch long, when in flower linear-lanceolate, ſomewhat compreſſed, afterwards oblong, having from three or four to ſix or ſeven flowers in each: they are ſhorter by almoſt one half than in *Br. aſper*, with awns longer in proportion and more crooked. Valves of the calyx unequal, pointed, green with white edges, the large valve marked with three, the ſmaller with one ſomewhat tranſparent line. Valves of the corolla nearly equal, ſmooth, green with white edges; the outer largeſt, hollow, faintly three-ribbed, with an awn longer than the glume ſpringing from a little below the tip; the inner ſomewhat flat, and whitiſh: all the glumes are ſmooth. Nectary, two ſmall, lanceolate, pointed glumes, at the baſe of the germ. Seed blackiſh-purple, with the glumes adhering [g].

For the difference between this and *Br. aſper*, ſee n. 8.

Native of moſt parts of Europe; in woods and under moiſt hedges; flowering from july to ſeptember.

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[t] Linn and Leers.
[u] Villars.
[x] Lightfoot.
[y] Stokes in With.
[z] Woodw. in With.
[a] Lightf.
[b] Linn. mant.
[c] Leers and Linn.
[d] Pollich.
[e] Hort. kew.
[f] Dambourney.
[g] Linn. Curt. Leers.

It is a productive graſs, and cattle are ſaid to be fond of it, but there is not much probability of its being a good graſs for meadows or paſtures[h].

β. Haller's n. 1506. is thought by Weigel, *&c.* to be a variety of this. Others refer it to the *aſper*. He gives as a ſynonym, n. 7. p. 414. of Ray's ſynopſis, which is *Br. ſecalinus*, but that it cannot be from the deſcription: and adds, that it is very nearly allied to his n. 1505, which is *Br. ſterilis*. Such is the confuſion that reigns in this genus.

15. Root annual. Culms from eight to fourteen inches in height, proſtrate at the baſe, and thence upright, reddiſh but deeper coloured at the joints. Leaves a line and half broad, three inches long, ſharp and ſmooth. Panicle red. Valves of the calyx ſubulate, the lower ſmaller. Outer valve of the corolla oblong, concave, bifid, ſmooth, with a red awn half an inch in length; inner valve flat, ovate-acute, with a ciliate edge.

Native of the neighbourhood of Madrid, on the borders of corn fields; flowering in may[i]. Introduced in 1776, by Monſ. Thouin[k].

16. The awns in the ſame plant are ſometimes upright, ſometimes ſpreading; the corollas are ſmooth, eſpecially the outer glume; the colour is ſometimes green, often blood-red, but more frequently paler: wherefore *Br. ruber* and *ſcoparius* of Linneus are one and the ſame ſpecies[l].

17. Culms ſix or ſeven inches high, clothed with leaves, which are nerved, and ſlightly hairy on the upper ſurface; the ſheaths covering the whole culm. Spike rather rigid, ſhortly peduncled, upright. Spikelets ſcattered, tenacious, four or five-flowered: awn below the tip, erect or a little ſpreading, the length of the ſpikelet. Native of Portugal[m].

18. The panicle conſiſts of a ſimple raceme; the peduncles alternate, generally ſolitary. Flowers ovate, acuminate. Leaves villoſe underneath[n].

Mr. Hudſon deſcribes the leaves of his *erectus* as flat, and in very dry places rolled in and hairy. Panicle ſimple. Ray ſays that the lower leaves of the plant found by Bobart in the hedges beyond Botley near Oxford are beſet with long hairs. Ray's plant referred to here by Linneus is generally agreed to be his *Br. ſecalinus*. The awns are a continuation of the keel, and form a connecting link between this genus and *Feſtuca*[o].

Mr. Hudſon makes the arvenſis of Linneus (n. 11.) a variety of his *erectus*; but his deſcription does not accord with Linneus's; beſides it is perennial[p].

Calcareous paſtures in the neighbourhood of Oxford; flowering in june and july.

19. Stem five feet high. Leaves one or two lines broad, rough when rubbed the wrong way, dry and reedy. Panicle looſe, ſometimes a foot in length. Spikelets ſmall, ſcarcely four lines in length, when young purpliſh, growing green afterwards, from three to five-flowered. Glumes of the calyx unequal, pointed; of the corolla broader, brown with a white ſharp point. The awn of the outer glume is very ſhort, or ſcarcely any[q]. According to Pollich, the awns proceed from the tip, the back and the baſe of the valves; thus baffling the diſtinction between this genus and that of *Feſtuca*. Krocker affirms that in his ſpecimens they ſpring only from the tip of the valves, which would make this graſs to be a *Feſtuca*. He ſays that it differs from *Br. giganteus*, which it much reſembles, in being only one-third of the ſize, in having the culm and leaves ſhorter, the panicle thinner, more divaricate, and a hand or finger in length, the ſpikelets ſmaller, with three flowers only in each, the awn ſhorter and more ſlender.

Native of Germany, and perhaps of Denmark, in woods; flowering in june and july.

20. Culms two feet high, ſmooth and even, with ſwoln joints. Leaves broadiſh, ſoft. Panicle looſe, with no great number of ſpikelets: theſe are ſtraight, nearly upright, in threes, each of which is generally on a ſingle peduncle; ſometimes there is a fourth with two. Awns long, upright[r].

Hudſon thus deſcribes his *muralis*. Root annual. Culms ſeveral, a foot high, upright, cylindric. Leaves petioled, ſword-ſhaped; petiole ſheathing. All villoſe. Stipule or ſtrap membranous, blunt. Panicle almoſt ſimple, when in flower ſpreading, when paſt flowering upright. Peduncles rugged, generally with one ſpikelet. Glume many-flowered (five or ſix), with a rugged keel. Outer valve of the corolla villoſe and rugged, ſharp keeled, with a long rugged awn (ſeven or eight lines in length): inner oblong, ciliate, blunt, flat. It varies green and white.

Native of Spain; Italy, at Rome; and England about London, Oxford, and Severn Stoke in Worceſterſhire on old walls.

Dr. Stokes has given another *Bromus*, correſponding with the deſcriptions of the *madritenſis*, except in the length of its awns, and probably a variety of it. He thus characteriſes the ſpecies. Panicle upright contracted. Spikelets linear; florets acuminate, rough; awns ſhorter than the florets. He refers to *Scheuch. agr.* 255. *t.* 5. *f.* 13. *Mor. hiſt. ſ.* 8. *t.* 7. *f.* 13. and Haller, *helv. n.* 1507. It muſt therefore be the *agreſtis* of Allioni.

The leaf-ſheaths have ſcattered hairs. The ſpikelets are as much as an inch long, and when the florets open three lines wide. Valves of the calyx tapering to a point, membranaceous at the edge, the inner five lines long. Peduncles pubeſcent. Florets woolly, with very ſhort hairs, generally ten, tapering to a point at the baſe. Awns from one and a half to two lines long. The ſpikelets are very like thoſe of *B. aſper*[s].

In dry meadows very common, flowering in may[t].

21. Root perennial. Culms filiform, procumbent, even. Leaves as narrow or narrower than the culm. Scape upright, filiform, with one joint. Spikes generally three, alternate, having entirely the appearance of *B. pinnatus*, with a many-flowered ſharp calyx, and pointed ſubciliate glumes[u].

This ſpecies may be diſtinguiſhed from the next, by its being more ſtiff and hard; the ſpikelets are five in number in the ſtouteſt plants, they are ſmooth, and have only a very ſhort awn, which is commonly wanting in the lower flowers; in other varieties the ſtalks are branched at the baſe, their leaves rolled up, and their ſpikelets very few. In all the varieties of *Br. pinnatus* the leaves are ſoft, the culms ſimple, and the ſpikelets from eight to twelve, with awns longer or ſhorter to every flower[x].

According to Linneus it was found in the Levant by Schreber. Scheuchzer ſays, it was ſent him from Smyrna by Conſul Sherard. And Villars has obſerved it in Dauphiné.

22. Root perennial. Leaves flat. The flat ſide of the ſpikelets is turned to the culm. Awns terminating. Whilſt it flowers the ſpikelets ſeparate horizontally from the culm; before and after flowering they are preſſed to it[y].

The Meadow ſpiked Brome-graſs, according to Mr. Hudſon is ſmooth, and yellowiſh green; the lower leaves ſometimes a little hairy; the awn ſhorter than the floſcules.

β. The Wood ſpiked Brome-graſs, which by many is ſuppoſed to be a diſtinct ſpecies, is hairy; the awn longer than the floſcules. The flowers in both from ſix to twelve. It is thus deſcribed by Dr. Stokes. Culms from eighteen inches to three feet high, ſlender; the upper part of the lower joints hairy where not covered by the ſheath. Leaves rough downwards, the upper ſurface hairy, the lower leſs ſo but generally hairy towards the baſe. Spike-ſtalk or rachis ſlender, weak, and hence often pendulous. Spikelets from ſeven lines to an inch and half in length, ſomewhat hairy. Valves of the calyx tapering to a point, and often ending in a ſhort awn. Outer valve of the corolla ſmooth along the back, but rough on the ſides with minute hairs ; the inner valve rounded at the end, edges ciliate except at the end, which is pubeſcent. Haller has placed theſe graſſes in the genus *Triticum*, on account of the ſeſſile ſpikelets in a double row. Hudſon and others have removed them with more reaſon to the genus *Feſtuca*. But they are here continued with the other *Bromi*, with which they agree in the poſition of the awn. Dr. Stokes obſerves, that the *ſylvaticus* has the habit of a *Bromus*, the artificial characters of a *Triticum*, but in its ſtructure is truly a *Feſtuca*.

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[h] Curtis.
[i] Cavanilles.
[k] Hort. kew.
[l] Cavanilles.
[m] Linn. mant.
[n] Linn. ſpec.
[o] Woodw. in With.
[p] Id. Ib.
[q] Haller.
[r] Linn.
[s] Stokes in With. 1. 107.
[t] Scheuch.
[u] Linn. mant.
[x] Villars.
[y] Linn.

The firſt of theſe Graſſes is found in paſtures eſpecially in a calcareous ſoil : the ſecond in woods and hedges.

23. Native of Siberia and Tartary.

24. Spikelets ſeſſile, with the flat ſide turned to the culm, as in the genus *Triticum* ; with an acute calyx ; in the wild plant two, in the cultivated three, awned. Native of the South of Europe and the Levant. Annual[z]. Introduced in 1772, by Monſ. Richard[a].

25. Root annual. Culms ſix or ſeven inches high, many, upright, with one or two joints, even : a leaf at each joint, ſhorter than the culm. Panicle oblong, browniſh. Peduncles at the teeth in threes ; the middle one having only one flower, the ſide ones two or three. Pedicels broader towards the top, flatted, blunt at the end. Spikelets four-flowered. Calyx awl-ſhaped, ſmooth. Outer glume of the corolla with a ſtraight awn, the length of the flower. Anthers linear, yellow. Piſtils white.

This though different from *Stipa membranacea* in genus and habit, agrees with it in its peduncles ; the awn of that however is four times as long as the ſeed, whereas in this it is ſcarcely the length of the ſeed : that has the inner valve of the calyx very ſmall and the other long ; in this the valve is the length of the ſeeds. Native of Majorca[b].

Allioni has ſeventeen ſpecies of *Bromus* in his *Flora Pedemontana* : of which *liguſticus*, *n.* 2222. *agreſtis*, *n.* 2224. (ſee our n. 10.) *dertonenſis*, *n.* 2225. and *Plukenetii*, *n.* 2233. are names not in Linneus : but he has not deſcribed any except the laſt, thus :

Root creeping. Culms many, rigid, branching at the baſe. Leaves convolute, rigid, linear, glaucous, pungent. Culm more than ſeven inches high, almoſt naked except in the lower part. In the erect culm at the baſe a brown knot, where ſprings the ſheath of the ſtem-leaf. Spikelets two, with the flowers in a double row, round but a little compreſſed on each ſide, ſmooth, with the flowers not much preſſed. The lower ſpikelet ſubſeſſile, with ten flowers and no odd one ; the upper one has ſixteen, and is on a long peduncle. There is a ſhort awn from the back of the glume. The ſhape of the glumes is ovate-oblong, and they are blunt. Bellardi found it in the county of Nice, near Villafranca. The others are from Scheuchzer ; the firſt, *p.* 296. *n.* 3. *t.* 6. *f.* 13. the ſecond, *p.* 255. *t.* 5. *f.* 13. the third, *p.* 290. *t.* 6. *f.* 10. of the Agroſtographia.

PROPAGATION AND CULTURE.

See GRASS.

BROMUS. See *Dactylis*, *Feſtuca*, and *Triticum*.]

BROOM. See *Geniſta* and *Spartium*.

[—— African. See *Aſpalathus*.

BROSĬMUM. (*From* Βρωσιμος, *edulis*, *eſculentus*, *eatable.*)

Swartz prodr. 12. *Lin. gen. Schreb. n.* 1486.

Claſſ. 22. 1. Dioecia Monandria.

GENERIC CHARACTER.

* *Male.*

CAL. *Ament* common globular, covered on all ſides with imbricate, orbicular, peltate, membranaceous, deciduous *ſcales* : three larger, ſurrounding the baſe of the ament ; and others ſmaller, of an irregular ſhape, between each of which the ſtamens break out.

COR. none.

STAM. *Filaments* ſolitary, very ſhort, cylindric. *Anthers* bilamellate : *lamellas* orbicular, peltate : lower gaping from the upper : diſperſing a globular *pollen*.

PIST. *Germ* at top included in a ſpongy ament, very ſmall, ovate, abortive. *Style* ſingle, upright, bifid at the tip. *Stigmas* reflex, ſimple.

Female, on a different tree.

CAL. *Ament* like the male.

COR. none.

PIST. *Germ* globular (the ſcaly body of the ament itſelf). *Style* ſpringing from the middle of the germ at top, long, bifid. *Stigmas* ſimple, ſharp, a little reflex.

PER. *Berry* pedicelled, corticoſe, ſpherical, one-celled.

SEEDS ſolitary, with a two-lobed kernel, ſurrounded by a thin membrane, and bipartile.

ESSENTIAL CHARACTER.

MALE. *Ament* globular covered all round with orbiculate, peltate ſcales. *Cor.* none. *Filam.* ſolitary, between the ſcales.

FEM. *Ament* as in the male. *Cor.* none. *Style* bifid. *Berry* one-ſeeded.

SPECIES.

1. Broſimum Alicaſtrum.

Swartz prodr. 12. *Hort. kew.* 3. 387.
Alicaſtrum arboreum, &c. *Brown. jam.* 372.
Leaves ovate-lanceolate perennial, aments globular pedicelled ſolitary axillary, fruit corticoſe.

2. Broſimum ſpurium.

Swartz prodr. 12. *Brown. jam.* 369. *n.* 8.
Leaves lanceolate-ovate acuminate, aments pedicelled ovate axillary in pairs, fruit ſoft.

DESCRIPTION, &c.

1. This tree is frequent in the pariſhes of St. Eliſabeth and St. James in the iſland of Jamaica ; and in both is computed to make up about a third part of the woods. The timber is not deſpicable ; but the leaves and younger branches are more uſeful, and a hearty fattening fodder for all ſorts of cattle. The fruit, boiled with ſalt-fiſh, pork, beef or pickle, has been frequently the ſupport of the negroes and poorer ſort of white people, in times of ſcarcity ; and proved a wholeſome and no unpleaſant food : when roaſted, it eats ſomething like our European Cheſnuts, and is called *Bread-nut*. The leaves and younger ſhoots are full of gum, which renders them diſagreeable to moſt cattle at firſt, but they ſoon grow very fond of them[c].

Introduced in 1776, by Meſſ. Kennedy and Lee[d].

2. The ſecond ſort is called *Milk-wood*, and is pretty common in St. Mary's pariſh Jamaica. It riſes to a conſiderable height in the woods, is reckoned among the timber trees, and is ſometimes uſed as ſuch, though not generally valued[c].]

[**BROSSÆA.** (*So named from Guy de la Broſſe, intendant of the royal garden at Paris, at the beginning of the laſt century.*)

Lin. gen. 1229. *Reich.* 261. *Schreb.* 330. *Plum.* 17. *Juſſ.* 161.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Bicornes*. *Ericæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted : *diviſions* ending in erect points the length of the corolla.

COR. monopetalous, conic, truncated at the end, entire.

STAM. five.

PIST. *Germ* pentacoccous. *Style* ſubulate, ſhorter than the corolla. *Stigma* ſimple.

PER. *Capſule* roundiſh, divided with five furrows, five-celled, covered with a large, converging, fleſhy, ſucculent calyx burſting at the ſides.

SEEDS very many, extremely minute.

ESSENTIAL CHARACTER.

Cal. fleſhy. *Cor.* truncate. *Capſ.* five-celled, many-ſeeded.

SPECIES.

1. Broſſæa coccinea.

Lin. ſyſt. 219. *Reich.* 491. *Plum. gen.* 5. *ic.* 64. *f.* 2.

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[z] Linn.

[a] Hort. kew.

[b] Linn.

[c] Browne.

[d] Hort. kew.

DESCRIPTION, &c.

Branches alternate. Leaves alternate, ovate, ſerrate, petiolate. Flowers few, terminating the branches, alternate. An obſcure plant, and the character doubtful, except in what Plumier has ſaid of it. In ſtature it ſeems ſomething like the *Codon.* Native of South America[e].]

BROWALLIA. (*Given by Linneus in honour of Joh. Browallius, biſhop of Aboa, who defended the ſexual ſyſtem againſt Siegeſbeck, in a book entitled, Examen epicriſeos, &c. Aboa,* 1739 *&* *Leid.* 1743. 8°.)

Lin. gen. 773. *Reich.* 834. *Schreb.* 1036. *Gærtn. t.* 53. *Juſſ.* 123.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Luridæ.* *Scrophulariæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubular, ſhort, five-toothed, permanent: *toothlets* a little unequal.

COR. monopetalous, funnel-form: *tube* cylindric, twice as long as the calyx; *border* flat, equal, five-cleft; *diviſions* rounded, emarginate; the *upper* ſomewhat large, conſtituting the upper lip; the four others equal.

STAM. *Filaments* four, in the throat of the corolla; the two upper ſhorteſt; the lower broader, higher, coloured, reflex, cloſing the throat of the corolla. *Anthers* ſimple, bent in, converging; the inner ones twin, the outer opening at the top with a little hole, and cloſing the throat of the corolla.

PIST. *Germ* ovate, retuſe. *Style* filiform, the length of the tube of the corolla. *Stigma* thick, four-lobed.

PER. *Capſule* ovate, obtuſe, one-celled, covered, burſting into four parts at the top. *Partition* thin, parallel.

SEEDS numerous, ſmall. *Receptacle* nearly columnar, compreſſed.

ESSENTIAL CHARACTER.

Cal. five-toothed. *Cor.* border five-cleft, equal, ſpreading; with the navel cloſed. *Anthers* two larger. *Capſ.* one-celled.

SPECIES.

1. Browallia demiſſa. *Spreading Browallia.*
Lin. ſpec. 879. *Reich.* 3. 179. *hort. cliff.* 318. *t.* 17. *upſ.* 179. *Sabb. hort.* 2. *t.* 100.
Dalea. *Philoſ. tranſact. n.* 452.
Peduncles one-flowered.

2. Browallia elata. *Upright Browallia.*
Lin. ſpec. 880. *Reich.* 3. 179. *Curt. mag. t.* 34.
Peduncles one-flowered and many-flowered.

DESCRIPTIONS, &c.

[Theſe are herbaceous annual plants with alternate leaves. The flowers are either axillary or terminating. They have the habit of the Solanaceous plants, and like them have the peduncle inſerted either over againſt, or at the ſide of the petioles[f].]

1. This uſually grows about two feet high, and ſpreads out into lateral branches, with oval entire leaves, ending in a point, and on ſhort petioles. Toward the end of the branches the flowers are produced ſingly upon long axillary peduncles. The corolla is crooked and bent downward, the top of the tube is ſpread open, and the brim has ſome reſemblance to a labiate flower. It is of a bright but pale blue colour, ſometimes inclining to a purple or red; and often there are flowers of three colours on the ſame plant. [Gærtner calls the corolla ſalver-ſhaped. He deſcribes the capſule as two-celled, ovate-oblong, and covered with the calyx; the partition ſeceding from the walls of the capſule, when ripe, ſo that it ſeems to be one-celled. Seeds angular, punctured with very minute holes and dots, rufous-yellow.]

The ſeeds were ſent to Mr. Philip Miller by Mr. Robert Millar, from Panama, in the year 1735. When he firſt raiſed this plant in the Chelſea garden, he named it *Dalea,* in honour of Mr. Dale, an eminent botaniſt, and a great friend of Mr. Ray's. By the ſame name he communicated the ſeeds to Linneus, who changed the name to Browallia.

2. The ſecond ſort riſes about the ſame height as the firſt, but has ſtronger ſtalks, and ſends out a greater number of branches, it is therefore much more buſhy. The flowers are produced on axillary peduncles, ſome ſuſtaining one, others three or more flowers, of a dark blue colour. [Mr. Curtis remarks, that it is a much taller plant than the *demiſſa,* whence its name; and that we cannot do juſtice to the brilliancy of the corolla by any colours we have. Linneus obſerves, that the lower branches are almoſt the length of the ſtem itſelf; and, that the floral leaves are almoſt ſmooth.

This is a native of Peru; and was cultivated by Mr. Miller in 1768. They both flower from july to ſeptember[g].]

PROPAGATION AND CULTURE.

Theſe plants being annual, their ſeeds muſt be ſown every year upon a hot-bed in the ſpring; and the plants muſt be brought forward on another, to perfect ſeeds in England. Some of them may be tranſplanted in june into the borders of the flower-garden; where, if the ſeaſon prove warm, they will flower and perfect ſeeds; but leſt theſe ſhould fail, there ſhould be two or three plants kept in the ſtove for that purpoſe.

[BROWNEA. (*From Patrick Browne, M.D. author of the hiſtory of Jamaica.*)

Lin. gen. n. 833. *Reich.* 898. *Schreb.* 1115. *Jacq. amer.* 194. *Juſſ.* 366. Harmeſias. *Loefl.*

Claſſ. 16. 4. Monadelphia Decandria.

Nat. order of *Lomentaceæ.* *Leguminoſæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, turbinate, unequally bifid, acute.

COR. *Outer* monopetalous, funnel-form: *border* five-cleft: diviſions oblong, concave, obtuſe, erect. *Inner* five-petalled. *Petals* obovate, flat, obtuſe, patulous, ſitting on the tube of the outer corolla. Claws long.

STAM. *Filaments* ten or eleven ſubulate, alternately ſhorter, faſtened to the tube of the outer corolla, united into a cylinder divided above. *Anthers* oblong, incumbent.

PIST. *Germ* oblong, acute, ſitting on a pedicel faſtened to the wall of the outer corolla. *Style* ſubulate, erect, longer than the corolla. *Stigma* obtuſe.

PER. *Legume* oblong, compreſſed, narrowed about the partition, two-celled: *partition* membranaceous.

SEED ſolitary, ovate, compreſſed, ſomewhat wrinkled, involved in fungoſe fibres.

OBS. *Stamens in* Br. coccinea *ten; in* Br. Roſa *eleven and very long.* Paloue. *Aubl. guian. p.* 365. *t.* 141. *ſeems to be of this genus.*

ESSENTIAL CHARACTER.

Cal. unequally bifid. *Cor.* double: outer five-cleft; inner five-petalled. *Legume* two-celled.

SPECIES.

1. Brownea coccinea.
Lin. ſpec. 958. *ſyſt.* 619. *Reich.* 3. 330. *Jacqu. amer.* 194. *t.* 121. *Philoſ. tranſ. vol.* 63. *p.* 174.
Flowers disjoined umbelled.

2. Brownea Roſa.
Berg. in philoſ. tranſ. 63. *p.* 174. *ic.*
Hermeſias. *Loefl. it.* 278.
Flowers aggregate in heads ſeſſile, ſtamens very long.

DESCRIPTIONS, &c.

1. This is a ſhrub or ſmall tree, growing to the height of about eighteen feet. The wood is covered by an aſh-coloured bark. When in flower it has a beautiful appearance. The leaves are oval, entire, ſmooth, oppoſite, with ſhort footſtalks; they grow two or three pairs on a ſpray. The flowers grow about ten together, and are pendulous. The calyx is ferruginous, the corolla ſcarlet, and the ſtamens yellowiſh. This ſpecies grows in hilly and woody places in America.

2. This is alſo an American ſhrub or ſmall tree, with an aſh-coloured bark, oppoſite leaves, which are entire and ſmooth on both ſides. The flowers are borne in a kind of aggregate manner, ſo as to

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[e] Linn.

[f] Juſſ. and Gærtn.

[g] Hort. kew.

form heads or bunches of the ſize of one's fiſt. They are red and make a very beautiful appearance. The ſtamens are extremely long. It grows principally in hilly ſituations.

[BRUCEA. (*So named by Sir Joſeph Banks, in honour of James Bruce, Eſq. the traveller into Abyſſinia, who firſt brought the ſeeds thence into England.*)

Lin. gen. Schreb. n. 1508. *L'Herit. ſtirp.* 19. *t.* 10. *Juſſ.* 373.

Claſſ. 22. 4. Dioecia Tetrandria.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* four-parted, flat, villoſe: *parts* lanceolate, acute, ſpreading.

Cor. *Petals* four, lanceolate, acute, ciliate, ſpreading, ſcarcely larger than the calyx.

Nectary, a body placed on the receptacle, flat, four-lobed; lobes obſcurely emarginate, oppoſite to the petals.

Stam. *Filaments* four, upright, ſhort, oppoſite to the calyx, inſerted into the receptacle between the lobes of the nectary. *Anthers* roundiſh.

* *Female.*

Cal. and Cor. as in the male.

Nectary, the inner margin of the receptacle thickened, four-lobed; lobes emarginate.

Stam. *Filaments* four, inſerted into the receptacle on the outſide of the diviſions of the nectary, filiform but thicker towards the tip, ſharpiſh, a little ſhorter than the petals; without any *anthers*.

Pist. *Germs* four, ſuperior, ovate, compreſſed on the inner ſide. *Styles* ſubulate, reflex, lying on the germs. *Stigmas* acute.

Per. four, one-ſeeded.

Seeds ſolitary.

ESSENTIAL CHARACTER.

Cal. four-leaved. *Cor.* four-petalled.

Fem. *Peric.* four, one-ſeeded.

SPECIES.

1. Brucea ferruginea.

L'Herit. ſtirp. nov. p. 19. *t.* 10. *Hort. kew.* 3. 397.

Brucea antidyſenterica. *Bruc. abyſſ.* 5. 69. *J. F. Miller ic. t.* 25.

DESCRIPTION, &c.

Mr. Bruce thus imperfectly deſcribes it. Leaf pinnate: leaflets oblong, pointed, ſmooth, and without collateral ribs that are viſible; the upper ſide of a deep green, the reverſe very little lighter, oppoſite with a ſingle one at the end. The flowers come chiefly from the point of the ſtalk, on each ſide of a long branch.

Monſ. L'Heritier has deſcribed it more completely. It is a ſhrub of the middling ſize. Stem upright; the bark aſh-coloured, becoming yellowiſh: branches few, alternate, patulous, round, thick, with broad ſcars from the fallen leaves continuing long on them: ſhoots angular with the petioles, tomentoſe, rufous. Leaves alternate, ſpreading, unequally pinnate, conſiſting of ſix pairs of oppoſite lobes, one foot in length: petiole round, thickened at the baſe, tomentoſe, rufous. Leaflets on ſhort petiolules, oblong-ovate, entire, acuminate, veined, villoſe, ſomewhat fetid when rubbed; the two lower ones ſmaller, the upper one on a longer petiolule, three inches long, and one inch broad; the midrib raiſed on both ſides, eſpecially beneath; the veins concentrically retuſe towards the edges. Spikes of male flowers ſolitary, axillary, upright at firſt, then ſpreading, finally nodding, peduncled, almoſt ſimple, or ſcarcely compounded of many-flowered, very ſhort ſpikelets, remote at bottom, but gradually approximating towards the top, tomentoſe, rufous, from ſix to eight inches in length: the flowers are crowded together, either ſeſſile or on very ſhort pedicels, of an herbaceous colour tinged with red or ruſſet.

The male plant began to flower in the ſtove of the Paris botanic garden, when it was between two and three feet in height in may and june 1780 or 1781. The female plant has flowered in the royal garden at Kew, in april and may; and was introduced there in 1775 [a].

It is a native of Abyſſinia, where it is known by the name of *Wooginoos*. The root is a ſpecific in the dyſentery. It is a plain ſimple bitter, without any aromatic or reſinous taſte; leaving in the throat and palate ſomething of roughneſs, reſembling Ipecacuanha [b].]

Brunella. See *Prunella*.

BRUNFELSIA. (*So named by Plumier, from Otho or Otto Brunfelſius, of Mentz, firſt a Carthuſian monk, and afterwards a phyſician. He publiſhed the firſt good figures of plants in* 1530, *and died in* 1534.)

Lin. gen. n. 260. *Reich.* 281. *Schreb.* 1013. *Plum.* 22. *Juſſ.* 127.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ. Solaneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, five-toothed, obtuſe, very ſmall, permanent.

Cor. one-petalled, funnel-form: *tube* very long, ſlightly curved inwards: *border* flat, five-cleft, blunt.

Stam. *Filaments* four very ſhort. *Anthers* oblong, upright: two a little higher than the others, prominent from the mouth of the tube.

Pist. *Germ* roundiſh, ſmall. *Style* filiform, the length of the tube. *Stigma* thickiſh.

Per. *Capſule* berried on the outſide, globular, one-celled, two-valved.

Seeds very many, compreſſed, convex on one ſide, angular on the other, rugged with dots. *Receptacle* faſtened to the bottom of the capſule, chaffy: *chaffs* coadunate, ſubulate at the tip, ſeparating the ſeeds.

Obs. *The pericarp is called a berry by Linneus and others; but ſince it opens determinately by a diſtinct ſuture from the top to the baſe, it is rather a capſule.*

ESSENTIAL CHARACTER.

Cal. five-toothed, narrow. *Cor.* with a very long tube. *Capſ.* one-celled, many-ſeeded, with a very large fleſhy conceptacle.

SPECIES.

1. Brunfelſia americana.

Lin. ſpec. 276. *ſyſt.* 231. *Reich.* 1. 535. *Hort. kew.* 2. 340. *Swartz prodr.* 90. *obſ.* 91. *Plum. gen.* 12. *ic.* 65. *Brown. jam.* 141. Cateſbæa.

Leaves elliptic acuminate, on longer petioles; tube of the corolla erect, border entire.

[2. Brunfelſia undulata.

Swartz prodr. 90.

Leaves lanceolate-ovate, drawn to a point at both ends, petioles very ſhort; tube of the corolla curved, border waved.

DESCRIPTIONS, &c.

1. This is a tree growing from ten to fifteen feet in height. Mr. Miller gives eight or ten feet, and Browne only five or ſix for the height. The trunk is ſmooth and even, and the branches looſe. Leaves alternate, entire, ſmooth, ſomewhat ſhining; on cylindric, ſhort petioles, ſomewhat reflex. Flowers axillary and terminating, peduncled. Corolla yellow, turning white, very ſweet-ſcented, having a tube four or five inches in length. Anthers globular, bifid; thoſe of the upper filaments, together with the ſtigma cloſe up the aperture of the tube. The fruit is green, with a red conceptacle [c].]

According to Mr. Miller, the leaves are unequal in ſize; on the lower part of the branches coming out ſingle, but towards the extremity placed on every ſide. The flowers are produced generally three or four together: the tube is very long, narrow, and hairy; the brim is expanded in form of the great Bindweed (Convolvulus ſepium), and is almoſt as large.

It grows naturally in Jamaica and moſt of the ſugar iſlands in the Weſt Indies; where they call it Trumpet Flower.

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[a] Hort. kew.

[b] Bruce.

[c] Swartz obſ.

[It was cultivated in 1739, by Mr. Miller, and flowers with us in june and july[d]. In Jamaica it flowers in the ſpring[e].

2. This alſo is a native of Jamaica[f].]

PROPAGATION AND CULTURE.

Theſe plants may be propagated from ſeeds, which ſhould be ſown early in the ſpring in pots filled with light earth, and plunged into a hot-bed of tanners bark, obſerving to water the earth as often as you find it neceſſary. When the plants are come up, they ſhould be tranſplanted each into a ſeparate ſmall pot filled with freſh light earth, and plunged into the hot-bed again, obſerving to water and ſhade the plants until they have taken root; after which they muſt have air admitted to them every day, in proportion to the warmth of the ſeaſon. When the plants have advanced ſo high as not to be contained in the frames they ſhould be removed into the bark-ſtove, where, during the ſummer months, they ſhould have a large ſhare of free air, but in winter they muſt be kept very cloſe. With this management the plants will be very ſtrong, and produce their flowers every ſeaſon. Theſe plants may alſo be increaſed by planting cuttings in the ſpring, before they begin to make new ſhoots, in pots filled with freſh light earth, and plunged into a hot-bed of tanners bark, obſerving to water and ſhade them until they have taken root; after which, they muſt be managed as has been directed for other tender exotic plants from the ſame countries.

[BRUNĬA. (*Said to be ſo named from Cornelius Brun, a traveller into the Levant and Ruſſia, at the end of the laſt and the beginning of the preſent century.*)

Lin. gen. n. 274. *Reich.* 293. *Schreb.* 376. *Juſſ.* 381, 452.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aggregatæ*. *Rhamni* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth common* roundiſh, imbricate, many-flowered: *leaflets* ovate-oblong.—*Proper* five-leaved, inferior: *leaflets* oblong, villoſe.

COR. *Petals* five: claws ſlender; borders roundiſh, ſpreading.

STAM. *Filaments* five, capillary, inſerted into the claws of the petals. *Anthers* ovate-oblong.

PIST. *Germ* very ſmall, ſuperior. *Style* ſimple, cylindric. *Stigma* obtuſe.

PER.

SEED.

RECEPT. common hairy.

ESSENTIAL CHARACTER.

Flowers aggregate. *Filam.* inſerted into the claws of the petals. *Stigma* bifid. *Seeds* ſolitary, two-celled.

SPECIES.

1. Brunia lanuginoſa. *Heath-leaved Brunia.*
Lin. ſpec. 288. *ſyſt.* 240. *Reich.* 1. 560. *hort. cliff.* 71. *Berg. cap.* 60. *Pluk. phyt. t.* 318. *f.* 4. (Tamariſcus.)
Leaves linear, ſpreading, callous at the end.

2. Brunia ciliata. *Ciliate-leaved Brunia.*
Lin. ſpec. 288. *ſyſt.* 240. *Reich.* 1. 561.
Leaves ovate acuminate ciliate.

3. Brunia verticillata. *Whorled Brunia.*
Lin. ſyſt. 241. *ſuppl.* 156.
Leaves three-cornered, branchlets in whorls faſtigiate, heads terminating ſmooth.

DESCRIPTIONS, &c.

1. This reſembles *Leviſanus abrotanoides*, and has the nectareous chink as in that[g]. The ſtem is about a foot high, and ſhrubby. The leaves linear-filiform, ſmooth, ſhort, with black tips. The flowers, which are white, are borne in heads.

It was introduced in 1774, by Mr. Francis Maſſon[h].

2. The germ ſuperior, and the ſtyle bifid[i].

3. Heads ſmall, not globular. They are all ſhrubs, and inhabitants of the Cape. This was found there by Thunberg.

BRUNIA. For the other ſpecies, ſee *Leviſanus.*

BRUNSFELSIA. See *Brunfelſia.*

BRUNSVIGIA. See *Amaryllis.*]

BRUSCUS. See *Ruſcus.*

[BRYA. See *Amerimnum.*

BRYANTHA and BRYANTHUS. See *Andromeda.*]

BRYONĬA. (Bryonia *Plin.* Βρυώνια *Dioſcor. From* Βρυω, *germino, pullulo. Others derive it from* Βριὰω, *extollo, becauſe it raiſes itſelf by laying hold on ſhrubs, &c. with its tendrils: but the firſt derivation is the true one.*)

Lin. gen. n. 1093. *Reich.* 1194. *Schreb.* 1480. *Gærtn. t.* 88. *Juſſ.* 394. *Tournef.* 28. *Ray* 72. *n.* 3.

Claſſ. 21. 10. Monoecia Syngeneſia.

Nat. order of *Cucurbitaceæ.*

GENERIC CHARACTER.

* *Male flowers.*

CAL. *Perianth* one-leafed, bell-ſhaped, five-toothed: *toothlets* ſubulate.

COR. five-parted, bell-ſhaped, faſtened to the calyx: *diviſions* ovate.

STAM. *Filaments* three, very ſhort. *Anthers* five, two connate on each of two filaments, and a ſingle one on the third.

* *Female flowers.*

CAL. *Perianth* as in the males, ſuperior, deciduous.

COR. as in the males.

PIST. *Germ* inferior. *Style* trifid, the length of the corolla expanded. *Stigmas* emarginate, patulous.

PER. *Berry* ſubglobular, ſmooth and even.

SEEDS a few, faſtened to the coat, ſubovate.

OBS. *Our common Engliſh ſpecies is dioecous.*

ESSENTIAL CHARACTER.

Cal. five-toothed. *Cor.* five-parted.

MALE. *Filaments* three. FEM. *Style* quadrifid. *Berry* ſubglobular, many-ſeeded.

SPECIES.

1. Bryonia alba. *Black-berried white Bryony.*
Lin. ſpec. 1438. *ſyſt.* 869. *Reich.* 4. 207. *hort. cliff.* 453. *ſuec. n.* 876. *mat. med.* 210. *Neck. gallob.* 392. *Scop. carn. n.* 1200. *Blackw. t.* 533. a. b. *Fl. dan. t.* 813.
B. alba baccis nigris. *Bauh. pin.* 297. *Raii hiſt.* 659. *ſyn.* 261. *Park.* 178. *n.* 2.
Leaves palmate, callous-ſcabrous on both ſides: flowers monoecous: berries black.]

2. Bryonia dioica. *Red-berried white Bryony.*
Lin. ſyſt. 870. *Jacqu. auſtr. t.* 199. *With.* 1133.
B. alba. *Hudſ. angl.* 437. *Lightf. ſcot.* 590. *Hall. helv. n.* 574. *Allion. pedem. n.* 455. *Leers herborn. n.* 744. *Pollich pal. n.* 915. *Mill. fig. t.* 71. *Blackw. t.* 37. *Sabb. hort.* 1. *t.* 58. *Ger.* 720. *emac.* 869. *Park.* 178. *f.* 1. *Raii hiſt.* 659. *Woodv. med. bot.* 517. *t.* 189.
B. alba β. *Reich.* 4. 208.
B. aſpera ſ. alba baccis rubris. *Bauh. pin.* 297.
B. ſ. Vitis alba. *Matth.* 791. *Cam. epit.* 987. *Fuchſ.* 95.
Leaves palmate, callous-ſcabrous on both ſides; flowers dioecous; berries red.

[3. Bryonia palmata. *Palmated Bryony.*
Lin. ſpec. 1438. *Reich.* 4. 208. *Fl. zeyl. n.* 353. *Burm. zeyl.* 49.—fol. quinquepartito.
Leaves palmate, ſmooth and even, five-parted; diviſions lanceolate repand-ſerrate.

4. Bryonia grandis. *Great-flowered Bryony.*
Lin. ſyſt. 870. *Reich.* 4, 208. *mant.* 126. *Burm. zeyl.* 49. *t.* 19. *f.* 2. *Rumph. amb.* 5. 448. *t.* 166. *f.* 1. *Lour. cochinch.* 595.
Leaves cordate angular ſmoothiſh glandular at the baſe underneath; tendrils ſimple.

5. Bryonia cordifolia. *Heart-leaved Bryony.*
Lin. ſpec. 1438. *ſyſt.* 870. *Reich.* 4. 208. *Fl. zeyl. n.* 354.
Leaves cordate oblong five-lobed toothed ſcabrous, petioles two-toothed.

6. Bryonia laciniosa. *Laciniated Bryony.*
Lin. ſpec. 1438. *ſyſt.* 870. *Reich.* 4. 208. *hort. cliff.* 452. *fl. zeyl. n.* 355. *Herm. lugdb.* 95. *t.* 97. *parad. t.* 107. *Gærtn. fruct.* 2. 46.
Leaves palmate; diviſions lanceolate ſerrate; petioles muricate.]

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[d] Hort. kew. [e] Swartz obſ. [f] Swartz prodr. [g] Linn. [h] Hort. kew.

7. Bryonia africana. *African Bryony.*
Lin. ſpec. 1438. *Reich.* 4. 209. *hort. cliff.* 453. *Herm. paſ.* 107. *t.* 108. *Gærtn. fruct.* 2. 47.
Leaves palmate five-parted ſmooth and even on both ſides; diviſions pinnatifid.

8. Bryonia cretica. *Cretan Bryony.*
Lin. ſpec. 1439. *Reich.* 4. 209. *hort. cliff.* 453.
B. alba maculata. *Bauh. hiſt.* 2. 146. *Raii hiſt.* 660.
B. cretica mac. *Bauh. pin.* 297. *prodr.* 135. *Park. theat.* 178. *n.* 3.
Leaves palmate, callous-dotted on the upper ſurface.

[9. Bryonia ſcabra. *Rough* or *globe-fruited Bryony.*
Lin. ſyſt. 870. *ſuppl.* 423.
Leaves cordate angled villoſe underneath, callous-ſcabrous on the upper ſurface; tendrils ſimple; berries globular; ſeeds ſmooth.

10. Bryonia ſcabrella. *Roughiſh* or *briſtly Bryony.*
Lin. ſyſt. 870. *ſuppl.* 424.
Leaves cordate angular and lobed callous-hiſpid; tendrils ſimple; berries globular; ſeeds muricate.

11. Bryonia japonica. *Japan Bryony.*
Lin. ſyſt. 870. *Thunb. jap.* 325.
Leaves cordate, undivided and angular, toothed, unarmed-hiſpid.

12. Bryonia latebroſa. *Hairy Bryony.*
Ait. hort. kew. 3. 384.
Leaves ſubtrilobate hairy drawn to a point at the baſe.

12. Bryonia verrucoſa. *Warted Bryony.*
Ait. hort. kew. 3. 385.
Leaves cordate angled, the upper ſurface and the veins underneath, callous-ſcabrous, the calloſities remote; tendrils ſimple; berries globular.]

14. Bryonia racemoſa.
Mill. dict. n. 4. *Swartz prodr.* 116. *Plum. fil.* 83. *t.* 97.
Leaves cordate three-lobed, the upper ones ovate and ſomewhat rugged, flowers in racemes, berries nodding oval.

15. Bryonia variegata.
Mill. dict. n. 5.
Leaves palmate with lanceolate ſegments, ſpotted on the upper but ſmooth on the under ſide; fruit ovate ſcattered.

16. Bryonia bonarienſis.
Mill. dict. n. 6. *Dill. elth.* 58. *t.* 50. *f.* 58.
Leaves palmate five-parted hairy, with obtuſe ſegments.

[17. Bryonia haſtata.
Lour. cochinch. 594.
Leaves haſtate, toothletted, ſmooth: peduncles many-flowered.

18. Bryonia triloba.
Lour. cochinch. 595.
Leaves three-lobed five-nerved, ſtipules roundiſh concave, peduncles one-flowered.

19. Bryonia cochinchinenſis.
Lour. cochinch. 595.
Leaves five-cornered, rough; berries three-celled, ten-cornered.

DESCRIPTIONS, *&c.*

1. Black-berried White Bryony ſeems to differ from the red in little elſe beſides the colour of the berries. There is a very particular deſcription of it in John Bauhin's hiſtory from Cordus, agreeing with both in all material circumſtances except the above, unleſs we admit the colour of the root, which in this is a pale colour of box within, in that a yellowiſh white[a]. If it be always an androgynous plant, that is a more material diſtinction.

Native of Sweden, Denmark, Carniola, and probably other parts of Europe, in hedges. According to Haller this is more common in Germany than the other. Plukenet ſays it is not unfrequent about Cambridge[b]; but I never heard of any other botaniſt who found it there, or in any other place in England.

2. Red-berried White Bryony is eaſily diſtinguiſhed by its prodigious root, its ſtems climbing by tendrils, leaves reſembling thoſe of the vine in ſhape, not ſmooth however as they are, but harſh and rugged, and of a paler colour, and by its bunches of ſmall berries, which are red when ripe; and produced on a different plant from the male flowers.

The ſtem is thick, grooved, rugged, divided into alternate branches, and climbs to the height of ſix feet and more, by means of ſpiral tendrils which occaſionally turn different ways. Leaves alternate, on round hairy petioles two inches long, divided half way into five lobes, hairy and rugged on both ſides, about four inches in length and three in breadth. They are not properly palmate, even the lower ones being truly lobed. The peduncles come out from the axils of the leaves[c]. In the male plant, the peduncle is longer than the leaf, and has from ten to twenty flowers; the pedicels ſhorter than the peduncle, and ſcattered: the flowers larger and deciduous. The female flowers are on a very ſhort peduncle, only from three to ſix together; pedicels umbellate or ſubcymoſe; at the time of flowering longer than the peduncle: corollas only one-third of the ſize, and paler than the male. Berry globular, red, with five or ſix ſeeds[d].

There are two ſpecies or rather varieties of the Bryony, ſays Mr. Ray, the one *male* or *barren*, in which little racemes of flowers are placed on a common peduncle which is a palm in length, whereas in the female or fertile plant, they are on a very ſhort peduncle ſcarcely an inch long. The flowers alſo (of the male) are double the ſize of the others, and inſtead of a ſtyle a ſhort *umbilicus* occupies the middle, divided into four broad blunt ſegments, ſurrounded with a yellow fringe about the edge. The other variety is *female* or *fertile*. The corolla is monopetalous divided into five ſharp ſegments, of a whitiſh yellow colour with dark veins: it is placed on the top of the berry on a ſhort pedicel iſſuing from the ſummit of the berry itſelf, and falls off entire ſoon after it opens[e]. Here we ſee how accurately our learned countryman deſcribed, and how well he underſtood the doctrine of the ſexes in plants above a century ago[f].

It is common in hedges in moſt countries of Europe: but with us I have not remarked it on very ſtrong land. It flowers in may.

The dioecous plant with red berries ſeems to be more generally ſpread than the other. It is mentioned to grow in all the ſouthern parts of Europe; and Dioſcorides deſcribes his Bryony with red fruit: whereas the monoecous plant with black fruit ſeems to be confined to the northern kingdoms, ſome parts of Germany and Carniola. By keeping them ſeparate, I do not mean poſitively to aſſert that they are diſtinct ſpecies.

Linneus, as we have already ſeen, ſays that the Bryony in Sweden is androgynous, and has black berries. Scopoli removed a ſingle plant from Gorizia into his garden, and found it to be androgynous: the berries were black. De Necker ſays, that he has ſeen it dioecous, but ſeldom: he does not ſay whether the berries be black or red. Haller affirms, that they have only the red-berried plant in Switzerland, and that it is always dioecous there: but that the other with black berries is more common in Germany. Pollich aſſures us, that it is always dioecous in the Palatinate, and that the berries are red. Villars inſiſts, that the caſe is the ſame in Dauphiné.

Mr. Miller on the contrary[g], has obſerved, that ſeveral plants (with red berries) which he cultivated in different parts of the garden, were of different ſexes while young; but that the plants which produced only male flowers the two firſt years, afterwards had flowers of both ſexes; the number of female flowers the firſt year was ſmall, but as the plants grew older, they became more fruitful. The caſe is the ſame in the Mulberry and other trees which produce flowers of both ſexes.

I have obſerved many hundreds of wild plants during a long courſe of years, and could never have the fortune to ſee an androgynous plant of Bryony: nor do I ever remember to have remarked a male and female plant to grow ſo near each other as to give a ſuſpicion that they might ſpring from the ſame root. Male flowers ſeem to be much more abundant than females.

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[a] Ray hiſt.

[b] Dillenius in Ray ſyn.

[c] Pollich.

[d] Leers.

[e] Hiſt. 659.

[f] Before 1686.

[g] Figures, p. 48.

Goats alone are ſaid to eat this plant. Two or three of the berries have been eaten without any obſervable effects[h].

The root of Bryony grows to a vaſt ſize. Our old herbaliſt Gerarde ſays, "the Queene's chiefe Chirurgeon Maſter William Goodorous, ſhewed me a roote heereof, that waied halfe an hundred waighte, and of the bigneſſe of a childe of a yeere olde." To this Linneus aſcribes the quickneſs of its growth, though it ſprings late[i]. With us the young ſhoots begin to appear in march, and the plant flowers in may.]

The roots have been formerly, by impoſtors brought into an human ſhape, carried about the country, and ſhown for Mandrakes to the common people. The method which theſe people practiſed was, to open the earth round a young thriving Bryony plant, being careful not to diſturb the lower fibres of the root, to fix a mould ſuch as is uſed by thoſe who make plaſter figures cloſe to the root, faſtening it with wire to keep it in its proper ſituation, and then to fill in the earth about the root, leaving it to grow to the ſhape of the mould, which is effected in one ſummer. [See *Atropa Mandragora.*

This root is a famous hydragogue, is highly purgative and acrid. A dram of it in ſubſtance, or half an ounce infuſed in wine, is a full doſe[k]; others give two drams in dropſical caſes, and have uſed half an ounce of the freſh root, or three drams of it dry in decoction, without purging. Some it purges moderately, others violently, and it frequently becomes diuretic and diaphoretic[l]. A cold infuſion in water is uſed externally in ſciatic pains. A cataplaſm of it is a moſt powerful diſcutient. A decoction made with one pound of the freſh root is the beſt purge for horned cattle. The active virtues of this plant ſeem to give it a claim to more attention than is now beſtowed upon it[m].]

The beſt ſeaſon to take up the roots for uſe is in the autumn, as ſoon as the ſhoots decay; but the leaves and ſhoots are beſt in the ſpring, when they abound with juice.

[It is called in Engliſh Bryony, white Bryony, White wild Vine, wild Hops, wild Nep, and Tetterberry. In German, Zaunrube, Stickwurz. In Dutch, Witte Bryone, wilde Wyngaard. In Swediſh, Hundroſva. In Daniſh, Valſkrove, Galdebær, Hundebær. In French, Bryone, Couleuvrée. In Italian, Brionia, Vite bianca. In Spaniſh, Nueza alba.

3. Leaves heart-ſhaped, the ſide diviſions ſhorteſt; the upper ſurface is marked with dots, very cloſe but ſcarcely viſible: there are callous tubercles on the veins and peduncles. The berries are round and large[n]. Native of the iſland of Ceylon. Introduced in 1778, by Meſſ. Gordon and Græfer[o].

4. Stem ſhrubby, ſmooth, large, branching, climbing with ſimple tendrils. Leaves roundiſh, five-angled, not lobed, ſmooth on both ſides, ſcarcely toothletted, obtuſe, alternate petioled; ſome concave glands are directly under the baſe, and one or two farther off. Flowers large, whitiſh, androgynous, lateral, on one-flowered peduncles. Berry roundiſh, red, ſmooth, five-celled. Seeds few, oblong, obtuſe, compreſſed. Native of India and Cochinchina[p]. Introduced in 1783, by Mr. John Græfer[q].

5. Stem angular, rough. Leaves on long petioles, five-angled, the lower angles ſhorter; the tops of the petioles have two ſide teeth, which at firſt were glands, as in *Cucurbita lagenaria.* There are tendrils from the axils. Native of Ceylon[r].

6. Leaves rugged on the upper ſurface, more ſo beneath on the rib and nerves. Peduncles more muricated than the ſtem, ſo as to be in a manner prickly. Corolla yellow, rough with hairs or tomentoſe within; on the outſide ſmooth, as is alſo the germ. Fruit ſeſſile, the ſize of a cherry, red with ſix milk-white lines[s]: within three-celled; the pulp of the cells gelatinous-membranaceous, two-celled, green, eaſily ſeparable from the cells themſelves. Seeds ſix, one in each cell[t]. Native of Ceylon.

7. Upper leaves rugged about the edge, with pinnatifid, ſomewhat linear-ſhaped, acute diviſions. Berries ſolitary, round with a point or beak[u]: rind fleſhy, thickiſh, orange-coloured on the outſide, within ſeparate from the pulp, which is membranaceous-ſpongy, regularly divided into ſix cells, but ſometimes having only four. In each cell is one ſeed, which is ovate-globular, at the ſides and eſpecially towards the navel compreſſed to a ſharp edge, pale brown, with little briſtles or very minute ſcales ſcattered over it[x]. Native of the Cape of Good Hope. Cultivated in 1759, by Mr. Miller[y].

8. Root long, running deep, but not ſo large as that of the common ſort, covered with a brown bark. Twigs long and ſlender. The whole plant is rough. Leaves divided like thoſe of the common ſort, but leſs, they are ſtreaked with white, or have white ſpots. Flowers pale, ſtreaked, larger than in the common ſort, on long pedicels. Fruit ſemiglobular, divided at top into two parts, red when ripe, and containing two ſeeds. Native of the iſland of Crete or Candia, whence the ſeeds were ſent by Honorius Bellus to Caſpar Bauhin, who ſowed them in Zuinger's garden, having at that time intermitted the culture of his own garden[z]. Cultivated here by Mr. Miller before 1759.

9. This is a native of the Cape, where it was found by Thunberg and Maſſon. It was introduced here in 1774, and flowers in ſeptember and october[a].

10. Stems five-cornered, hiſpid, very rugged, as is the whole plant. Tendrils ſimple. Leaves blunt, unequally toothed, with the edge a little curled: petioles hiſpid. Peduncles many, axillary, ſhort. Calyx bell-ſhaped, five-toothed. Corollas ſmall, very like thoſe of *Melothria*, yellow. Fruits ſpherical.

It has altogether the ſtature of *Melothria*, but the whole plant is hiſpid and rugged, and has the ſtamens of Bryony[b].

It is a native of the Eaſt Indies, where it was found by John Gerard Koenig, M.D. and was introduced here in 1781, by Sir Joſeph Banks, Bart. It flowers from may to july[c].

11. The leaves have three angular lobes, ſharp, with very minute hairs on the upper ſurface; pale underneath, dotted-ſcaly, an inch long. It creeps on walls. Native of Japan[d].

12. This is very eaſily diſtinguiſhed from its congeners by the leaves being not in the leaſt cordate at the baſe, but ſubdecurrent along the petioles.

13. This, and the foregoing are natives of the Canary iſlands, where they were obſerved by Maſſon, and whence they were introduced here in 1779[e].

14. This is a native of Jamaica[f].

16. Root and ſtems like thoſe of common Bryony, the latter the thickneſs of a quill at bottom and angular, towards the top deeply ſtreaked, darkgreen. Leaves reſembling thoſe of the Fig, but ſmaller, deeply cut into five lobes, narrower at bottom, broader at top, narrower and ſmaller at the ends of the twigs, here and there toothletted about the edge, hairy and very rough, the upper ſurface deep green, the lower whitiſh. Berries ſomewhat larger than thoſe of the common ſort. Native of Buenos Ayres. Cultivated in the Eltham garden about 1726[g].

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[h] Withering.
[i] Fl. ſuec. p. 344.
[k] Withering.
[l] Villars.
[m] Withering.
[n] Linn.
[o] Hort. kew.
[p] Linn. and Loureiro.
[q] Hort. kew.
[r] Linn.

[s] Linn.
[t] Gærtn.
[u] Linn.
[x] Gærtn.
[y] Hort. kew.
[z] Bauh. prodr.
[a] Hort. kew.
[b] Linn.
[c] Hort. kew.
[d] Thunberg.
[e] Hort. kew.
[f] Swartz.
[g] Dillenius.

17. Stem herbaceous, ſlender, ſcandent, cirrhoſe. Flowers androgynous, white, axillary. Calyx none. Corolla tubulous, with a five-parted, upright border. Filaments placed at the bottom of the corolla, with three alternate warted glands. Berry ovate, acute, ſmall, red, one-celled; containing a few ovate arilled ſeeds.

Native of China, about Canton.

18. Stem ſhrubby, grooved, climbing by trifid tendrils. Leaves cordate, ſerrate-repand, ſmooth on both ſides. Stipules ſerrate. Flowers androgynous, white, axillary, ſolitary. Berry ovate, ſharpiſh, ſmooth, yellow, an inch and half long, five-celled, and many-ſeeded.

Native of Cochinchina.

19. Stem herbaceous, middle-ſized, marked with four grooves, branching, ſcandent and cirrhoſe. Leaves cordate, toothletted, alternate, petioled. Flowers androgynous, white, large, axillary, ſolitary, on long peduncles. Calyx one-leafed, the tube at bottom cylindric, at top ovate, dilated; border five-cleft, with linear ſegments. Corolla almoſt wheel-ſhaped, fixed to the mouth of the calyx, ſegments ovate-oblong. Filaments placed on the middle of the tube of the calyx. Anther one, large, oblong-ovate, placed on the three filaments in form of a tripod. In the female flower, germ inferior, ovate-oblong, marked with ſeveral grooves. Style filiform, ſhorter than the tube. Stigma oblong, three-cornered, trifid at the tip. Berry ovate, ſharpiſh at both ends, red, ſmooth, middle-ſized. Seeds ovate-oblong, compreſſed, ſmooth. It differs from the other Bryonies, but cannot ſo well be placed in any other genus: we muſt therefore either leave it here, or conſtitute a new genus. In habit it approaches to *B. ſcabrella*.

Native of Cochinchina in hedges[h].]

PROPAGATION AND CULTURE.

1, 2. The common European Bryony may be cultivated in a garden for uſe, by ſowing the berries in the ſpring, on a dry poor ſoil. In two years time the roots will grow to a large ſize, if the plants be not too cloſe. But it is common enough on dry banks and in hedges, in many parts of England.

3, &c. The other ſpecies being natives of the Eaſt and Weſt Indies, the Canary iſlands, or the Cape of Good Hope, require the protection of the bark or dry ſtove, according to the climate they come from.

Theſe are alſo propagated by ſeeds, ſown on a hot-bed. When they are fit to tranſplant, they ſhould be put into pots, filled with light freſh earth. When they have taken good root, they ſhould have as much air as poſſible, and may frequently be refreſhed with water in dry weather. Several of them will endure the open air in the ſummer ſeaſon; but in winter they muſt all be ſheltered, and then they ſhould have very little water. They moſtly flower in july, and in favourable ſummers will perfect their ſeeds.

8, 10, 15, 16. Some of the ſorts are annual plants; theſe muſt be raiſed on a hot-bed early in the ſpring, and when the plants are about three inches high, they ſhould be each tranſplanted into a ſmall pot filled with freſh light earth, and plunged into a hot-bed of tanners bark, obſerving to water and ſhade them until they have taken root. When the plants are grown ſo large, as to ramble about on the ſurface of the bed, and begin to entangle with other plants, they ſhould be ſhifted into larger pots, and placed in the bark-ſtove, where their branches may be trained to the wall, or againſt an eſpalier, that they may have ſun and air, which is abſolutely neceſſary for their producing fruit. When theſe plants are full of fruit, they make a pretty variety in the ſtove among other exotic plants.

[BRYONIA. See *Ciſſus*, *Convolvulus*, *Cucumis*, *Melothria*, *Rajania*, *Tamus*, *Tournefortia*.

BRYONIÆ SIMILIS. See *Dioſcorea*.

BRYONIOIDES. See *Ciſſus* and *Sicyos*.

BRYUM. (From Βρυω, germino, on account of the many branches it produces.)

A genus of Moſs, diſtinguiſhed by a capſule covered with a lid, and over that a ſmooth veil. But theſe characters it has in common with the Mnium and Hypnum, two other genera, much reſembling this. The peculiar note of the Bryum is; that the thread or little ſtem ſupporting the fructification, grows from a tubercle at the ends of the ſtem and branches.

Linneus has thirty-ſeven ſpecies. Hudſon has forty-five, beſides many varieties. Lightfoot has twenty-nine deſcribed particularly, with many good obſervations. Withering ſixty-five, beſides many varieties, well diſtinguiſhed. Allioni has twenty-eight ſpecies. Haller enumerates thirty-three. Mr. Curtis has figured Bryum ſcoparium 1. 69.—undulatum 70.—hornum 71.—truncatulum and viridulum 2. 70.—ſubulatum 3. 66.—argenteum 67.—cæſpiticium 67.—barbatum 4. 65. Many others are figured by Dillenius, Vaillant, in Flora Danica, by Dickſon, Hedwig, *&c.*

Hedwig has ſeparated many of Linneus's Bryums from this genus, and Schreber has adopted his corrections and improvements. See n. 1638. 1640. 1642. 1643. 1644. 1645. 1647. 1648. 1654. of his genera.

The character of this genus, as it ſtands there is as follows.

CAPSULE ovate-oblong. *Periſtomium* double: *outer* with ſixteen broadiſh, ſharp teeth; *inner* membranaceous, plaited and keeled, jagged; jags broadiſh, capillary, alternate.

MALES, capitate, or diſcoid, or gemmaceous, on the ſame or a different plant.

OBS. Bryum *Hedw.* *Males capitate.*
Mnium *Hedw.* *Males diſcoid.*
Webera *Hedw.* *Inner Periſtomium with and without cilias.*]

BUBON. (Βουβωνιον, *Hippocr. & Dioſc. From* βουβων, *inguen, the groin, or a tumour in that part; or elſewhere; which this herb was ſuppoſed to cure.*)

Lin. gen. n. 350. *Reich.* 380. *Schreb.* 482. *Gærtn. t.* 23. *Juſſ.* 221.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ*, or *Umbelliferæ*.

GENERIC CHARACTER.

CAL. *Umbel univerſal* of about ten rays, the middle ones ſhorter. *Partial* of fifteen to twenty rays. *Involucre univerſal* five-leaved; *leaflets* lanceolate-acuminate, patulous, equal, much ſhorter than the umbel, permanent. *Partial* with rather more leaflets, of the ſame ſhape, the length of the umbellule. *Perianth proper* five-toothed, very ſmall, permanent.

COR. *univerſal* uniform: all the floſcules fertile. *Proper* of five, lanceolate, inflex petals.

STAM. *Filaments* five, ſimple, the length of the corollule. *Anthers* ſimple.

PIST. *Germ* ovate, inferior. *Styles* two ſetaceous, permanent, hardly the length of the corollule, ſpreading and reflex. *Stigmas* obtuſe.

PER. none. *Fruit* ovate, ſtriated, villoſe, bipartile, crowned.

SEEDS two, ovate, flat on one ſide and convex on the other, ſtriated, villoſe.

OBS. B. Galbanum *has many-leaved involucres.*

ESSENTIAL CHARACTER.

Fruit ovate, ſtriated, villoſe.

SPECIES.

1. Bubon macedonicum. *Macedonian Parſley.*

Lin. ſpec. 364. *Reich.* 697. *hort. cliff.* 95. *upſ.* 62. *mat. med.* 81. *Blackw. t.* 382. *Plenck, ic. t.* 194. *Gærtn. fruct.* 1. 102. *Lour. cochinch.* 179.

Apium macedonicum. *Bauh. pin.* 154. *Raii hiſt.* 463.

Daucus maced. *Rivin. pent. t.* 42.

Petroſelinum maced. *Lob. ic.* 708. *Ger.* 864. 2. *f.* 1. *emac.* 1016. *f.* 2. *Park.* 924. 1.

Leaflets rhomb-ovate; gaſh-toothed, teeth acuminate; umbels very numerous; ſeeds rough with hairs.

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[h] Loureiro.

2. Bubon Galbanum. *Lovage-leaved Bubon.*
Lin. ſpec. 364. *ſyſt.* 285. *Reich.* 697. *mant.* 335. *hort. cliff.* 96. *mat. med.* 82. *Jacqu. hort.* 3. 21. *t.* 36. *Berg. cap.* 77. *Woodv. bot. med.* 34. *t.* 12. *Plenck, ic. t.* 195.
Aniſum africanum, &c. *Pluk. alm.* 31. *t.* 12. *f.* 2.
Ferula afr. galbanifera, &c. *Herm. par. t.* 163.
Leaflets ovate-wedge-form acute finely ſerrated; umbels few; ſeeds ſmooth; ſtem ſhrubby glaucous.

3. Bubon gummiferum. *Gum-bearing Bubon.*
Lin. ſpec. 364. *Reich.* 698.
Fer. afr. galb. fol. myrrhidis. *Comm. hort.* 2. 115. *t.* 58.
Leaflets gaſhed acuminate; the lower ones broader: ſeeds ſmooth; ſtem ſhrubby.

4. Bubon rigidius. *Stiff-leaved Bubon.*
Lin. ſpec. 364. *Reich.* 698. *hort. cliff.* 95.
Fer. durior, f. rigidis et breviſſimis foliis. *Bocc. muſ.* 2. 84. *t.* 76. *Barr. rar.* 61. *t.* 77.
Leaflets linear.

[5. Bubon lævigatum. *Smooth Bubon.*
Ait. hort. kew. 352.
Leaflets lanceolate very obtuſely and obſcurely crenated; ſeeds ſmooth; ſtem ſhrubby.]

DESCRIPTIONS, &c.

1. Macedonian Parſley ſends out many leaves from the root, the lower growing almoſt horizontally, ſpreading near the ſurface of the ground: the foot-ſtalk of each leaf divides into ſeveral other ſmaller, garniſhed with ſmooth rhomb-ſhaped leaves, which are of a bright, pale-green colour, indented on their edges. In the center of the plant ariſes the flower-ſtem, which is little more than a foot high, dividing into many branches, each being terminated by an umbel of white flowers, which are ſucceeded by oblong hairy ſeeds.

[They are of a bay-brown colour on the convex ſide, marked with five raiſed pale lines, and beſet all about with hoary hairs; on the other ſide they are flat or very ſlightly concave[a].

Loureiro ſays, that the ſtem is annual, upright, ſtraight, with many aſcending branches: the ſtem-leaves rhomb-ovate and gaſhed; the branch-leaves oblong, ſmalliſh, and irregular: the umbels many and flattiſh: the petals lanceolate-ovate and a little bent in: the fruit oblong-ovate, ſlender, and very ſtrong-ſcented.

Native of Greece and Barbary, and probably of the Eaſt Indies. It flowers with us in july, or from june to auguſt.] In warm countries it is biennial, but in England the plants ſeldom flower till the third or fourth year from ſeed; but whenever they flower they always die.

It was cultivated by John Gerarde in 1596[b].

In ſome parts of the eaſt they uſe this plant to ſcent their clothes; the ſmell is very ſtrong, and rather diſagreeable to Europeans[c].

The plant, but eſpecially the ſeed, is eſteemed to be diuretic, emmenagogue, and carminative; the ſeeds are an ingredient in Theriaca.]

2. Lovage-leaved Bubon riſes with an upright ſtalk to the height of eight or ten feet, which at bottom is ligneous, having a purpliſh bark, covered with a whitiſh powder, which comes off when handled; the upper part of the ſtalk is garniſhed with leaves at every joint, the foot-ſtalks half embracing them at their baſe: branching out into ſeveral ſmaller, like thoſe of the common Parſley, and ſet with leaves like thoſe of Lovage, but ſmaller, of a gray colour; the top of the ſtalk is terminated by an umbel of yellow flowers, which are ſucceeded by oblong channelled ſeeds, having a thin membrane or wing on their border. It flowers in auguſt, but has not produced ſeeds in England. When any part of the plant is broken, there iſſues out a little thin milk of a cream colour, which has a ſtrong ſcent of Galbanum.

[Linneus ſays, that the leaflets are ſharply ſerrate, and rather rigid: the umbels denſe and large: the involucres many-leaved: the fruit cylindric, not ſtreaked: the ſeeds even, without any membranous wing.

It is a native of the Cape of Good Hope, and was alſo cultivated by Gerarde in 1596[d].

This is the ſpecies from which the drug called Galbanum is obtained, though it is not perhaps entirely clear whether it may not alſo be gained from different ſpecies of this genus. It is obtained partly by ſpontaneous exudation from the ſtem, but more commonly by inciſion in the ſtalk a little above the root, from which it immediately flows, and ſoon becomes ſufficiently concreted for gathering. This Gum-reſin medicinally conſidered may be ſaid to hold a middle place between Aſafœtida and Ammoniacum; but it is far leſs fetid than the former. It has the credit of being highly uſeful in hyſterical caſes, and of promoting and correcting various ſecretions and uterine evacuations. Externally it has been applied to expedite the ſuppuration of indolent tumours, and eſpecially as a warm, ſtimulating plaſter. It is an ingredient in the pilulæ e gummi, the emplaſtrum lithargyri cum gummi of the London Pharm. and in the empl. ad clavos pedum of the Edin.]

3. Gum-bearing Bubon riſes with a woody ſtalk about two-feet high, with leaves at each joint branching out like thoſe of the foregoing, but the leaflets are narrow and indented, like thoſe of Baſtard Hemlock. The ſtalk is terminated by a large umbel of ſmall white flowers, which are ſucceeded by ſeeds like thoſe of the former ſort.

[This alſo is a native of the Cape; and, as appears from the firſt folio edition of Mr. Miller's dictionary, was cultivated in 1731. It flowers in july[e].]

4. This is a low perennial plant, having ſhort ſtiff leaves, which are very narrow. The flower-ſtalk riſes near a foot high, and is terminated by an umbel of ſmall white flowers, which are ſucceeded by ſmall, oblong, channelled ſeeds. It flowers in june, and the ſeeds ripen in ſeptember; but it is a plant of little beauty, and of no uſe that we are acquainted with. It grows naturally in Sicily, whence Mr. Miller received the ſeeds before 1759.

[5. This was obſerved at the Cape of Good Hope by Maſſon: and was introduced here in 1774. It flowers from december to february[f].]

PROPAGATION AND CULTURE.

1. It is propagated by ſeeds, which ſhould be ſown on a bed of light ſandy earth, either early in the autumn, or in april; and if the ſeaſon prove warm and dry, the ground ſhould be ſhaded in the heat of the day, and frequently refreſhed with water, which is a ſure method to bring up the plants; but where this is not practiſed, the ſeeds often fail, or remain long in the ground. When the plants come up, they will require no other care but to be kept clean from weeds, till the beginning of october, when they ſhould be carefully taken up, and planted in a warm border of dry ground; and a few of them ſhould be put into pots, that they may be ſheltered under a frame in winter; for in ſevere froſt, thoſe which are expoſed to the open air, are frequently killed; though, in moderate winters, they will live abroad without covering.

2, 3. Theſe are propagated by ſeeds, which ſhould be ſown in pots filled with light loamy earth, as ſoon as they arrive; if it happen toward autumn, they ſhould be plunged into a bed of tanner's bark, where the heat is gone, and ſcreened from froſt in winter. In the ſpring the plants will come up, and by the middle of april will be fit to remove, when they ſhould be carefully ſhaken out of the pots, being careful not to tear off their roots, and plant them each into a ſeparate ſmall pot, filled with the ſame earth as before; then plunge the pots into the tan again, and water them to ſettle the earth to the roots of the plants, and ſhade them from the ſun in the day time, until they have taken new root; after this they muſt be inured gradually to bear the open air; into which they ſhould be removed in june, and placed with other exotic plants in a ſheltered ſituation, where they may remain till autumn, when they muſt be removed into the green-houſe, and placed where they may enjoy as much of the ſun and air as poſſible, but defended from froſt.

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[a] Gærtner.
[b] Hort. kew.
[c] Loureiro.
[d] Hort. kew.
[e] Ibid.
[f] Ibid.

In winter theſe plants ſhould have but little water given them, for much wet is very injurious to them: in ſummer, when they are expoſed to the open air, they muſt be frequently refreſhed with water in dry weather; but at no time ſhould have too much wet, for that will rot their roots.

Theſe plants make a pretty variety in the green-houſe in winter, and when they are placed abroad in the ſummer with other green-houſe plants, they have a good effect, eſpecially when they are grown to a large ſize. They generally flower the third year from ſeeds, but their flowers are produced ſo late in ſummer, that the ſeeds have ſeldom time to form before the cold comes on in the autumn; in warm ſummers however, the third ſort will perfect ſeeds, if it ſtand in a warm ſheltered ſituation.

4. The fourth ſort is alſo propagated by ſeeds which ſhould have a dry ſoil and warm ſituation, where the plants will continue ſeveral years.

Bubonium. See *Inula*.

[BUBRŌMA. (From βους, *an ox*, and βρωμα, *food.*)
Lin. gen. Schreb. n. 1216. Guazuma. *Plum.* 18. *Juſſ.* 276. Theobromæ ſpec. *edit. prior. Mill. dict.* & *Houſt. reliqu. t.* 14.
Claſſ. 18. 2. Polyadelphia Dodecandria.
Nat. order of *Columniferæ*. *Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* three-leaved: *leaflets* ovate, concave, acute, ſpreading, deciduous; two a little larger than the reſt.

Cor. *Petals* five: *claws* large, narrow at the baſe, vaulted, helmet-concave, inflex at the tip, beaked, emarginate, converging, inſerted into the nectary at the baſe; *borders* ſemibifid, with linear, ſpreading ſegments.

Nectary, a bell-ſhaped pitcher, divided into five, equal, lanceolate, ſharp, minute, upright ſegments, ſpreading a little at the tip.

Stam. *Filaments* five, filiform, upright, bent outwards at the tip, outwardly faſtened to the nectary, alternate with its ſegments and a little ſhorter, trifid at the tip; the diviſions very ſhort. *Anthers* on each filament three, two at the tip on each ſide, the third a little lower, each placed on one of the diviſions of the filaments; the cells margined.

Pist. *Germ* ſuperior, roundiſh, hiſpid. *Style* filiform, almoſt the length of the ſtamens. *Stigma* ſimple.

Per. *Capſule* ſubglobular, woody, muricated all round with club-ſhaped tubercles, terminated by a five-rayed leafy ſtar, punched with a tenfold row of little tranſverſe dots, five-celled, valveleſs, not opening: *partitions* woody-fibrous: *cells* covered on the inſide with a thin membrane.

Seeds very many, angular, fixed in a double row to a central, ſubglobular receptacle.

ESSENTIAL CHARACTER.

Cal. three-leaved. *Pet.* five, arched, ſemibifid. *Anthers* on each filament three. *Stigma* ſimple. *Capſ.* muricate, ending in a five-rayed ſtar, punched with holes, five-celled, valveleſs, not opening.

SPECIES.

1. Bubroma Guazuma. *Elm-leaved Bubroma* or *Theobroma*, or *Baſtard Cedar.*]
Theobroma Guazuma. *Lin. ſpec.* 1100. *Reich.* 3. 582. *mant.* 445. *hort. cliff.* 379. *Mill. dict. Swartz obſ.* 291. *Brown. jam.* 306. 1. *Trew. Ehret.* 40. *t.* 76.
Guazuma. *Plum. gen.* 36. *ic.* 144. [*Reliqu. houſt.* 6.
Cenchramedia. *Pluk. phyt. t.* 77. *f.* 2.
Alni fructu morifolia, &c. *Sloan. jam.* 2. 18. *Raii dendr.* 11.]

DESCRIPTION, &c.

This tree riſes to the height of forty or fifty feet in the Weſt Indies, having a trunk as large as a middle-ſized man's body, covered with a dark-brown furrowed bark, ſending out many branches toward the top, which ſpread out wide every way. Leaves oblong-heart-ſhaped, alternate, near four inches long, and two broad near the baſe, ending in acute points, ſerrate, having a ſtrong midrib, and ſeveral tranſverſe veins, of a bright green on their upper, and pale on their under ſurface, on ſhort petioles. The flowers are in axillary cluſters; they are ſmall and of a yellow colour.

[Linneus obſerves, that the branches have a nap ſcattered over them; that they have no buds; that the foliation is ſlightly involute, with the ſerratures plaited and imbricate; that the leaves are bluntly and unequally ſerrate, three-nerved, rugged, veined, ſhining, hanging down, having the appearance of thoſe of the nettle; that the ſtipules are oppoſite, ſubulate-lanceolate, approximating to the branches, with a melliferous pore on the outſide; that the petioles are round, only one-ſixth of the length of the leaves, thicker towards the leaf; that the flowers are in corymbs, like thoſe of Ayenia.

The deſcription of the flower by Swartz differs from that given above from Schreber. The calyx, according to him is four-leaved, (in Houſtoun's figure it is three-leaved, Juſſieu makes it five-parted), the leaflets bent down; the petals duſky yellow, five-nerved, pubeſcent, with lanceolate awns or briſtles inſerted into the diviſions of the petals, and longer than them, upright and purple. Nectary goblet-ſhaped, ſmaller than the petals, incloſing the piſtil, five-cornered and five-toothed. Filaments inſerted into the baſe of the nectary, and of the ſame length with it, trifid from the middle, lying under the arched petals. Anthers three, deflex, ſimple. Germ ovate, rough at the end, echinate when viewed through a magnifying-glaſs. Style the length of the ſtamens. Stigma five-cleft. Fruit hard, rugged all over with tubercles, the rind perforated like a ſieve. Seeds ovate, unequal.

It ſleeps with the leaves hanging quite down, whilſt the petioles remain entirely ſtiff and ſtraight[a].

From the ſimilitude of this tree to the Elm, it is called by the French *Orme d'Amerique* and *Bois d'Orme*. In Jamaica it is known by the name of *Baſtard Cedar*, and is peculiar to the low lands there, forming a very agreeable ſhade for the cattle, and ſupplying them with food in dry weather, when all the herbage is burned up or exhauſted. The ſeeds are very mucilaginous, but otherwiſe agreeable to the palate. The wood is light, and ſo eaſily wrought, that it is generally uſed by coachmakers (in Jamaica) in all the ſide pieces[b].] It is alſo frequently cut into ſtaves for caſks.

[A decoction of the inner bark is very glutinous, and very like that of the Elm; it is ſaid to be excellent in the Elephantiaſis, a diſorder to which the negroes are much ſubject[c].

This tree was cultivated by Mr. Miller, in 1739. It flowers here in auguſt and ſeptember[d].]

PROPAGATION AND CULTURE.

The ſeed ſhould be ſown on a good hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be each planted in a ſeparate ſmall pot, and plunged into a hot-bed of tanner's bark, obſerving to ſhade them from the ſun till they have taken new root; then they ſhould be treated in the ſame way as the Coffee-tree, keeping them always in the tan-bed in the ſtove.

Bucanephyllum. See *Sarracenia*.

Bucephalon. See *Trophis*.

Bucephalophorus. See *Rumex*.

Buceras. See *Bucida* and *Trigonella*.

Buccaferrea. See *Ruppia*.

[BUCHNĒRA. (*So named by Linneus in honour of A. E. Buchner, a German naturaliſt.*)
Lin. gen. n. 772. *Reich.* 833. *Schreb.* 1035. *hort. cliff.* 501. *Gært. t.* 55. Piripea. *Aublet.* 253. *Juſſ.* 100.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ*. *Pediculares* Juſſ.

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[a] Linn. [b] Browne. [c] Swartz. [d] Hort. kew.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, obſcurely five-toothed, ſcabrous, permanent.

Cor. monopetalous. *Tube* very long, filiform, bowed. *Border* flat, ſhort, five-cleft, equal: the two upper diviſions very ſhort, reflex; the three lower cordate, nearly equal.

Stam. *Filaments* four, very ſhort, in the throat of the corolla; the two upper ones prominent outward, ſhort. *Anthers* oblong, obtuſe.

Pist. *Germ* ovate-oblong. *Style* filiform, the length of the tube. *Stigma* obtuſe.

Per. *Capſule* acuminate, covered, two-celled, gaping at the top into two parts. *Partition* contrary.

Seeds numerous, angular. *Receptacle* faſtened to the middle of the partition.

Obs. *The calyx and corolla vary in figure, and the ſtamens in their inſertion.*

ESSENTIAL CHARACTER.

Cal. obſcurely five-toothed. *Cor.* border five-cleft, equal: lobes cordate. *Capſ.* two-celled.

SPECIES.

1. Buchnera americana. *North-American Buchnera.*
Lin. ſpec. 879. *ſyſt.* 571. *Reich.* 3. 177.
Cortuſæ ſ. Verbaſci ſpecies, caule non ramoſo, flor. violaceis. *Gron. virg.* 74.
Leaves toothed lanceolate three-nerved.

2. Buchnera cernua. *Drooping Buchnera.*
Lin. ſyſt. 571. *Reich.* 3. 177. *mant.* 251.
Leaves wedged five-toothed ſmooth, flowers ſpiked, ſtem ſhrubby.

3. Buchnera cuneifolia. *Wedge-leaved Buchnera.*
Lin. ſyſt. 571. *ſuppl.* 288.
Leaves wedge-form ſmooth ſeven-toothed at the end.

4. Buchnera cordifolia. *Heart-leaved Buchnera.*
Lin. ſyſt. 571. *ſuppl.* 287.
Stem four-cornered; leaves oppoſite cordate three-nerved ſerrate, racemes terminal ſubſpiked.

5. Buchnera grandiflora. *Great-flowered Buchnera.*
Lin. ſyſt. 571. *ſuppl.* 287.
Scabrous; leaves oppoſite ſeſſile oblong entire; peduncles axillary one-flowered two-leaved; calyx funnel-form.

6. Buchnera æthiopica.
Lin. ſyſt. 572. *Reich.* 3. 178. *mant.* 251.
Leaves three-toothed; flowers peduncled; ſtem ſhrubby.

7. Buchnera capenſis.
Lin. ſyſt. 572. *Reich.* 3. 178. *mant.* 88.
Leaves toothed linear; calyxes pubeſcent.

8. Buchnera aſiatica. *Eaſtern Buchnera.*
Lin. ſpec. 879. *ſyſt.* 572. *Reich.* 3. 179.
Leaves quite entire linear; calyxes ſcabrous.

9. Buchnera pinnatifida. *Pinnatifid-leaved Buchnera.*
Lin. ſyſt. 572. *ſuppl.* 288.
Leaves pinnatifid ſmooth.

10. Buchnera viſcoſa. *Clammy Buchnera.*
L'Herit. ſtirp. nov. 2. *t.* 34. *Ait. hort. kew.* 2. 357. *Curtis magaz. t.* 217.
Leaves linear-lanceolate looſely toothed ſomewhat glutinous; flowers peduncled; ſtem ſhrubby.

11. Buchnera elongata.
Swartz prodr. 92.
Piripea paluſtris. *Aubl. guian.* 627. *t.* 253.
Ageratum. *Plum. ic.* 19. *t.* 17.
Leaves entire oppoſite, calyxes ſomewhat hairy longer than the fruit.

DESCRIPTIONS, &c.

1. Stem ſcarcely branching. Flowers in a ſpike remote from each other. Two of the ſtamens in the jaws of the corolla, and two in the middle of the tube. The herb grows black in drying. It is a native of Virginia and Canada[a].

2. This is a ſhrub, half a foot in height, branching regularly, a little jointed from the ſcars left by the leaves, purpliſh. Leaves oppoſite, but often in threes, ſeſſile, ſmooth and even, not ſhorter than the internodes, with two ſharp ſerratures on each ſide of the tip. Spikes terminating, ſolitary, oblong. Flowers ſeſſile, erect; with a linear, ſharp bracte, ſhorter than the calyx, and two ſhorter, lateral briſtles. Calyx tubular, oblong, ſemiquinquefid, equal; the ſegments connected by a membrane. Corolla white, with a filiform tube, twice as long as the calyx, and bent back; border flat, five parted; ſegments ſubovate. Anthers within the jaws, two lower than the other two. Stigma incloſed, reflex, thickiſh. Native of the Cape of Good Hope[b].

3. This was found at the Cape by Thunberg[c].

4. This was obſerved near gardens about Tanſchaur or Tanjour in the Eaſt Indies by Koenig, on whoſe authority it is referred to this genus, from which in habit it is widely different; for it is more like the Vervains[d].

5. This is a very beautiful plant, with an upright, ſmooth, and very ſimple ſtem. Leaves five-nerved. Peduncles on the top of the ſtem, ſolitary, ſhorter than the leaves; in the middle, two oppoſite, linear-ſubulate bractes. Calyx cylindric, long, five-toothed, only half the length of the tube of the corolla, which gradually ſpreads out into a flat, large, five-lobed border; the lobes rounded. Linneus, not having ſeen the fruit, is not certain that it belongs to this genus; and obſerves, that it is not much unlike the Gerardias, drying black like G. nigrina. It was found in South America, by Mutis[e].

6. Stem ſuffruticoſe, half a foot high, extremely branching; branches ſcarce apparently pubeſcent. Leaves oppoſite, ſeſſile, lanceolate, the ſize of thoſe of knot-graſs (Polygonum aviculare), ſmoothiſh, and generally having a tooth on each ſide below the tip. Flowers towards the tops of the branches, lateral, oppoſite. Peduncles one-flowered, longer than the leaves, erect. Calyx ſomewhat hiſpid. Corolla yellow, the tube quite as long as the calyx. Capſule ovate-oblong, ſcarcely longer than the calyx. Native of the Cape of Good Hope[f].

7. This is a ſmall plant, with the flowers in terminating ſpikes, and is allied to *Rhinanthus africanus*. It differs from the foregoing, in having a pubeſcent, viſcid ſtem, branching only at top, two remote teeth on each ſide to the leaves, and an annual root. It is alſo a native of the Cape[g].

8. The corolla has a bifid purple border, one of the ſegments almoſt upright, and trifid, the other ſpreading, and widely cordate[h]: the tube is filiform, twice as long as the calyx, bent in at the neck, incloſing the four ſtamens. The ſpikes are long, with the flowers alternate and remote. Leaves rugged, alternate, but towards the baſe oppoſite. Stem with alternate branches, and the habit of *Euphraſia*, obtuſely four-cornered. Native of Ceylon and China[i].

9. Found at the Cape of Good Hope, by Thunberg[k].

10. The flowers are purple with a yellow eye. It cannot boaſt much beauty, but it occupies little room, and flowers during moſt of the ſummer. It was found at the Cape by Maſſon, and was introduced here in 1774[l].

11. Native of South America and Jamaica[m].

PROPAGATION AND CULTURE.

Of theſe plants the tenth only has yet been introduced into culture among us, and that grows readily from cuttings, as probably many of the others will do. The firſt ſort is hardy. The ſecond, third, ſixth, ſeventh, ninth, and tenth, being natives of the Cape, will require the protection of the dry ſtove, conſervatory, or glaſs-caſe. The fourth and eighth being natives of the Eaſt Indies; the fifth and eleventh of South America and the Weſt InIndies, muſt be kept in the bark ſtove, whenever they ſhall be cultivated among us.]

[BUCĪDA. (*Browne had named this tree* Bucĕras, *from the ſhape of a proceſs terminating the ſpike, like a bull's horn. Linneus, I know not why, changed it to* Bucida. *Nicander, in Alexiph. has a plant named* Βουκερας or Βουκεραος.)

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[a] Linn.

[b] Linn. [c] Linn. ſuppl. [d] Ibid. [e] Ibid. [f] Linn. mant. [g] Ibid. [h] Linn. ſyſt. [i] Linn. ſpec. [k] Linn. ſuppl. [l] Hort. kew. [m] Swartz.

Lin. gen. n. 541. *Reich.* 602. *Schreb.* 758.
Buceras. *Brown. t.* 23. *f.* 1.
Claſſ. 10. 1. Decandria Monogynia.
Nat. order of *Holoraceæ. Elæagni* Juſſ. p. 75.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-form, obſcurely five-toothed, ſuperior, permanent.
Cor. none.
Stam. *Filaments* ten, capillary, inſerted into the baſe of the calyx, and longer than it. *Anthers* cordate, erect.
Pist. *Germ* inferior, ovate. *Style* filiform, the length of the ſtamens. *Stigma* obtuſe.
Per. *Berry* dry, ovate, one-celled, crowned with the calyx.
Seed one, ovate.

ESSENTIAL CHARACTER.

Cal. five-toothed, ſuperior. *Cor.* none. *Berry* one-ſeeded.

SPECIES.

1. Bucida Buceras. *Olive Bark Tree.*
Lin. ſyſt. 409. *Reich:* 2. 303. *amæn.* 5. 397. *Swartz obſ.* 180.
Buceras. *Brown. jam.* 221. *t.* 23. *f.* 1.
Mangle. *Sloan. jam.* 2. 67. *n.* 54. *t.* 189. *f.* 3. *Raii dendr.* 116. *n.* 2.

DESCRIPTION, &c.

This is a tree growing from twenty to thirty feet in height; the branches and twigs are divaricate or flexuoſe, roundiſh, ſmooth and even. The leaves are crowded at the forkings of the twigs; they are petioled, obovate, quite entire, nerved, veined, ſmooth, and the younger ones are hoary underneath. Flowers in racemes (ſpikes, *Linn. Browne*, and *Juſſ.*) from the axils of the crowded leaves, ſimple, longer than the leaves, ſpreading, many-flowered. Peduncles round, long, hoary; flowers yellowiſh. The ends of the twigs (flower-ſpikes, *Browne*) ſometimes ſhoot out into a monſtrous excreſcence, ſomething in the form of a bull's horn (whence the name of the tree); ſeldom leſs than three inches in length, though never above a line and half in diameter. Calyx hoary without, tomentoſe within. Filaments twice as long as the calyx. Anthers roundiſh, yellow. Germ flatted, with ten ſtreaks at the baſe. Style ſubulate, hirſute at the baſe.

Browne obſerves, that this tree is remarkable for its ſlender crooked branches, and the tufted diſpoſition of the leaves: that it grows to a conſiderable ſize, is reckoned an excellent timber tree, and that the bark is greatly eſteemed by the tanners.

It is a native of the Weſt Indies, in low ſwampy clayey lands near the coaſt; flowering in ſpring. In Jamaica it is called *Black Olive*; in Antigua, *French Oak.* In the French iſlands, *Grignon.*

Buck-bean. See *Menyanthes.*

Buckler-Mustard. See *Biſcutella* and *Clypeola.*]

Buck'shorn. See *Plantago.*

[Buckthorn. See *Rhamnus.*

Buck-wheat. See *Polygonum.*]

Budding. See *Inoculating.*

BUDDLĒA. (*Named by Dr. Houſtoun from Adam Buddle, who is often mentioned in Ray's ſynopſis. His dried collection of Britiſh plants is preſerved in the Britiſh Muſeum.*)
Lin. gen. n. 140. *Reich.* 146. *Schreb.* 184. *Houſt. philoſ. tranſ. & reliq. Houſt. t.* 3. *Gærtn. t.* 49. *Juſſ.* 118.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Perſonatæ? Scrophulariæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* very ſmall, four-cleft, acute, erect, permanent.
Cor. monopetalous, bell-form, four-cleft half way, erect, three times greater than the calyx: *diviſions* ovate, ſtraight, acute.
Stam. *Filaments* four, very ſhort, placed at the diviſions of the corolla. *Anthers* very ſhort, ſimple.
Pist. *Germ* ovate. *Style* ſimple, ſhorter by half than the corolla. *Stigma* obtuſe.
Per. *Capſule* ovate, oblong, two-furrowed, two-celled.
Seeds numerous, extremely minute; adhering to a fungous receptacle.

ESSENTIAL CHARACTER.

Cal. four-cleft. *Cor.* four-cleft. *Stam.* from the diviſions. *Capſ.* two-furrowed, two-celled, many-ſeeded.

SPECIES.

1. Buddlea americana. *Long-ſpiked Buddlea.*
Lin. ſpec. 162. *Reich.* 317. *amæn.* 5. 394. *hort. cliff.* 35. *Amm. herb.* 577. *Brown. jam.* 144. *Swartz obſ.* 47.
Verbaſci fol. minore arbor, &c. *Sloan. jam.* 2. 29. *t.* 173. *f.* 1. *Raii dendr.* 97.
Leaves ovate.
2. Buddlea occidentalis. *Spear-leaved Buddlea.*
Lin. ſpec. 162. *Reich.* 318. *Gærtn. fruct.* 1. 226. *t.* 49.
Ophioxylon. *Pluk. alm.* 270. *t.* 210. *f.* 1.
Leaves lanceolate.
[3. Buddlea virgata.
Lin. ſyſt. 154. *ſuppl.* 123.
Leaves linear-oblong obtuſe entire, racemes terminal, branches wand-like erect.
4. Buddlea incompta.
Lin. ſyſt. 154. *ſuppl.* 123.
Leaves faſcicled ovate hoary, branches flexuoſe rigid, racemes terminal.
5. Buddlea globoſa. *Round-headed Buddlea.*
Hope in act. harlem. v. 20. *par.* 2. 417. *t.* 11. *Ait. hort. kew.* 1. 150. *Curtis magaz. t.* 174.
Palquin. *Feuillée it.* 3. 51. *t.* 38.
Leaves lanceolate; heads ſolitary.
6. Buddlea ſalvifolia. *Sage-leaved Buddlea.*
Ait. hort. kew. 1. 150.]
Lantana ſalvifolia. *Lin. ſpec.* 875. *Reich.* 3. 167. *mant.* 419. *Mill. dict. n.* 12.
Leaves lanceolate-ovate cordate wrinkled.
[7. Buddlea aſiatica.
Lour. cochinch. 72.
Leaves lanceolate-linear wrinkled ſmooth, ſpikes full.
8. Buddlea ternata.
Lour. cochinch. 72.
Leaves ternate acuminate, peduncles one-flowered.

DESCRIPTIONS, &c.

1. This is a ſhrub, the height of a man (Browne ſays, four feet or better) branched, and all over hoary. Leaves ovate-lanceolate, oppoſite, ſerrate. Flowers in long, ſlender ſpikes, axillary and terminating; compoſed of little, oppoſite, many-flowered, crowded racemes. Corolla coriaceous, ſcarcely longer than the calyx; diviſions upright, yellow within, hoary on the outſide[a].

Sloane ſays, that it riſes to nine or ten feet,] and Miller, ten or twelve feet in height, with a thick ſtem, covered with a gray bark, and ſending out many oppoſite branches towards the top; that the leaves are covered with a brown hairy down; and that it was ſent him by Dr. Houſtoun, from Jamaica, in 1730.

[Browne informs us, that it is uſed in emollient baths and fomentations, and is thought to have all the properties of Mullein.

Swartz doubts whether it be different from the next ſpecies.]

2. This ſort riſes much taller than the firſt, and divides into a great number of ſlender branches, which are covered with a ruſſet hairy bark, with long ſpear-ſhaped leaves, ending in ſharp points: theſe grow oppoſite at every joint; at the end of the branches are produced branching ſpikes of white flowers, growing in whorls round the ſtalks, with ſmall ſpaces between each. It has long, narrow, ſpear-ſhaped leaves growing between the ſpikes, whereas thoſe of the other ſort are naked. The leaves of this are much thinner than thoſe of the firſt ſort, and have ſcarce any down on their under ſide; the ſpikes of flowers grow more erect, and form a large looſe ſpike at the end of every branch.

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[a] Swartz.

It grows naturally in gullies or other low ſheltered ſpots, in the Weſt-Indies; the branches being too tender to reſiſt the force of ſtrong winds, are rarely ſeen in open ſituations.

It was ſent to Mr. Miller from Carthagena, by Dr. Houſtoun.

[The capſule is deſcribed by Gærtner as ſmall, pubeſcent with a ſhort nap, covered with the calyx and corolla, which are alſo tomentoſe, elliptic, marked with a depreſſed furrow on each ſide: partition formed of the edges of the valves bent in, doubled and narrow. Receptacle fungous, oblong, in the axis of the fruit, ſtrengthened by the partition. Seeds extremely numerous, irregular like ſawduſt, acuminate at both ends and outwardly as it were tailed, flatted a little, marked with raiſed rugged ſtreaks, pale rufeſcent.

3. This has the habit of Hyſſop. The branches and leaves are hoary with a very fine nap[b].

4. This and the foregoing were found at the Cape of Good Hope by Thunberg[c].

5. The leaves are ſerrate, ſeſſile, acuminate, tomentoſe underneath. The flowers are of a yellow or orange colour, in cloſe peduncled heads from the axils two together on oppoſite ſides of the ſtalk and branches.

It is a native of Chili; was introduced in 1774, by Meſſ. Kennedy and Lee; and flowers in may and june[d].]

6. This riſes with a ſhrubby four-cornered ſtalk eight or ten feet high, covered with a pale looſe bark, and ſends out many ſide branches. Leaves five or ſix inches long, ſtem-claſping, acuminate, downy on the under ſide. The branches are terminated by looſe ſpikes of pale purple flowers, covered with a meally down.

[It has ſubovate ſtipules in pairs, which led Linneus to doubt whether it belonged to the genus *Lantana*, where he had placed it, before he had an opportunity of obſerving the fruit.

It is a native of the Cape of Good Hope; and was cultivated by Mr. Miller in 1760. It flowers in auguſt and ſeptember[e].

7. Stem ſuffruticoſe, three feet high, with aſcending branches. Leaves long, not interrupted. Calyx inferior, four-parted with ſubulate, upright ſegments. Diviſions of the corolla rounded. Filaments placed below the mouth of the tube. Germ oblong. Style equal to the ſtamens. Stigma longiſh, bifid.

8. Stem ſuffruticoſe, two feet high, upright, round, branched. Leaflets lanceolate, ſerrate. Flower white, on axillary peduncles. Segments of the calyx converging. Nectary hairy. Stigma bifid. Theſe are both natives of Cochinchina[f].]

PROPAGATION AND CULTURE.

1, 2. They are propagated by ſeeds, which ſhould be obtained from the countries where they naturally grow, for they do not perfect them in England. Theſe ſhould be brought over in their capſules or pods, for thoſe which are taken out before they are ſent ſeldom grow. They ſhould be ſown in ſmall pots, filled with rich light earth, and very lightly covered with the ſame; for as theſe ſeeds are very ſmall, if they are buried deep in the ground, they periſh. The pots ſhould be plunged into a moderate hot-bed, and muſt be every third or fourth day gently watered, being very careful not to waſh the ſeeds out of the ground, by too haſty watering them. If the ſeeds are freſh and good, the plants will come up in about ſix weeks, provided they are ſown in the ſpring; and if they grow kindly, will be large enough to tranſplant in about two months after. Then they ſhould be carefully ſeparated, and each planted into a ſmall pot, filled with light rich earth, and plunged into the hot-bed again, obſerving to ſhade them from the ſun until they have taken new root, as alſo to refreſh them with water when they require it. After the plants have taken freſh root in the pots, there ſhould be freſh air admitted to them every day, in proportion to the warmth of the ſeaſon; they muſt alſo be frequently, but moderately, refreſhed with water. If the plants thrive well, they will have filled theſe ſmall pots with their roots by the middle of auguſt, at which time it will be proper to ſhift them into pots one ſize larger, that they may have time to take good root again, before the cold weather comes on. When theſe are new potted, the tan ſhould be turned over to renew the heat; and if it is wanted, ſome freſh tan muſt be added to the bed, to encourage the roots of the plants. In this bed they may remain till autumn, when they muſt be removed into the ſtove, and plunged into the tan-bed; where they muſt conſtantly remain, for they are too tender to thrive in this country, if they are not ſo treated. During the winter they muſt have but little water, and ſhould be kept warm; but in ſummer they ſhould have freſh air admitted to them conſtantly when the weather is warm, and frequently ſprinkled all over with water. With this management, the plants will flower the fourth year from ſeeds, and continue ſo to do every year after, and will make a good appearance in the ſtove.

5, 6. May be propagated by cuttings, on an old hot-bed in july, covered with a bell or hand-glaſs, and ſhaded from the ſun: in a month they will have taken root, and may then be planted in pots, placed in the ſhade, till they have taken freſh root, when they ſhould be removed to a ſheltered ſituation till the winter; and then they muſt be preſerved in the conſervatory, or dry ſtove. The fifth will flower well and live through a mild winter in an open border, provided it be in a warm ſheltered ſituation.

[**BUFFONIA.** (*So named from the celebrated Count De Buffon.*)

Lin. gen. n. 168. *Reich.* 180. *Schreb.* 225. *Juſſ.* 300. *Gærtn. t.* 129. *Sauvages.* Alſinoides *Raii.*

Claſſ. 4. 2. Tetrandria Digynia.

Nat. order of *Caryophyllei.*

GENERIC CHARACTER.

CAL. *Perianth* four-leaved, erect, permanent: *leaflets* ſubulate, keeled with membranaceous edges.

COR. *Petals* four, oval, emarginate, erect, equal, ſhorter than the calyx.

STAM. *Filaments* four, equal, the length of the germ. *Anthers* twin.

PIST. *Germ* ovate, compreſſed. *Styles* two, the length of the ſtamens. *Stigmas* ſimple.

PER. *Capſule* oval, compreſſed, one-celled, two-valved.

SEEDS two, oval, compreſſed with a ſwelling, convex on one ſide.

OBS. *Loefling obſerved four ſtamens, but afterwards retracted; Alſtroemer with attentive obſervation ever diſcovered that number; Gerard remarked ſometimes two, ſeldom three, often four ſtamens. Villars four, ſometimes two.*

ESSENTIAL CHARACTER.

Cal. four-leaved. *Cor.* four-petalled. *Capſ.* one-celled, two-ſeeded.

SPECIES.

1. Buffonia tenuifolia. *Small Buffonia,* or *Baſtard Chickweed.*

Lin. ſpec. 179. *ſyſt.* 167. *Reich.* 351. *amæn.* 1. 386. *Hudſ. angl.* 72. *With.* 164. *Ger. prov.* 400. *Sauv. monſp.* 141. *Loefl. it.* 44. *Villars dauph.* 650. *Gærtn. fruct.* 2. 220. *t.* 129.

Polygonum. *Magn. monſp. t.* 211. *Raii hiſt.* 1026. 9.

Herniaria. *Magn. hort. t.* 97.

Alſinoides, ſ. Alſine polygonoides, &c. *Raii ſyn.* 346. *Pluk. alm.* 22. *t.* 75. *f.* 3.

DESCRIPTION, &c.

Root annual, long, ſlender, firmly fixed, but having few, almoſt naked, filiform fibres. *Stem* half a foot to a foot in height, upright, round, commonly branched at the baſe; branches diffuſed, procumbent: there are alſo ſmaller branches higher up, which are ſtraight, contracted, ſubdivided: the ſwelling joints are more frequent at bottom, and become very diſtant towards the top ; the internodes are round, where there are no branches, but ſomewhat angular about the origin of the branches which are ancipital at the baſe ; they are ſmooth and ſlightly ſtreaked. *Leaves* in pairs at each joint, reſembling graſs leaves, coadunate at the baſe, with a ſhort, ſubventricoſe, three-nerved ſheath ; they are linear-ſetaceous, narrowing gradually, entire, ſmooth, very finely ciliate at bottom ; the lower ones are longer, the upper ones ſhorter than the internodes ; when the plant is in flower they are dry and ſhrivelled, but permanent. Rudiments of leaves and branches ſometimes burſt from the axils. *Flowers* in thin, filiform ſpikes (or contracted panicles), preſſed cloſe to the branches, at the baſe of the leaves ; the lateral ones ſeſſile and axillary, the terminating peduncled. Calyx herbaceous, quadrifid ; ſegments lanceolate, ſharp, concave within, white about the edge, diaphanous. Petals obtuſe, membranaceous, diaphanous, ſhorter by half than the calyx, and fixed to the baſe of it ; they are in pairs, approximating and oppoſite. Stamens two, ſometimes four ; filaments extremely ſlender, ſhorter than the corolla, faſtened to the receptacle. Anthers ſaffron-coloured. Capſule ſplits at top into two parts. Seeds blackiſh, retuſe at the end[a].

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[b] Linn. ſuppl. [c] Ibid. [d] Hort. kew. [e] Ibid. [f] Loureiro.

Linneus marks it as perennial, all other authors ſpeak of it as annual. Ray firſt noticed this little plant, in England : he alſo found it near Montpellier. It is found wild in France, Italy, and Spain : and with us it has been obſerved by Mr. Ray on the ſea coaſt of Lincolnſhire about Boſton ; and by Mr. Doody on Hounſlow heath. It flowers in may and june.

Bugle. See *Ajuga.*

Bugloss, Buglossa, and Buglossum. See *Anchuſa, Aſperugo, Borago, Lithoſpermum, Lycopſis.*

——— Viper's. See *Echium.*

Buglossum echioides. See *Picris.*

——— littoreum. See *Scævola.*

Bugula. See *Ajuga, Cleonia,* and *Teucrium.*]

Bulbine. See *Anthericum,* and *Crinum.*

Bulbocastanum. See *Bunium,* and *Chærophyllum.*

BULBOCODIUM. (Βολβος *a bulb, and* κώδιον *wool.*)
Lin. gen. n. 407. *Reich.* 440. *Schreb.* 555. *Juſſ.* 54.
Claſſ. 6. 1. Hexandria Monogynia.
Liliaceous plants. Order *Spathaceæ. Narciſſi* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. hexapetalous, funnel-form : *claws* very long, linear : *throat* connecting the petals : *border* erect ; petals lanceolate, concave.

Stam. *Filaments* ſix, ſubulate, inſerted into the claws of the petals. *Anthers* incumbent.

Pist. *Germ* ovate-ſubulate, obtuſely three-cornered, ſuperior. *Style* filiform, the length of the ſtamens. *Stigmas* three, oblong, erect, channelled.

Per. *Capſule* triangular, acuminate, angles obſcure, three-celled.

Seeds numerous.

ESSENTIAL CHARACTER.

Cor. funnel-form, hexapetalous, with narrow claws bearing the ſtamens. *Capſ.* ſuperior.

SPECIES.

1. Bulbocodium vernum. *Spring-flowering Bulbocodium.*
Lin. ſpec. 422. *Reich.* 2. 28. *hort. cliff.* 133. *Jungh. ic. cent.* 1. *f.* 1. *Retz. obſ.* 2. 17. *n.* 44. *t.* 1. *Curt. magaz. t.* 153.
Colchicum vernum. *Cluſ. hiſt.* 2. *app.* 203. *Park. parad.* 158. *n.* 18. *t.* 159. *f.* 7. *Ger. emac.* 160. *n.* 13. 163. *f.* 13. *Raii hiſt.* 1172. 11.—hiſpanicum. *Bauh. pin.* 69.—fl. purpureo. *Rudb. elyſ.* 2. 128. *f.* 2.
Leaves lanceolate.

[DESCRIPTION, *&c.*

The bulb or hybernacle, commonly called the root, reſembles that of the common *Colchicum* in ſhape, but is much ſmaller; it is covered with a dark-brown ſkin. Some time in january, or not later than the middle of february, according to the ſeaſon, the flower ſprings up incloſed within three browniſh green leaves, which opening themſelves as ſoon almoſt as they are out of the ground, ſhow their buds for flowers within them very white oftentimes, before they open far, and ſometimes alſo purpliſh at firſt appearing. There is frequently only one flower, but never more than two flowers on a root ; they never riſe above the leaves, nor the leaves much higher than they, whilſt they laſt ; they are ſmaller than thoſe of Colchicum ; at firſt are of a pale red or deep bluſh colour, but afterwards change to a bright purple : and continue long in beauty, if the weather be not ſevere. After the flowers are paſt, the leaves grow to the length of a man's longeſt finger ; and in the middle of them riſes up the ſeed-veſſel, which is ſmaller, ſhorter, and harder than that of *Colchicum,* and contains many, ſmall, round, brown ſeeds[b].

It has the habit of *Colchicum,* but differs in having only one ſtyle : from *Crocus,* which it much reſembles, it is diſtinguiſhed by the number of its ſtamens. The flower is radical, as in them ; and varies in colour. Sometimes one-third part of the fructification is taken away ; that is, the flower has only four petals and four ſtamens[c].

It is a native of Spain, and alſo of Ruſſia, in mountainous ſituations. Mr. Miller cultivated it in 1731[d] ; but he ſays, that it has been long cultivated in gardens. It is well obſerved by Mr. Curtis, that Parkinſon gives ſuch a minute deſcription of it as to convince us that he muſt have cultivated it himſelf (1629). And ſince Johnſon, in his additions to Gerarde's herbal (1633) tells us, that the *Colchicums,* of which this is one, may for the moſt part be found in the gardens of the floriſts among us[e]; and refers ſuch as deſire their further acquaintance to the gardens of Parkinſon, Tuggie, &c.[f] We may fairly conclude, that the Spring Meadow-Saffron, as they call it, was then in our gardens, among other bulbous plants. At preſent it is a rare plant among us ; the bulbs not admitting of much increaſe, and being liable to damage from froſt[g].]

PROPAGATION AND CULTURE.

This plant is propagated by offsets, in the ſame manner as other bulbous rooted flowers. The time to remove them, is ſoon after their leaves decay, but the roots may be kept out of the ground two months without prejudice at that ſeaſon. They ſhould not be removed oftener than every third year, for the roots do not multiply very faſt, by ſuffering them therefore to remain, they will flower much ſtronger, and make a greater increaſe than if they are often taken up.

It ſhould have a warmer ſituation, and may be planted in a ſouth border, in a freſh loamy ſoil, but not dunged. It may alſo be propagated by ſeeds, which ſhould be ſown in pots filled with freſh loamy earth in ſeptember, and the latter end of october, the pots ſhould be placed under a frame, to protect them from ſevere froſt ; in the ſpring the plants will appear, when they may be removed out of the frame, and placed where they may have the morning ſun, but ſcreened from the ſouth. In very dry weather, they ſhould be refreſhed now and then with a little water, while their leaves continue green ; but, when theſe decay, the pots ſhould be removed to a ſhady ſituation, where they may remain till autumn, obſerving to keep them clean from weeds. In october there ſhould be a little freſh earth laid on the ſurface of the other, and the pots placed in ſhelter again till the following ſpring, when they muſt be treated in the ſame manner as the former year, till their leaves decay ; then the roots ſhould be carefully taken up, and tranſplanted into the borders of the flower-garden, treating them as the old roots ; the ſpring following they will produce their flowers.

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[a] Gerard. fl. gallo-provinc.

[b] Parkinſon parad. [c] Pallas it. 651. [d] Hort. kew.
[e] Herbal, p. 162. [f] Idem. p. 161. [g] Curtis.

Bulbocodium. See *Anthericum, Ixia, Narciſſus.*

[Bulbocodium alpinum. See *Anthericum ſerotinum.*

Bull-rush. See *Scirpus.*

BUMALDA.

Thunb. nov. gen. 62. *jap.* 8. *Lin. gen. Schreb.* 453. *Juſſ.* 381.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Dumoſæ. Rhamni* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted almoſt to the baſe: *diviſions* ovate, obtuſe, concave, a little ſhorter than the corolla.

Cor. five petalled. *Petals* linear-obovate, inſerted into the germ.

Stam. *Filaments* five, inſerted into the claws of the petals, filiform, erect, rough with hairs, almoſt the length of the corolla. *Anthers* inſerted into the back, ovate, twin.

Pist. *Germ* ſuperior, conic, villoſe. *Styles* two, erect, villoſe, the length of the filaments. *Stigmas* ſimple, headed, truncate.

Per. ſeems to be a two-celled capſule.

Seeds

ESSENTIAL CHARACTER.

Cor. five-petalled. *Styles* villoſe. *Capſ.* two-celled, two-beaked.

SPECIES.

1. Bumalda trifolia.
Lin. ſyſt. 270. *Thunb. jap.* 114.

DESCRIPTION, &c.

Stem ſhrubby. Branches cloſe, in all parts ſmooth. Branches obſcurely angular, jointed, purple; diviſions oppoſite, filiform, much ſpreading, leafy. Leaves oppoſite, petioled, ternate: leaflets ovate, acuminate, finely ſerrate, pale underneath, on very ſhort, capillary petioles, ſpreading very much, or reflex. Flowers terminating the branches in racemes, on capillary peduncles. Native of Japan[a].]

[BUMELIA. (Βουμελια, *Bubula fraxinus, the name of a tree in Theophraſtus. Bumelia, Plin. ſuppoſed to be a ſort of Aſh.*)

Swartz prodr. 49. *Lin. gen. Schreb. n.* 1736.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* roundiſh-ovate, incumbent, concave.

Cor. one-petalled, five-cleft or five-parted. *Tube* very ſhort, round. *Border* five-parted; *parts* ovate, entire, ſpreading, concave; with two little ſcales at the baſe of each.

Nectary five-leaved: ſegments ſmaller than the corolla, at the baſe of the filaments, ſurrounding the germ, acute.

Stam. *Filaments* five, inſerted into the corolla, at the bottom of the tube, between the lower ſegments, the length of the tube. *Anthers* ovate, erect.

Pist. *Germ* ſuperior, ovate. *Style* thick, erect, ſhorter than the ſtamens. *Stigma* obtuſe.

Per. *Drupe* oval.

Seed. *Kernel* ſingle, oblong, ſmooth, with a lateral ſcar.

ESSENTIAL CHARACTER.

Cor. five-cleft, with a five-leaved nectary. *Drupe* one-ſeeded.

SPECIES.

1. Bumelia nigra. *Black Bumelia.*
Swartz prodr. 49. 1.
Achras 6. *Brown. jam.* 201.
Branches wand-like ſpreading, leaves terminating oblong-lanceolate ſmooth, waved about the edge, branchlets flower-bearing.

2. Bumelia pallida. *Pale Bumelia.*
Swartz prodr. 49. 2.
Branches upright, leaves terminating elliptic obtuſe, flowers crowded lateral.

3. Bumelia retuſa. *Retuſe-leaved Bumelia.*
Swartz prodr. 49. 3.
Achras 7. *Brown. jam.* 201.
Leaves oppoſite wedge-ovate retuſe rigid, flowers crowded axillary.

4. Bumelia montana. *Mountain Bumelia.*
Swartz prodr. 49. 4.
Leaves ſcattered alternate oblong obtuſe, flowers axillary peduncled.

5. Bumelia ſalicifolia. *Willow-leaved Bumelia.*
Swartz prodr. 50. 5.
Achras ſalicifolia. *Linn.*
Leaves lanceolate-ovate acuminate, flowers crowded axillary and lateral.

6. Bumelia rotundifolia. *Round-leaved Bumelia.*
Swartz prodr. 50. 6.
Leaves ſuborbiculate, margined veined coriaceous ſmooth on both ſides.

7. Bumelia pentagona. *Pentagon-fruited Bumelia.*
Swartz prodr. 50. 7.
Leaves lanceolate acuminate ſhining, flowers axillary, drupes five-cornered.

DESCRIPTIONS, &c.

Theſe are all trees or ſhrubs, and natives of the Weſt Indies.

1. Browne calls this Baſtard Bully-Tree. He only deſcribes the fruit, which he ſays is ſmall, ſmooth, and ſcattered over the branches, containing roundiſh ſeeds, marked with a very ſmall ovate ſcar. It is a native of Jamaica.

2. This alſo is a native of the ſame iſland.

3. Browne calls this the Mountain Baſtard Bully-Tree; and ſays, that it has a ſmall ſmooth fruit. It is a native of Jamaica and other iſlands of the Weſt Indies.

4. Native of Jamaica.

5. This has been already noticed under the name of *Achras ſalicifolia*, which ſee.

6, 7. Natives of the Weſt Indies: the laſt, of the iſland of St. Vincent.]

BUNIAS. (Βουνὸς, *a hill.*)

Lin. gen. n. 823. *Reich.* 887. *Schreb.* 1070. *Gærtn. t.* 142. *Juſſ.* 241. Erucago. *Tournef.* 103.

Claſſ. 15. 2. Tetradynamia Siliquoſa.

Nat. order of *Siliquoſæ. Cruciferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved; *leaflets* ovate-oblong, ſpreading, deciduous.

Cor. tetrapetalous, cruciform. *Petals* obovate, twice as long as the calyx: *claws* attenuated, erect.

Stam. *Filaments* ſix, the length of the calyx; of which two oppoſite a little ſhorter. *Anthers* erect, bifid at the baſe.

Pist. *Germ* oblong. *Style* none. *Stigma* obtuſe.

Per. *Silicle* irregular, ovate-oblong, four-ſided, the angles with an acumen or two, not burſting, deciduous.

Seeds few, one under each acumen of the ſilicle, roundiſh.

ESSENTIAL CHARACTER.

Silicle deciduous, four-ſided, muricated with unequal acuminate angles.

SPECIES.

[1. Bunias cornuta. *Horned Bunias.*
Lin. ſpec. 935. *Reich.* 3. 285.
Burſa paſtoris orientalis, drabæ fol., ſil. cornutis. *Tourn. cor.* 15.
Silicles divaricate, two-horned, ſpiny at the baſe.

2. Bunias ſpinoſa. *Thorny Bunias.*
Lin. ſyſt. 603. *Reich.* 3. 286. *mant.* 96. *Gærtn. fruct.* 2. 290.
Zilla myagroides. *Forſk. ægypt.* 121. *n.* 74. *ic. t.* 17. *f.* A.
Braſſica ſpinoſa. *Alp. exot.* 201. *t.* 200. *Bauh. pin.* 111. *prodr.* 54. *fig. Raii hiſt.* 797. *Park.* 270.
Crambe ſpinoſiſſ. arabica, &c. *Shaw. afr.* 179.
Racemes ſpineſcent.]

3. Bunias Erucago. *Prickly-podded Bunias.*
Lin. ſpec. 935. *Reich.* 3. 286. *hort. cliff.* 340. *upſ.* 182. *Gærtn. fruct.* 2. 291. *Hall. helv. n.* 528. *Sauv. monſp.* 285. *Jacq. auſtr.* 4. *t.* 340. *Allion. pedem. n.* 939. *Villars dauph.* 308.
Myagrum Erucago. *Crantz. crucif.* 103. *n.* 7.
Sinapi echinatum. *Bauh. hiſt.* 2. 858.

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[a] Thunberg.

Eruca monſpeliaca, fil. quadrangula echinata. *Bauh. pin.* 99. *prodr.* 41. *fig. Raii hiſt.* 804. *Park.* 821. *f.* 3.
Silicles four-cornered, angles two-creſted.

4. Bunias orientalis. *Oriental Bunias.*
Lin. ſpec. 936. *Reich.* 3. 286. *hort. upſ.* 186. *Gmel. ſib.* 3. 256. *n.* 16. *t.* 57. *Gærtn. fruct.* 2. 291.
Crambe orient. dentis leonis fol. erucaginis facie. *Tourn. cor.* 41.
Silicles ovate, gibboſe, warted.

[5. Bunias cochlearioides. *Scurvy-graſs Bunias.*
Lin. ſyſt. 603. *Murr. in comm. gott.* 1777. *p.* 42. *t.* 3.
Silicles cordate-ovate, even, inflected.]

6. Bunias Cakile. *Sea Rocket.*
Lin. ſpec. 936. *Reich.* 3. 287. *mant.* 430. *fl. ſuec. n.* 613. *Hudſ. angl.* 298. *With.* 716. *Lightf. ſcot.* 363.
Raphanus. *Lin. hort. cliff.* 340. *Gron. virg.* 98. *Sauv. monſp.* 285.
Cakile maritima. *Scop. carn. n.* 844.
C. ſerapionis. *Lob. ic.* 223.
C. ſ. Eruca marina & Raphanus marinus. *Bauh. hiſt.* 2. 867. *fig.* 868. *Raii ſyn.* 307.
Eruca maritima italica, fil. haſtæ cuſpidi ſimili. *Bauh. pin.* 99.
E. marina. *Ger. emac.* 248. 5. *Raii hiſt.* 840.—anglica. *Park.* 821. 1. *Pet. herb. t.* 46. *f.* 6.
E. fil. toroſa. *Mor. hiſt.* 2. *ſ.* 3. *t.* 6. *f.* 20.
β. Cakile ſ. Eruca maritima latifolia. *Bauh. hiſt.* 2. 868.
γ. *With pinnatifid linear fleſhy leaves.*
δ. *With lanceolate gaſhed fleſhy leaves.*
Silicles ovate even ancipital.

[7. Bunias myagroides. *Myagrum-like Bunias.*
Lin. ſyſt. 603. *Reich.* 3. 287. *mant.* 96.
Silicles two-jointed, ancipital, toruloſe above, leaves pinnate with reflected ſinuſes.

8. Bunias ægyptiaca. *Egyptian Bunias.*
Lin. ſyſt. 603. *Reich.* 3. 288. *Act. petrop.* 12. 509. *t.* 9. *Jacqu. hort.* 2. *t.* 145. *Gouan. illuſtr.* 45. *Gærtn. fruct.* 2. 289.
Silicles four-cornered, wart-muricate on every ſide, leaves runcinate.

9. Bunias balearica. *Minorca Bunias.*
Lin. ſyſt. 603. *Reich.* 3. 288. *mant.* 429. *Jacqu. hort.* 2. *t.* 144. *Gouan. illuſtr.* 45. *t.* 20. B.
Silicles hiſpid, leaves pinnate, leaflets ſlightly toothed.

DESCRIPTIONS, &c.

The ſpecies of *Bunias*, properly ſo called, have the fruit ſpherical, wrinkled or echinate, one or two-celled, with one or two ſeeds, and not opening. *Erucago* of Tournefort has the fruit four-cornered, rugged-creſted at the angles, two-celled above and below, not opening, with one ſeed in each of the four cells. *Cakile* of Tournefort, has the fruit lanceolate and two-jointed, with one ſeed in each joint. Monſ. Lamarck has united Bunias and Erucago, without Cakile, to the genus *Myagrum.* Might not *Bunias*, *Erucago*, and *Cakile* rather make three diſtinct genera [a]?

1. This is a very ſingular plant. It has a ſilicle tranſverſely oval, finiſhing on each ſide in a horn or very long and ſtrong ſpine, ſo that the ſilicle reſembles a pair of horns: in the middle of the ſilicle are four ſmall ſpines, directed different ways [b]. Native of the Levant and Siberia.

2. This is an annual plant. Stems a foot high, upright, branching, ſubdivided, round, ruſhy, very ſmooth and even, green. Leaves ovate-oblong, blunt, ſomewhat angular, even, petioled. Racemes upright, ſtiff, rigid, terminating the ſmall branches, ending in compound ſpines, by the ſide of which are a few ſeſſile flowers. Calyx oblong, cloſed. Petals lanceolate, whitiſh-violet. Germ heart-ſhaped: ſtyle cylindrical, the length of the germ, permanent: ſtigma thickiſh. Silicle heart-ſhaped twin; or rather a ſuberoſe, even, ſharp drupe, incloſing a two-celled, hexangular nut, two of the oppoſite angles broader than the other two, with one roundiſh ſeed in each cell [c].

Gærtner calls the fruit a drupaceous ſilicle, drawn up from a turgid, four-cornered, ſmooth belly, into a pyramidal point, and of a pale ſtraw colour: rind thick, ſuberous: ſhell bony, with ſix flatted angles, the two middle oppoſite ones narrower than the reſt. Seeds ſolitary, ovate, or roundiſh, plano-convex. Cotyledons conduplicate, leafy. Radicle inflex, lying on the groove of the duplicature, ſuperior. Native of the Levant.]

3. This alſo is an annual plant, ſending out many branches, which ſpread, and incline towards the ground. The leaves are glaucous, and deeply divided into many ſegments, almoſt like thoſe of Swine's Creſs. The flowers are produced ſingly from the axils of the leaves, towards the extremity of the branches; they are ſmall, and of a pale yellowiſh colour. [A large gland ſurrounds the ſhorter ſtamens, and an eminent rim the longer ones. The fruit is ſhort and echinate, with four wings, divided internally into four cells; containing one round, tailed ſeed in each cell: but one of the cells is ſometimes wanting [d].

Gærtner deſcribes the fruit, as a ſmall ovate four-cornered drupaceous ſilicle, two of the ſides narrower and warted-muricate; the two wider ones marked with a double elevated ſtreak, which is crenulate or ſlightly tubercled: rind very thin and membranaceous: ſhell bony, muricate, two-celled, the cells collateral or placed ſide by ſide. Seeds ſolitary, ovate, plano-convex, rufeſcent.

Native of the South of France, Switzerland, Auſtria, and Italy. It was cultivated here in 1640 [e].]

4. Root perennial; with an annual ſtalk. There are many oblong leaves, ſpreading on every ſide near the ground, and deeply jagged on their edges, like thoſe of Dandelion. From among theſe ariſe the ſtalks, upwards of two feet high, ſending out branches, and at each joint one oblong ſharp-pointed leaf, eared at the baſe, and ſitting cloſe to the ſtalk. The branches are terminated by long looſe ſpikes of yellow flowers ſhaped like thoſe of the Cabbage, and ſucceeded by ſhort, oval, rough pods, ending in a point, and incloſing one round ſeed.

[Gærtner calls the fruit a ſubglobular or ovate-oblong drupaceous ſilicle; it is gibboſe and warted, ending in a ſhort ſtyle; the rind is fungoſe, and of a whitiſh ſtraw colour; the ſhell bony, ſmooth on the outſide, within divided into two cells, one over the other, but the upper one uſually obliterated in fruits that are ſubglobular. Seed rufeſcent. Cotyledons or lobes oblong, ſpirally convoluted.]

It grows naturally in the Levant, whence Tournefort ſent the ſeeds to the royal garden at Paris. [Alſo in Ruſſia. It was cultivated in 1739, by Mr. Miller, and flowers from may to july [f].

5. The ſeeds of this ſpecies were ſent to Murray by Dr. Pallas, who found the plant in low meadows, near the Jaik.

It is about two feet in height. The root ſlender, and fibroſe at the ſides. The ſtem and branches cornered or obſcurely furrowed, ſmooth, and branching from near the root. The branches alternate, ſlender, lengthened, ſpreading, lax, divided. Leaves in general oblong, veiny, and of an appearance between ſinuated and toothed. The racemes are terminal and long on the ſtem and branches; the calyx ſpreading, the corolla white and veiny. The ſilicle cordate-ovate, gloſſy and ſharp.

6. Sea Rocket is a ſmooth, glaucous, annual plant, with a ſaltiſh taſte. Root ſlender, woody, running deep into the ſand, and terminated by a few rigid fibres. Stem woody, about a foot high, often much more, divided from the baſe into widely divaricated branches. Leaves oblong-wedge-ſhaped, ſeſſile, deeply cut or pinnatifid, fleſhy. The flowers grow in ſhort ſpikes or cluſters, alternately on ſhort pe-

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[a] Juſſieu.

[b] Linn.

[c] Linn.

[d] Haller.

[e] Hort. kew. from Park.

[f] Hort. kew.

dicels, and are of a pale red or fleſh colour. The pods are ſhort but large and fleſhy, oval-pointed, two-celled, with one or two roundiſh ſeeds in each. The long compreſſed ſtyle forms afterwards the beak of the pod[g]. This falling off leaves a cloven baſe behind. The varieties are conſtant, but the leaves of all are fleſhy, and the fructifications alike[h].

It is a native of the ſea coaſt in many parts of Europe and North America: with us on the coaſts of Norfolk, Suffolk, Scotland, and Ireland, in deep ſand, frequently near high water mark: flowering in june and july.

7. Root annual. Stem ſtraight, two feet high, even, panicle-branched. Lower leaves pinnate or bipinnate, broader, not fleſhy, deep green, even; diviſions or pinnas oblong, toothed: the upper ones very like theſe, but narrow, linear: all have ſinuſes reflected down at the egreſs of the pinnas. Racemes terminal, long, ſtraight. Flowers ſubſeſſile. Calyx cloſed. Petals quite entire, pale purple. Style enſiform. Stigma headed, purple. Silique ſubcylindric, very ſhort, rigid, approximating to the rachis, on a ſhort peduncle; conſiſting of two joints, the lower cylindric, bivalve, one-ſeeded (ſeldom with two ſeeds), the valves marked with one ſtreak, the upper compreſſed, ſubancipital, one-ſeeded (ſeldom with two ſeeds) obtuſe, with a protuberant ear on each ſide. Native of Siberia[i].

8. Root annual. Stem a foot high, branched, hiſpid at bottom, ſmoother at top. Leaves runcinate, a little toothed, even; a few hairs underneath on the petioles. Racemes ſolitary, terminal, long. Flowers pedicelled. Calyx yellowiſh. Petals dark yellow, obtuſe, ſpreading, with erect claws. Filaments yellow, diſtant. Germ ovate, four-cornered, green. Stigma headed, yellow. Silicle different from thoſe of the next ſpecies, in being neither ſubulate-beaked, nor hairy[i].—Gærtner thus deſcribes it: the ſilicle is drupaceous, ſmall, ovate, four-cornered; the two narrower ſides warted and muricate, the two broader marked with a longitudinal double elevated ſtreak, which is crenulate or ſlightly tubercled: rind very thin, membranaceous: ſhell bony, muricate, with two cells placed ſide by ſide. Seeds ſolitary, ovate, convex on one ſide, flat on the other, ruſeſcent. Native of Egypt. Introduced in 1787, by Mr. Zier. It flowers in auguſt[k].

9. Root annual. Stem a foot high, very much branched, ſpreading, angular, even. Leaves petioled, pinnate; pinnas lanceolate, ſinuate, obtuſe, even. Peduncles racemed, very long, erect. Pedicels ſhorter than the flowers. Calyx cloſed, even, lanceolate, concave, teſtaceous. Corolla yellow; petals oblong, obtuſe, the length of the calyx. Silicles globular, echinated on every ſide with weak ſpines crowded cloſe together; beak ſubulate, ſtiff, longer than the ſilicle. Cotyledons large, ſlightly two-parted, like thoſe of Convolvulus, with roundiſh lobes. It reſembles the ſeventh: the ſilicle is like that of the third, only wholly echinated except the beak[l]. Native of Majorca and Minorca. Introduced 1781, by P. M. A. Brouſſonet, M. D.[m]]

PROPAGATION AND CULTURE.

Theſe plants are all propagated by ſeed, to be ſown where they are deſigned to remain, either in the beginning of april or in autumn. When the plants come up they ſhould be thinned to the diſtance of one foot from each other; and after that they will require no other care but to keep them clean from weeds. They are all hardy enough to flower in the open air, but ſome of them will ſcarcely perfect their ſeeds unleſs they be ſown in the autumn.

Bunias. See *Braſſica.*

BUNIUM. (Βουνιον *Dioſcor.* Bunium. *Plin. from* Βουνος, *a hill; from its affecting high ſituations.*)
Lin. gen. n. 335. *Reich.* 366. *Schreb.* 468. *Juſſ.* 223. Bulbocaſtanum. *Tournef.* 161.

Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ*, or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel univerſal* manifold, with rays fewer than twenty: *partial* very ſhort, crowded.
Involucre univerſal many-leaved, linear, ſhort: *partial* ſetaceous, the length of the umbellule.
Perianth proper ſcarcely apparent.
Cor. *univerſal* uniform: floſcules all fertile.
Proper of five, inflex-cordate, equal petals.
Stam. *Filaments* five, ſhorter than the corolla, ſimple. *Anthers* ſimple.
Pist. *Germ* oblong, inferior. *Styles* two, reflex. *Stigmas* obtuſe.
Per. none. *Fruit* ovate, bipartile.
Seeds two, ovate, convex on one ſide, flat on the other.

ESSENTIAL CHARACTER.

Cor. uniform. *Umb.* crowded. *Fruits* ovate.

SPECIES.

1. Bunium Bulbocaſtanum. *Earth-nut*, or *Pig-nut.*
Lin. ſpec. 349. *Reich.* 671. *hort. cliff.* 91. *Hudſ. angl.* 122. *With.* 275, 276. *Lightf. ſcot.* 156. *Curtis lond.* 4. 24. *Hall. helv. n.* 783. *Pollich pal. n.* 274. *Sauv. monſp.* 256. *Oed. dan. t.* 220. *Allion. pedem. n.* 1362. *Villars dauph.* 2. 602. *Gouan. illuſtr.* 10. *Plenck, ic. t.* 182.
Bulbocaſtanum majus apii folio. *Bauh. pin.* 162. *Bauh. hiſt.* 3. 2. 30. *Mor. hiſt. ſ.* 9. *t.* 2. *f.* 1. *Pet. herb.* 25. 9. *Ger.* 906. 1. *emac.* 1064. 1. 2. *Raii hiſt.* 440. *ſyn.* 209.
Nucula terreſtris. *Lob. obſ.* 429. *Park.* 892. 1, 2. *f.* 893.
Bulb. minus. *Bauh. pin.* 162. 2. (This is given as a ſynonym to *Chærophyllum*, by Reichard.)

DESCRIPTION, &c.

Root perennial, tuberous, on the outſide of a cheſnut colour, within white, ſolid, putting forth ſlender fibres from the ſides and bottom, of an agreeable ſweetiſh taſte, lying deep in the ground. Stem from one to two feet high, upright, round, ſtiffiſh, the thickneſs of a crow quill, ſlightly ſtriated, ſmooth, throughout of a green colour and branched. Radical leaves on long petioles; ſtem leaves ſeſſile, all very finely divided, deep green, the folioles edged with prickly hairs, viſible only by a glaſs. Sheath ſhort, grooved, ſmooth, the edge membranous and whitiſh. Umbels ſeveral; univerſal rays from ſeven to twelve; partial about twelve. Univerſal and partial involucre often wanting. Filaments longer than the corolla, deciduous. Styles white, nearly upright. Seeds oblong-ovate, ſmooth and ſomewhat aromatic[n].

To the above deſcription we may add, that the root commonly grows four or five inches deep in the earth, the ſtem from the ſurface tapering towards it, flexuoſe or bending to and from, and of a white colour[o]; that the ſtem is but little branched; the root-leaves tripinnate, with ſmall lanceolate leaflets, which are ſimple or trifid, the extreme leaflet trifid; the ſtem-leaves bipinnate, with ſimple or linear leaflets, not wider than the nerve[p]: that the univerſal involucre conſiſts ſeldom of more than one, two, or three very ſlender leaves, but in moſt inſtances is altogether wanting: that the partial is moſtly ſhorter than the umbel, and conſiſts of three or four very ſmall lanceolate leaves; that the partial umbel has ſometimes ſixteen and even twenty rays; that the petals are lanceolate, entire, but rolled inwards ſo as to appear as if they were emarginate; that the filaments are longer than the petals, and the piſtils at firſt cloſe, afterwards divaricate, but never bent back[q].

This deſcription and theſe remarks apply to the plant as uſually found in Britain. That *Bunium* which is moſt common in many parts of the continent is ſomewhat different from ours; the ſegments of the leaf are not ſo fine, and nearer to Parſley, whereas ours approach to Fennel[r]. The root is not ſo far within the ground, the leaves are larger and greener, and it ſends forth ſome leaves from the bulb itſelf[s]. Mr. Miller ſays] he could never obſerve any eſſential difference between them, and that when they have been tranſplanted into a garden, they have proved to be the ſame. [Profeſſor John Martyn, who firſt remarked the broader-leaved *Bunium* in England, between Hornſey-wood and Old-Fall, thinks that the difference was probably owing to the root's growing nearer the ſurface than we commonly find it; and accordingly I have ſeveral times met with a plant having broader leaves, and ſomewhat different in appearance from the common ſort, which on examination had a ſuperficial root, and grew in a very looſe ſoil. Perhaps they might be young plants, and on that account more vigorous; and the root may deſcend deeper into the ground every year.

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[g] Woodw. M. S. Lightf. Linn.
[h] Linn.
[i] Ibid.
[k] Hort. kew.
[l] Linn.
[m] Hort. kew.

[n] Curtis.
[o] Parkinſon.
[p] Woodw. M. S.
[q] Withering.
[r] Mart. Tourn. Par. 1. 128.

Dillenius ſuſpects that the greater and ſmaller *Bunium* may be diſtinct. Gouan, who cultivated them during eight years, is ſurpriſed that they have not been diſtinguiſhed long ſince, and gives ſpecific differences which to me ſcarcely appear ſufficient. Villars makes them two ſpecies; and Dr. Withering does the ſame. The latter preſerves Linneus's name to the greater *Bunium*, and gives that of *flexuoſum* to the ſmaller one. They are both figured in Johnſon's edition of Gerarde's herbal.]

Mr. Miller has two ſpecies beſides the common one, both from Tournefort. 1. B. creticum; which is *Bulbocaſtanum creticum radice napiformi. Tourn. cor.* Native of the Levant, Crete, Zant, *&c.* From the laſt iſland Mr. Miller received ſeeds of it. 2. B. ſaxatile; which is *Bulb. minus ſaxatile peucedani folio. Tourn. inſt.* 312.; and is a low plant, ſeldom above ſix inches high, from the Alps; [and differing only from ſituation.

This plant has ſeveral names in Engliſh beſides the two given above: as, *Kipper-nut*, *Hawk-nut*, *Jur-nut* or *Yer-nut*, *Earth-Cheſnut*, and *Ground-nut*. It had the name *Bulbocaſtanum* given it by the older botanic writers among the moderns, for it is a word unknown to the ancients, from its bulbous root like the fruit of the Cheſnut in taſte. Linneus changed it to Bunium, becauſe it was taken for the Βουνιον of Dioſcorides, and the *Bunium* of Pliny. In German it is *Erdnuſs*: in Dutch, *Aardnoot*: in Swediſh, *Jordnot*: in Daniſh, *Jordolden*: in French, *Suron*, *Terre-Noix*: in Italian, *Caſtagna di terra*: in Spaniſh, *Caſtano di tierra*: in Portugueze, *Caſtanha de terra*.

With us it grows on heaths, in paſtures, woods, and among buſhes, in a gravelly or ſandy ſoil. Foreign authors, as Haller, Pollich, *&c.* ſay that it grows among corn, which I have never known it to do in England. It flowers in may and june.]

The roots are frequently dug up, and eaten raw by the poorer ſort of people. Swine are very fond of them, and will ſoon become fat with feeding on them. When boiled they are very pleaſant and delicious, and are ſuppoſed to afford great nouriſhment. [Thus prepared, they are ſaid to be eaten in Holland, in the Alps, and in ſome parts of England, in ſoup or broth. Roaſted, they are little inferior to Cheſtnuts, and might be no diſagreeable addition to our winter deſerts.

The knobbed root, and finely divided leaves ſo diſtinguiſh this plant from all the poiſonous ſpecies of the umbellate tribe, that it can hardly be miſtaken, eſpecially if the place of growth be attended to. *Oenanthe fiſtuloſa* indeed, when thrown out on ditch banks, or cultivated in a garden, has roots ſo much reſembling thoſe of *Bunium*, that it may deceive even good judges; the root-leaves alſo are finely divided[t]: but this is a water-plant, and it ought to be remembered that all aquatics of this tribe are of a ſuſpicious character.

Bunium Sauv. monſp. See *Siſon*.

Bunius. See *Æthuſa*, and *Stilago*.

Bupariti. See *Hibiſcus*.

BUPHTHALMUM. (Βοῦς and ὀφθαλμὸς, *Bull's-eye.*) *Lin. gen. n.* 977. *Reich.* 1059. *Schreb.* 1321. *Gærtn. t.* 169. *Juſſ.* 186. Aſteriſcus. *Tournef.* 283. *Vaill. act. gall.* 1720. *Dill. elth.* 38. *f.* 44. Aſteroides. *Tournef.* 487. *Vaill. act. gall.* Claſſ. 19. 2. Syngeneſia Polygamia Superflua. Nat. order of *Compoſitæ Oppoſitifoliæ.—Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* various in the different ſpecies, imbricate.

Cor. *Compound* radiated: *Corollules* hermaphrodite, numerous, forming a flat diſk: *females* more than ten in the ray. *Proper* of the hermaphrodite funnel-form, with a five-cleft, patulous border.—Of the female ligulate, longer, ſpreading, three-toothed.

Stam. (of the hermaphrodite) *Filaments* five, capillary, very ſhort. *Anther* tubular, cylindric.

Pist. of the hermaphrodite. *Germ* ovate, compreſſed. *Style* filiform, the length of the ſtamens. *Stigma* thickiſh, ſimple—of the female. *Germ* ancipital. *Style* filiform, of the ſame length as in the hermaphrodite. *Stigmas* two, oblong.

Per. none. *Calyx* unchanged.

Seeds of the hermaphrodite ſolitary, oblong, crowned with a gaſhed manifold edge—of the females, ſolitary, compreſſed, with each edge cutting, crowned like the others.

Rec. chaffy, convex.

ESSENTIAL CHARACTER.

Stigma of the hermaphrodite floſcules undivided. *Seeds* have the ſides, eſpecially in the ray, edged. *Down* an obſcure edge. *Recept.* chaffy.

SPECIES.

* *Aſteriſci T.*

1. Buphthalmum fruteſcens. *Shrubby Ox-eye.* *Lin. ſpec.* 1273. *ſyſt.* 780. *Reich.* 3. 879. *hort. cliff.* 415. *Gron. virg.* 127. *Mill. illuſtr. fig.* *Brown. jam.* 320. 2.
Aſteriſcus. *Dill. elth.* 44. *t.* 38. *f.* 44.
Corona ſolis. *Plum. ſpec.* 10. *ic.* 107. *f.* 1.
Chryſanthemum. *Pluk. alm.* 102. *t.* 115. *f.* 4. *Mor. hiſt.* 3. 25. *n.* 89. *Raii ſuppl.* 211. *n.* 23. *Sloan. jam.* 1. 260. 22. *Cateſb. car.* 1. *t.* 93.
Leaves oppoſite lanceolate, petioles two-toothed, ſtem ſhrubby.

2. Buphthalmum arboreſcens. *Tree Ox-eye.* *Lin. ſpec.* 1273. *Reich.* 3. 879.
Aſteriſcus. *Dill. elth.* 43. *t.* 38. *f.* 43.
Chryſanthemum bermudenſe, fol. rigido viridi. *Mor.* 3. 25.——leucoii virid. fol. craſſis. *Pluk. alm.* 102.
Corona ſolis frut. laureolo fol. fl. luteo. *Plum. ſpec.* 10. *ic. t.* 106. *f.* 2.
Leaves oppoſite lanceolate, tomentoſe on both ſides, toothleſs, quite entire, ſtem ſhrubby.

[3. Buphthalmum ſericeum. *Silky Ox-eye.* *Lin. ſyſt.* 780. *ſuppl.* 379. *L'Herit. ſert. angl. t.* 37. *Ait. hort. kew.* 3. 245.
Leaves ſcattered wedge-ſhaped acute quite entire villoſe-ſilky.

4. Buphthalmum ſpinoſum. *Prickly Ox-eye.* *Lin. ſpec.* 1274. *ſyſt.* 780. *Reich.* 3. 879. *hort. cliff.* 414. *Gouan. hort. monſp.* 455. *Blackw. t.* 272. *D'Aſſo. aragon. n.* 857. *Mill. fig. t.* 249. *f.* 1. *Villars dauph.* 3. 261.
Aſter luteus, fol. ad florem rigidis. *Bauh. pin.* 266.
A. legitimus Cluſii alter, ſ. ſpinoſus luteus. *Barr. ic.* 551.
A. atticus. *Ger.* 392. 1. *emac.* 486. 1. *Park. theat.* 128.
Calyxes acutely leafy; leaves alternate lanceolate ſtem-claſping, quite entire.

5. Buphthalmum aquaticum. *Sweet-ſcented Ox-eye.* *Lin. ſpec.* 1274. *Reich.* 3. 880. *hort. cliff.* 414. *upſ.* 464. *Sauv. monſp.* 87. *Gouan. hort. monſp.* 455. *Gærtn. fruct.* 2. 434. *Villars dauph.* 3. 261.
Aſter odoratus annuus creticus. *Zan. hiſt. t.* 24.
Aſteriſcus annuus luſitanicus odoratus. *Seba theſ.* 1. 47. *t.* 29. *f.* 7.

Chyſan-

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[s] Ger. emac. 1065.

[t] Curtis.

Chryſanthemum conyzoides luſit. *Breyn. cent.* 157. *t.* 77.
Calyxes obtuſely leafy, ſeſſile, axillary; leaves alternate, oblong, obtuſe; ſtem herbaceous.

6. Buphthalmum maritimum. *Sea Ox-eye.*
Lin. ſpec. 1274. *ſyſt.* 780. *Reich.* 3. 880. *hort. cliff.* 414. *upſ.* 264.
After ſupinus lignoſus ſiculus, conyzæ odore. *Bocc. muſ.* 2. 161, *t.* 129. *Park. theat.* 128. 3. *f.* 129. *Ger. emac.* 588. 6.
A. ſup. 2. *Cluſ. hiſt.* 2. 13.—luteus. *Bauh. pin.* 267. —maſſilioticus. *Barr. ic.* 1151.
Calyxes obtuſely leafy, peduncled; leaves alternate ſpatulate; ſtem herbaceous.

[7. Buphthalmum durum.
Lin. ſpec. 1275. *Reich.* 3. 880.
Aſteriſcus afer, imo calyce non folioſo. *Vaill. act.* 606.
Chryſanthemum afr. aſteris facie, &c. capit. duris. *Pluk. alm.* 101. *t.* 21. *f.* 3.
Leaves alternate, lanceolate, quite entire; ſtem undershrubby.]

* *Aſteroidea T.*

8. Buphthalmum ſalicifolium. *Willow-leaved Ox-eye.*
Lin. ſpec. 1275. *Reich.* 3. 881. *hort. cliff.* 414. *Sauv. monſp.* 87. *Gouan. monſp.* 455. *Scop. carn. n.* 1088. *Jacqu. auſtr.* 3. *t.* 370. *Hall. helv. n.* 118. *opuſc.* 312. *Gærtn. fruct.* 2. 434. *Villars dauph.* 3. 262.
After luteus major, fol. Succiſæ. *Bauh. pin.* 266. *Ger. emac.* 588. 7.
A. 3. auſtriacus 1. *Cluſ. hiſt.* 2. 13. *Raii hiſt.* 267. 8.
A. luteus major auſtriacus. *Park. theat.* 129. *n.* 4.
Aſteroides hirſuta. *Mich. flor.* 12. *t.* 3, 4.
Conyza major altera. *Thal. herc.* 21. *t.* 2.
Leaves alternate lanceolate ſubſerrate villoſe; calyxes naked; ſtem herbaceous.

9. Buphthalmum grandiflorum. *Great-flowered Ox-eye.*
Lin. ſpec. 1275. *ſyſt.* 780. *Reich.* 3. 881. *hort. cliff.* 415. *upſ.* 264. *Villars dauph.* 3. 262.
Aſteroides alpina, ſalicis fol. *Tourn. cor.* 50. *Mich. flor.* 12. *t.* 5.
After luteus anguſtifolius. *Bauh. pin.* 266.
Chryſanthemum. *Mor.* 3. 21. *ſ.* 6. *t.* 7. *f.* 52.
Leaves alternate lanceolate ſubdenticulate ſmooth; calyxes naked; ſtem herbaceous.

[10. Buphthalmum ſpecioſiſſimum.
Lin. ſyſt. 781. *Reich.* 3. 881. *mant.* 177. 517. *Ard. ſpec.* 1. 26. *t.* 12.
Aſteroides orientale, petaſitis fol., fl. maximo. *Tourn. cor.* 51.
Leaves alternate ſtem-claſping ovate naked ſerrate ſubciliate; ſtem one-flowered.]

11. Buphthalmum helianthoides. *Sun-flower-leaved Ox-eye.*
Lin. ſpec. 1275. *Reich.* 3. 882. *hort. upſ.* 264. *L'Herit. ſtirp. nov.* 93. *t.* 45.
Helianthus lævis. *Lin. ſpec.* 1278.
Silphium ſolidaginoides. *Lin. ſpec.* 1302.
Rudbeckia oppoſitifolia. *Lin. ſpec.* 1280.
Helianthus. *Gron. virg.* 127.
Corona ſolis. *Mart. cent. t.* 20.
Chryſanthemum. *Pluk. alm.* 99. *t.* 22. *f.* 1. *Mor.* 3. 24. *ſ.* 6. *t.* 3. *f.* 69. *Raii ſuppl.* 211.
Leaves oppoſite ovate ſerrate triply-nerved; calyxes leafy; ſtem herbaceous.

[12. Buphthalmum oleraceum.
Lour. cochinch. 506.
Calycine leaflets acute, connected laterally; leaves oppoſite, lanceolate, curved back.

DESCRIPTIONS, &c.

Some of theſe plants are ſhrubs, but moſt of them are herbs. The leaves are oppoſite in ſome, alternate in others, all ſimple. The flowers are commonly terminating; they are radiate, and moſtly of a yellow colour. Juſſieu doubts whether the ſhrubby ſpecies with oppoſite leaves, and the herbaceous ſpecies with alternate leaves be of the ſame genus. Gærtner obſerves, that if the down of the ſeed be not barely margined, but leafy, in all the *Aſteriſci* of Tournefort, they ought to be ſeparated from this genus.]

1. The firſt ſort riſes with ſeveral woody ſtems from the root, and grows to the height of eight or ten feet, furniſhed with leaves very unequal in ſize, ſome of which are narrow and long, others broad and obtuſe; theſe are intermixed, ſometimes coming out at the ſame joint, and often at the intermediate one; they are ſoft, hoary, and placed oppoſite. The foot-ſtalks of the larger leaves have, on their upper ſide, near their baſe, two ſharp teeth ſtanding upward, and a little higher there are generally two or three more, growing on the edge of the leaves. The flowers are produced at the ends of the branches ſingle; theſe are of a pale yellow colour, and have ſcaly calyxes. It grows naturally in America. I received another ſort of this from the Havannah, which was found growing naturally there by Dr. Houſtoun, who ſent it by the following title, Chryſanthemum fruticoſum maritimum, foliis glaucis oblongis, flore luteo. Sloan. Jam. cat. 125. The leaves of this are ſhorter and thicker than thoſe of the tenth ſort, and have no teeth on their foot-ſtalks, but in other reſpects are very like it; the plants are not ſo hardy. This ſort has been long preſerved in the Engliſh gardens, and was originally brought from Virginia, as I was informed by the Biſhop of London's gardener, who raiſed it in 1696 at Fulham.

[It is alſo a native of Jamaica, where it grows only near the ſea-ſide, in a buſhy tufted form, ſeldom riſing above two or three feet in height[a]. That found by Houſtoun in the Havannah, as above, is the ſame: nor does the tenth ſort of Miller already mentioned, which he names *B. incanum*, ſeem to be different. He deſcribes it] as having many ſlender ſhrubby ſtalks near three feet high; leaves oppoſite, linear-lanceolate, long and narrow, thick and ſucculent, very hoary, embracing the ſtalk; flowers yellow, produced at the ends of the ſhoots, on very ſhort peduncles. [He received the ſeeds from the Bahama iſlands.]

2. This ſeldom grows much more than three feet high, ſending out many ſtalks from the root, which are ſucculent, except near the root, where they are ligneous, garniſhed with thick, ſucculent, ſpear-ſhaped leaves placed oppoſite; the flowers are produced at the end of the branches upon foot-ſtalks which are two inches long. Theſe flowers are larger than thoſe of the firſt ſort, of a bright yellow colour. They appear in july, auguſt, and ſeptember, but often continue till the end of october.

[It was cultivated 1699 in the royal garden at Hampton-court: and is a native of Bermudas[b]. Mr. Miller ſays,] that he has ſeveral times received the ſeeds from the Bahama iſlands.

[3. Branches thick, woody, covered with ſcars left by the falling leaves; the ſmall branches are covered with leaves, which are quite entire and toothleſs; having white ſilky very ſoft hairs preſſed to them. Flowers terminating, large and yellow. Calyx hirſute; the lower ſcales longer, and linear[c].

Found in Fuertaventura, one of the Canary iſlands, by Mr. Francis Maſſon, and introduced here in 1779. It flowers from may to july[d].]

4. This is an annual plant. The lower leaves are oblong, hairy, and rounded at the end, about four inches long and one inch broad, narrowed at the baſe. The ſtalk riſes a foot and half or two feet high, is hairy and ſtiff, dividing into two or three alternate branches towards the top. The flowers are produced at the ends of the branches. The calyxes are compoſed of nine ſtiff leaves, ending in prickles; they ſpread open immediately under the flower like the points of a ſtar, [and each leaflet is three-nerved[e]. The ray of the corolla is manifold and very ſlender[f]:] it is of a bright yellow colour. The diſk is of a gold colour.

The flowers appear from june to auguſt, and the ſeeds ripen in ſeptember. It is a native of the South of France, Spain and Italy, [on the borders of fields, and on ditch banks. It was cultivated in England in 1570[g].

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[a] Browne [b] Hort. kew. [c] Linn. ſuppl. [d] Hort. kew. [e] D'Aſſo. [f] Linn.

The leaves were formerly uſed in medicine. In Aragon it is called *Cevadilla*, from its quality of exciting ſneezing[h].]

5. This alſo is annual; ſeldom growing more than a foot high in gardens, and where it is wild not ſo high: it ſends out many alternate ſpreading branches near the root: the leaves are hairy and ſeſſile: the flowers which are ſeſſile in the forks of the ſtem, have an agreeable odour. [Calyx leafy at the baſe. Chaffs obovate, membranaceous, pellucid. Seeds compreſſed, bay-coloured, hiſpid with whitiſh briſtles, almoſt uniform: thoſe of the diſk ſmaller, ovate, acuminate downwards; thoſe of the ray a little larger, triangular-wedge-ſhaped, very much compreſſed at the ſides and produced into a kind of wing: both crowned with a many-leaved down; the leaflets of which are membranaceous, acuminate, ciliate-toothed, ſhorter by half than the ſeed[i].

Native of the South of Europe. It flowers in july and auguſt; and was cultivated in 1731, by Mr. Miller[k].]

6. This is a low perennial plant, with a ſhrubby ſtalk, rarely riſing a foot high, with many ſpreading branches. Leaves hairy, narrow at their baſe, but broad and roundiſh at the extremity. The flowers are produced at the ends of the branches; they are yellow, and ſhaped like thoſe of the former ſorts, but the leaves of the calyx are ſoft and blunt. [The ſtigma of the hermaphrodite flowers in this, as in the fourth ſort is bifid[l].

Native of Sicily. Cultivated here in 1640; and flowering from july to ſeptember[m].

7. A ſhrub, native of the Cape of Good Hope.]

8. This is ſomewhat like the next ſort, but the leaves are broader and obtuſe; theſe alſo and the ſtalks are hairy.

[The root is perennial. The ſtem upright, round, a foot or eighteen inches in height, with upright, one-flowered branches. The root-leaves petioled, ovate; the ſtem-leaves embracing, oblong or lanceolate, ſlightly toothed, hairy or villoſe. Flowers naked, large, with the ray of a deep yellow, but the diſk rather brown: calycine ſcales in two or three rows, ovate-lanceolate, ſtrong, hairy[n]. Receptacle ſlightly convex, with chaffs the length of the calyx, keeled, widening upwards, truncate, toothletted, the keel ending in a ſhort flexile awn. Seeds in the diſk ſmaller, oblong, narrow, three or four-cornered, a little flatted, ſtraight: in the ray larger, curved inwards, three-ſided, drawn out at the ſides into a ſort of wing, truncate at both ends, and crowned with a toothed rim. The rim of the ſeeds in the diſk is ſometimes ſo deeply gaſhed, that it ſeems to be compoſed of ſeveral chaffy briſtle-ſhaped leaflets[o].

It is thought to be the yellow Aſter of the Italians, the juice of which applied to the wounds, enabled a dog to bear the bites of a viper without injury.

Native of Italy, the South of France, Switzerland, Auſtria, and Carniola. It flowers from june to october, and was cultivated by Mr. Miller in 1759[p].]

9. This alſo is perennial, with an annual ſtalk: it grows near two feet high, with ſlender branching ſtalks, and oblong ſmooth leaves ending in a point; the flowers are produced at the extremity of the branches, and are of a bright yellow colour.

[Villars ſays, that it differs little from the foregoing; that the leaves are ſmooth, dark green and ſhining; that the flowers are a little larger; and that it is much more common.

According to Linneus, it very much reſembles *Inula ſalicina*, but the calyx has only a double row of leaves, as in the foregoing ſpecies, with which Gouan joins it. The crown being a ciliate rim, and the calyx being equal, it may be doubted whether it is not rather an *Inula*, with almoſt naked ſeeds.]

It flowers in june and july, and the ſeeds ripen in autumn. It is a native of Italy, Auſtria, and the South of France.

There are two or three varieties, differing in the breadth of their leaves and the ſize of their flowers, but they are all produced from the ſame ſeeds.

[It was cultivated in the botanic garden at Chelſea, in 1722[q].

10. Root fuſiform, reſembling a tuberous one. Stem two feet high, ſmooth and even, with very ſlender white lines; ſheathed at bottom with the petioles; branched a little at top into peduncles. Leaves ſubcordate, acute, compact, reticulated with veins; the petioles dilated at the baſe, ſubmembranaceous. Peduncles ſubtriquetrous. Common calyx imbricated with ovate, obtuſe, large leaflets. Florets of the ray two-folded, two or three-toothed, yellow: of the diſk four-cleft, erect, pedicelled. Stamens of the diſk four, brown; no germ; ſtyle cylindric, obtuſe, yellow, pubeſcent. Seed of the ray ovate, membranous ſubconcave. Receptacle hemiſpheric, with brown chaffs[r]. Perhaps it may be a ſpecies of *Silphium*. The plant figured by *Schreber, cent. t.* 6. much reſembles this, only the leaves in this are more deeply ſerrate. It grows wild in the mountains about Brixen in the Tyrol, and is perennial[s].

The leaves of this and the foregoing ſpecies have a taſte ſomewhat like thoſe of Tea, and may be uſed inſtead of them[t].

11. This is a perennial plant, a fathom in height. Root branched, whitiſh, fragrant. Stems ſeveral, upright, branched at top, naked at the baſe, round, the thickneſs of a quill, red with a ſea-green bloom, pithy, jointed as it were with a ring of petioles: twigs oppoſite, ſtiff, like the ſtem. Leaves remote, acuminate, looſely ſerrate, but entire at the baſe and the point, decurrent, veined and wrinkled, the nerves and veins prominent beneath, ſcored above, almoſt naked or ſcarce apparently villoſe, beneath without hairs and paler, they are flat, reclining, four inches long, and two and a half broad. Petioles ſpreading, embracing the ſtalk by the ring which connects them with it, round on one ſide channelled on the other, edged at the top by the leaf running along it, one-fourth of the leaf in length. Flowers terminating on every ſide, yellow, from two to three inches in width. Peduncles commonly three from the laſt leaves, ſtiff, one-flowered, very long, obſcurely angular or ſtreaked, thickened at the top, fiſtuloſe. Sometimes there is a linear ſharp bracte or two on the peduncle, but more frequently there is none. The common calyx is concave-ſpreading, pubeſcent, and compoſed of a double row of ſcales; theſe are lanceolate, acute, ſubſerrate, thoſe of the inner row ſpreading, and reflex at the tip, thoſe of the outer row fewer (about eight) twice the length of the others, hanging down a little; it is permanent, and from twelve to eighteen lines in diameter. Corollules in the diſk (which is convex) very numerous, with a ſharp, revolute border: in the ray about twelve, lanceolate, retuſe, two-furrowed above, two-nerved beneath, ſeſſile, ſpreading very wide, twice or three times the length of the calyx. In the hermaphrodite florets, which are thoſe of the diſk, the germ is oblong, four-cornered and truncate, ſtyle the length of the corollule, ſtigma two-parted, ſubulate, ſtanding out and revolute after flowering time; in the female florets, that is, thoſe of the ray, the germ is three-cornered. Seeds in the diſk four-cornered, concave-truncate, rufous, without any pappus or crown, except the rim, which is ſcarcely thickened: thoſe of the ray are ſimilar, only three-cornered. Receptacle conical: with membranaceous, linear, acute, channelled-concave chaffs, each covering a ſeed, erect and permanent.

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[g] Hort. kew. from Lobel. adv. 147.
[h] D'Aſſo.
[i] Gærtner.
[k] Hort. kew.
[l] Linn.
[m] Hort. kew.
[n] Haller and Villars.
[o] Gærtner.
[p] Hort. kew.
[q] Hort. kew.
[r] Zoega in Linn. mant.
[s] Linn.
[t] Villars.

This plant has the generic character of *Buphthalmum*, the calyx of *Silphium* or *Rudbeckia*, and the habit or appearance of *Helianthus*[u]. Hence it was repeated four times by Linneus.

It is a native of North America, whence it was ſent by Cateſby to the botanic garden at Chelſea. It was cultivated in 1714, by the Dutcheſs of Beaufort, at Badminton; and flowers from july to october[x]. It is ſaid to be ſound wild every where within the tropics[y].

12. Stem herbaceous, two feet high, upright, round, whitiſh, ſmooth, branched. Leaves linear-lanceolate, unequally toothed, ſmooth, juicy, thick, aſh-coloured. Flower large, ſolitary. Calyx hemiſpherical, with ſharp leaflets, connected by a lateral membrane. Diſk of the corolla flat, with yellow florets: ray wide, ſpreading, with many, white, trifid florets. Receptacle flattiſh, with very ſmall chaffs. Crown of the ſeeds margined. The ſtigma in the hermaphrodite florets is ſimple.

It is an odorous plant, cultivated in the gardens of China and Cochinchina, as a pot-herb[z].

Forſter, in Flor. auſtral. names two other ſpecies—Buphthalmum uniflorum. n. 541. found in Norfolk iſland; and B. procumbens, n. 542. found in the Friendly iſlands, in the South Seas.]

PROPAGATION AND CULTURE.

1, 2. As theſe ſorts do not perfect their ſeeds in this country, they are propagated by cuttings. They ſhould be planted in july, when the plants have been for ſome time expoſed to the open air, whereby their ſhoots will be hardened and better prepared to take root, than when they firſt come abroad. The cuttings ſhould be planted in ſmall pots filled with light loamy earth, and plunged into a very gentle warmth, obſerving to ſhade them from the ſun in the heat of the day, and gently refreſh them with water, but it muſt be given to them ſparingly, for much wet will rot them. In about ſix weeks theſe will have taken root, when they muſt be gradually inured to bear the open air; and ſoon after they ſhould be each planted in a ſeparate ſmall pot filled with light loamy earth, and placed in the ſhade until they have taken freſh root; after which they may be removed to a ſheltered ſituation, where they may remain till the middle of october, when they muſt be removed into the green-houſe. The firſt ſort being hardier than the other, may be placed in a common green-houſe; but the other will thrive better in a warm glaſs-caſe, where it will receive more ſun, and have a drier air. During the winter, they ſhould have but little moiſture, and in very mild weather they ſhould have freſh air admitted to them. In the ſummer they muſt be placed abroad in a ſheltered ſituation, and treated in the ſame manner as other exotic plants.

4, 5. The ſeeds of theſe ſhould be ſown the beginning of april, on open borders, where they are to remain, and will require no other care, but to keep them clear of weeds, and thin them to the diſtance of a foot and half, that their branches may have room to ſpread. If the ſeeds be ſown in the autumn, or be permitted to ſcatter when ripe, the plants will come up ſoon after, and theſe will more certainly ripen ſeeds than the ſpring plants.

6. This is ſeldom ſucceeded by ſeeds in England, but the plant is eaſily propagated by ſlips during the ſummer ſeaſon; if the cuttings are planted in a bed of freſh loamy earth, and covered with a hand-glaſs, obſerving to ſhade them from the ſun in the heat of the day, and frequently refreſhed with water, they will take root in about ſix weeks, when they ſhould be carefully taken up, and each planted in a ſeparate ſmall pot filled with freſh undunged earth, and placed in a ſhady ſituation till they have taken freſh root; after which they may be removed to a ſheltered ſituation, where they may remain till the end of october, when they muſt be removed to a frame for the winter ſeaſon, being too tender to live abroad in winter in this country; but as they only require protection from hard froſts, they will thrive better when they have a great ſhare of air in mild weather, than if confined in a green-houſe; therefore the beſt method is to place them in a common frame, where they may be fully expoſed in mild weather, but ſcreened from the froſt.

8, 9. 11. Theſe may be propagated by parting the roots towards the end of october, when the ſtalks begin to decay. Thoſe of the eleventh ſhould be removed every other year, to prevent their ſpreading too far. It is hardy, and will thrive in any ſituation, but as the roots are apt to extend, it is not proper for the borders of ſmall flower-gardens; but in large borders, on the ſides of rural walks, or in ſpaces between ſhrubs, it will be ornamental during the ſeaſon of flowering.

The others do not ſpread ſo much, a few roots therefore may be planted in the borders of the flower-garden, eſpecially thoſe which have little ſun, where they will continue a long time in flower.

BUPHTHALMUM. See *Amellus*, *Anacyclus*, *Anthemis*, *Chryſanthemum*, *Oedera*, *Silphium*, *Verbeſina*.

BUPLEURIFOLIA. See *Corymbium*.

BUPLEUROIDES. See *Phyllis*.

BUPLEURUM. (Βοῦς & πλευρὸν, *Bovis Coſta. From a ſuppoſed ill quality of burſting kine that feed on it.*)
Lin. gen. n. 328. *Reich.* 358. *Schreb.* 460. *Tournef.* 163. *Gærtn. t.* 22. *Juſſ.* 224.
Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ*, or *Umbelliferæ*.

GENERIC CHARACTER.

CAL. *Umbel univerſal* with fewer than ten rays.—*Partial* with ſcarcely ten rays, erect-expanding.
Involucre univerſal many-leaved—*partial* five-leaved, larger: *leaflets* expanding, ovate, acute.
Perianth proper obſcure.

COR. *univerſal* uniform. *Floſcules* all fertile.
Proper, of five, involuted, entire, very ſhort petals.

STAM. *Filaments* five, ſimple. *Anthers* roundiſh.

PIST. *Germ* inferior. *Styles* two, reflected, ſmall. *Stigmas* very ſmall.

PER. none. *Fruit* roundiſh, compreſſed, ſtriated, ſplitting in two.

SEEDS two, ovate-oblong, convex and ſtriated on one ſide, flat on the other.

OBS. *Moſt of the ſpecies have ſpecious involucellas frequently longer than the corolla.*

ESSENTIAL CHARACTER.

Involucres of the umbellule larger, five-leaved.
Petals involuted. *Fruit* roundiſh, compreſſed, ſtriated.

SPECIES.

* *Herbaceous.*

1. Bupleurum rotundifolium. *Common Thorough-wax.*
Lin. ſpec. 340. *ſyſt.* 273. *Reich.* 654. *hort. cliff.* 104. *upſ.* 64. *mat. med.* 77. *Hudſ. angl.* 111. *With.* 267. *Sowerby, Eng. Bot. t.* 99. *Gærtn. fruct.* 1. 97. *Hall. helv. n.* 767. *Gmel. ſib.* 1. 208. *Scop. carn. n.* 346. *Crantz. auſtr.* 202. *Pollich pal. n.* 266. *Plenck, ic. t.* 187. *Blackw. t.* 95. *Raii ſyn.* 221. *Allion. pedem. n.* 1348. *Krock. ſileſ. n.* 400. *Villars dauph.* 2. 573.
Perfoliata. *Dod. pempt.* 104. *Camer. epit.* 888. *Riv. t.* 45.
—— vulgaris. *Ger.* 430. 1. *emac.* 536. 1. *Park.* 580. 1. *Mor. hiſt.* 3. *ſ.* 9. *t.* 12. *f.* 1. and *umb. t.* 8. (very good). *Raii hiſt.* 471.
—— vulgatiſſima ſ. arvenſis. *Bauh. pin.* 277.
—— vulgaris annua. *Bauh. hiſt.* 3. 198. 1.
β. Perfoliata minor, ramis inflexis. *Bauh. pin.* 277. *prodr.* 130.—et, fl. multiplici. *Bauh. pin.* 277.
P. criſpa ſ. muſcoſa. *Cam. hort. t.* 37.
Uuiverſal involucres none; *leaves* [or rather, *ſtem*] *perfoliate.*

[2. Bupleurum ſtellatum. *Starry Hare's-ear.*
Lin. ſpec. 340. *ſyſt.* 273. *Reich.* 655. *Hall. helv. n.* 771. *t.* 18. *emend.* 120. *Villars dauph.* 2. 576.
Perf. alpina anguſtifolia media. *Bauh. pin.* 277. *prodr.* 129. *Raii hiſt.* 473.
Involucels united; univerſal involucre three leaved.

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[u] L'Heritier.

[x] Hort. kew.

[y] Forſt. fl. auſtral.

[z] Loureiro.

3. Bupleurum petræum. *Rock Hare’s-ear.*
Lin. ſpec. 340. *Reich.* 655. *Hall. helv. n.* 773. *Ger. prov.* 232. 2. *Crantz. umb.* 87. *Segu. ver.* 2. 15. & 3. 220. *Villars dauph.* 3. 576.
Perf. alp. gramineo folio. *Bauh. pin.* 277. *Raii hiſt.* 473. *Park. theat.* 578. *f.* 3.
Sedum petræum, bupleuri folio. *Pona bald.* 247. *Cluſ. hiſt.* 347. *Ger. emac.* 517. *f.* 5.
Involucels united, univerſal involucre five-leaved.]

4. Bupleurum anguloſum. *Angular-leaved Hare’s-ear.*
Lin. ſpec. 341. *ſyſt.* 273. *Reich.* 655. *Hall. helv. n.* 770. *α.*
Perf. alp. anguſtif. major, fol. anguloſo. *Bauh. pin.* 277. *prodr.* 129. *Raii hiſt.* 473.
β. P. alp. anguſtif. minor. *Bauh. pin.* 277. *prodr.* 129. *Raii hiſt.* 473.
Involucels five-leaved orbiculate; univerſal involucre three-leaved ovate: leaves ſtem-claſping cordate-lanceolate.

[5. Bupleurum longifolium. *Long-leaved Hare’s-ear.*
Lin. ſpec. 341. *Reich.* 656. *Hall. helv. n.* 768. *Neck. gallob.* 553. *Krock. ſileſ. n.* 401. *Villars dauph.* 2. 573.
Perf. alp. magna longifolia. *Bauh. hiſt.* 3. 198. *fig.* 199. 1. *Raii hiſt.* 472.
P. montana. *Cam. hort.* 120. *t.* 38.——latifolia. *Bauh. pin.* 277.
Involucels five-leaved ovate; univerſal involucre with about five leaflets: leaves ſtem-claſping.

6. Bupleurum falcatum. *Twiſted-ſtalked Hare’s-ear.*
Lin. ſpec. 341. *ſyſt.* 273. *Reich.* 656. *Hall. helv. n.* 776. *Scop. carn. n.* 347. *Jacqu. auſtr.* 2. *t.* 158. *Pollich pal. n.* 267. *Crantz. auſtr.* 203. *Guett. ſtamp.* 59. *Ger. prov.* 233. 5.
Bupleurum. *Riv. pent.* 44.—latiore & anguſt. fol. *Tabern.* 872.—fol. ſubrot. ſ. vulgatiſſimum. *Bauh. pin.* 278. *Raii hiſt.* 473.
Auricula leporis umb. lutea. *Bauh. hiſt.* 3. 200. *f.* 1.
Involucels five-leaved acute: univerſal involucre with about five leaflets: leaves lanceolate: ſtem flexuoſe.]

7. Bupleurum Odontites. *Narrow-leaved Hare’s-ear.*
Lin. ſpec. 342. *Reich.* 656. *Gærtn. fruct.* 1. 98. *Hall. helv. n.* 772. *Scop. carn. n.* 348. *Willich. illuſtr. n.* 40. *Jacqu. hort.* 3. *t.* 91. *D’Aſſo. aragon. n.* 237. *Ger. prov.* 233. 4. *Villars dauph.* 3. 577.
B. minimum anguſtifolium. *Scheuch. alp.* 1. 32.
Perfoliata. *Bauh. pin.* 277. *n.* 10. *Columm. ecphr.* 1. 84. *t.* 247.
Auriculæ adfinis, &c. *Bauh. hiſt.* 3. 201. *f.* 1.
Involucels five-leaved acute; univerſal involucre three-leaved; the central floſcule higher; branches divaricated.

[8. Bupleurum ſemicompoſitum. *Dwarf Hare’s-ear.*
Lin. ſpec. 342. *Reich.* 657. *amæn.* 3. 405. *Gouan. illuſtr.* 9. *t.* 7. *f.* 1. *Allion. pedem. n.* 1355.
Umbels compound and ſimple.

9. Bupleurum ranunculoides.
Lin. ſpec. 342. *Reich.* 657. *mant.* 349. *hort. cliff.* 104. *Gmel. ſib.* 1. 203. *n.* 23. *Scheuch. alp.* 1. 31. *Villars dauph.* 2. 575. *Gouan. illuſtr.* 8.
Perfoliata. *Bauh. hiſt.* 3. 199. *f.* 2. *Bauh. pin.* 277. *n.* 11. *prodr.* 130. *n.* 5. *Lob. illuſtr.* 137. *Park.* 581. *n.* 7. *Raii hiſt.* 472. *n.* 5.
Involucels five-leaved lanceolate longer; univerſal involucre three-leaved; ſtem-leaves lanceolate.]

10. Bupleurum rigidum. *Stiff-leaved Hare’s-ear.*
Lin. ſpec. 342. *ſyſt.* 273. *Reich.* 658. *Sauv. monſp.* 76. *Bauh. pin* 278. *n.* 1. *Raii hiſt.* 474. *n.* 2. *Ger.* 608. *f.* 2. *Park.* 578. *f.* 2. *Dod. pempt.* 633.
Auricula leporis altera ſ. rigidior. *Bauh. hiſt.* 200. *f.* 2.
Stem dichotomous almoſt naked: involucres very ſmall acute.

[11. Bupleurum Gerardi.
Lin. ſyſt. 274. *Jacqu. auſtr.* 3. *t.* 256. *Ger. prov.* 233. *n.* 7. *t.* 9.
Stem erect panicled; leaves lanceolate-linear: involucres and involucels five-leaved.]

12. Bupleurum tenuiſſimum. *Leaſt Hare’s-ear.*
Lin. ſpec. 343. *ſyſt.* 274. *Reich.* 658. *hort. cliff.* 104. *Hudſ. angl.* 111. *With.* 267. *Hall. helv. n.* 774. *Crantz. auſtr.* 204. *Gærtn. fruct.* 1. 98.
B. minimum. *Col. ecphr.* 1. 85. *t.* 247. *Mor. hiſt.* 3. 300. *ſ.* 9. *t.* 12. *f. ult.* *Raii ſyn.* 221.
B. anguſtiſſimo folio. *Bauh. pin.* 278.
Auricula leporis minima. *Bauh. hiſt.* 3. 201. *f.* 2. *Raii hiſt.* 474.
Umbels ſimple alternate five-leaved, with about three flowers.

[13. Bupleurum junceum. *Linear-leaved Hare’s-ear.*
Lin. ſpec. 343. *ſyſt.* 274. *Reich.* 658. *Hall. helv. n.* 775. *Pollich pal. n.* 268. *Ger. prov.* 234. 9. *Villars dauph.* 3. 578. *Magn. monſp.* 42. *Raii hiſt.* 474. *n.* 3. *Ger.* 608. *f.* 1.
Stem erect panicled; leaves linear; involucres three-leaved; involucels five-leaved.]

* *Shrubby.*

14. Bupleurum fruticoſum. *Common ſhrubby Hare’s-ear,* or *Shrubby Ethiopian Hartwort.*
Lin. ſpec. 343. *Reich.* 659. *hort. cliff.* 104. *Sauv. monſp.* 60. *Gron. orient.* 77. *Mill. fig. t.* 74. *Ger. prov.* 234. 10. *Villars dauph.* 3. 579.
Seſeli æthiopicum. *Bauh. pin.* 161. *Dod. pempt.* 312. *Raii hiſt.* 476. *Ger.* 1233. *emac.* 1421. *Park.* 907. *f.* 14.
S. frutex. *Mor. umb.* 16.
Leaves obovate, quite entire.

[15. Bupleurum fruticeſcens. *Graſs-leaved ſhrubby Hare’s-ear.*
Lin. ſpec. 344. *Reich.* 659. *amæn.* 4. 269. *Loefl. it.* 134. *Barr. rar.* 623. *t.* 1255. *D’Aſſo aragon. n.* 240.
Leaves linear; involucre univerſal and partial.

16. Bupleurum difforme. *Various-leaved Hare’s-ear.*
Lin. ſpec. 344. *ſyſt.* 274. *Reich.* 659. *Burm. afr.* 195. *t.* 71. *f.* 1?
Vernal leaves decompound flat gaſhed; ſummer filiform angular trifid.

17. Bupleurum ſpinoſum.
Lin. ſyſt. 474. *ſuppl.* 178. *Gouan. illuſtr.* 8. *t.* 2. *f.* 3. *Tourn. inſt.* 310.
Branches of the panicle when old naked and ſpineſcent; leaves linear.

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18. Bupleurum nudum. *Naked-ſtalked Hare’s-ear.*
Ait. hort. kew. 1. 331.
Stem branched leafleſs, root-leaves decompound flat gaſhed; involucres and involucels lanceolate-oblong.

19. Bupleurum coriaceum. *Thick-leaved ſhrubby Hare’s-ear.*
L’Herit. ſtirp. nov. 139. *t.* 67. *Ait. hort. kew.* 1. 331.
Fruteſcent; leaves lanceolate coriaceous oblique.

DESCRIPTIONS, *&c.*

Moſt of the Bupleurums are herbaceous plants, ſome of them however (14—17) are ſhrubby, and one of theſe is thorny. The leaves are moſtly ſimple and entire. The little flowers are yellow, and commonly but few in an umbel! The involucre is many-leaved and ſhort, ſometimes however it has only three or five leaves. The partial involucre or involucel is larger, five-leaved, ſometimes coloured, ſometimes coadunate at the baſe[a].

1. Our common or round-leaved Hare’s-ear, is known in Engliſh by the name of *Thorough-wax,* from the ſingular circumſtance of the ſtalk *waxing* or growing *through* the leaf, which alone may ſerve as a ſufficient mark to diſtinguiſh this plant, it being the only one, as Ray has obſerved, among our indigenous herbs, which has a ſimple leaf perforated by the ſtem. We may add however that the root is annual, ſmall and fibrous; the ſtem a foot high, upright, round, perfectly ſmooth, alternately branched, often flexuoſe; the leaves ſmooth, blueiſh green, alternate, ovate, quite entire, acuminate and ending in a little awn or ſpine; the lower ones only ſtem-claſping, the upper ones perfoliate; the partial involucre conſiſts of three or five ovate, acuminate,

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[a] Juſſieu,

unequal leaflets, longer than the rays[b]. Every part of the plant is remarkably hard and rigid, and has a ſlight aromatic ſmell. It had the reputation formerly of being a vulnerary herb; but this is a quality which no medicine can have, any otherwiſe than as a tonic ſtrengthening the conſtitution; nor can any external application be ſpecifically healing or conſolidating, or be uſeful in any other way, except as a defence from the air[c].

Native of moſt parts of Europe, as a weed among corn, from Britain ſouthwards. With us however it is not very common. Profeſſor John Martyn ſays that he never diſcovered it near London; it has however been found near Lewiſham, except this Dartford and between Queenhithe and Stone in Kent, and Harefield in Middleſex, are the neareſt places to the metropolis that it has hitherto been ſeen at, as far as I have any information. In Cambridgeſhire it appears in ſeveral fields in tolerable plenty. Ray obſerved it above one hundred and thirty years ago near Teverſham. Profeſſor John Martyn found it only once between Queye church and Botteſham, above ſixty years ago. Since that time it has been remarked by the lower road to Gogmagog hills, by Linton, and near Kingſton wood. Mr. Crowe has found it near Marham in Norfolk. Mr. Woodward at Carlby, between Stamford and Bourn in Lincolnſhire. In Kent it is plentiful in many parts, and between Farningham and Ainsford, it grows in ſuch quantity in the corn fields, that it may well be termed the infirmity of them[d]. Dr. John Sibthorp marks it as growing in the Parks, at South Leigh, and Middleton Stoney in Oxfordſhire. It grows about Epſom, Sutton, and Leatherhead in Surry; and doubtleſs in many other places in the ſouthern counties. In Scotland and the northern counties we have no account of it. A dry calcareous ſoil ſuits it beſt; and I have never obſerved it except among wheat. It flowers in june and july.

2. Root perennial. Stem a foot or eighteen inches high. Root-leaves very long, graſs-like, widening very gradually, and narrowing alſo gradually, ſome ending obtuſely, others drawing to a point; ſcarcely any on the ſtem except one embracing leaf under a branch. Univerſal involucre of one, two, or three leaves[e]. Partial involucre coloured, longer than the flowers, eight or nine-cleft[f], at the edge, but united at bottom ſo as to form a ſort of baſin, in which the flowers are lodged[g].

Native of the alps of Switzerland and Dauphiné. Introduced in 1775, by Doctors Pitcairn and Fothergill. It flowers from may to july[h].

3. Root perennial. Root-leaves very numerous, long, narrow and tender, like thoſe of the moſt delicate graſſes, ſpreading on the ground. The ſtem which riſes from the midſt of theſe is eight or ten inches high, ſimple and leafleſs, having commonly a ſingle branch near the top, with one leaf at the baſe, and an umbel of flowers at the end ſmaller than that which terminates the ſtem. The univerſal involucre is three-leaved; the partial has ſeven (five to ſeven) ſmall, nerved, lanceolate leaves which are very diſtinct. The umbellule bears about ten flowers.

Some authors ſeem to have taken a variety of the foregoing ſpecies, with narrow leaves, and a five-leaved involucre, for this ſort; but that has always the partial involucre in form of a baſin, whereas in this the leaflets are ſeparated to the very bottom[i].

Pona, Seguier, and Villars have diſtinguiſhed and deſcribed this ſpecies. It is a native of Switzerland, monte Baldo, and the South of France: was introduced in 1768, by Profeſſor de Sauſſure: and flowers from may to july[k].

4. This ſort is large, being eighteen inches high, and is eaſily known by its awned involucres[l]. The involucels are oval, and the length of the umbellule. It is very nearly allied to *B. ſtellatum*, though the leaflets of the partial involucre are diſtinct in this. In variety β. the leaves are extremely narrow and ſtreaked; but in α. they are lanceolate and not ſtreaked[m].

According to Haller, Perfoliata alpina anguſtifolia minor *Bauh.* is probably a variety of *B. petræum*.

Villars has a ſpecies which he names *B. vapincenſe*; he thinks it may be the ſame with *B. anguloſum* of Linneus, and perhaps a variety of *B. longifolium*; from which however it differs, in having the leaves more lengthened, and narrow as they approach the umbel; whereas in *B. longifolium* they become more rounded as they are higher on the ſtem.

The ſtem is ſtiff, whitiſh and branched; the leaves are bright green, moderately hard, nerved, elliptic, ſcarcely three times as long as they are broad; the involucres are almoſt round, ſtiff, and a little pointed.

He ſuſpects his *B. anguloſum*, as well as his *B. gramineum*, to be a variety of the *B. ranunculoides* of Linneus[n]. Gouan has a ſort which he names *B. pyrenæum*, that he ſuppoſes to be different from this.

B. anguloſum is a native of Switzerland. It was cultivated in 1759, by Mr. Miller; and flowers from may to july[o].

5. Long-leaved Hare's-ear bears a great ſimilitude to our common ſort (n. 1.); but the root is perennial, and the root-leaves are permanent and more lengthened out. The height of the ſtem is about a cubit, upright, and if branched, only at top. The lower leaves from a ſlender petiole ſpread into an ovate-lanceolate form, and are ſharp-pointed at the end; the upper ones are deeply ſtem-claſping. Both involucres are uſually compoſed of five elliptic, pointed, unequal leaflets, frequently tinged with red. The number of leaflets however varies, in the univerſal involucre from three to five; in the partial, from five to eight; in the latter they are the length of the florets[p].

Native of Germany, Flanders, Switzerland, Dauphiné, Savoy. It was cultivated here in 1713; and flowers from may to july[q].

6. Root perennial. Stem upright, two or three feet in height, ſlightly flexuoſe, round, very ſmooth, ſometimes tinged with purple, the whole panicled. Leaves alternate, nerved, bright green, ſmooth; thoſe next the root on long petioles, decurrent, ovate-lanceolate, frequently ſickle-ſhaped; thoſe on the ſtem almoſt linear, bent in or nodding forward. Univerſal umbel looſe, of about ſeven rays; partial, of ten or twelve. Univerſal involucre ſhort, compoſed of four or five (ſometimes two) lanceolate, ſharp leaflets; partial, of five, lanceolate, regular leaflets, the length of the umbellule. Flowers ſmall, deep yellow[r].

Native of Germany, Switzerland, Auſtria, the South of France, and Italy. I gathered it in the torrents at Vevay and Aigle abundantly in may 1779. It flowers in our gardens from may to ſeptember; and was cultivated in 1739, by Mr. Miller[s].

7. Root annual. Stem very branching, angular, ſcarcely three inches high; the branches knotted at the baſe. Leaves linear-lanceolate, narrow, ſmooth, ſeſſile. Involucres awned, concealing the umbels: univerſal has three to five broad rigid veined acute leaflets; partial like it, longer than the peduncles, with nine flowers, the middle one twice the height of the others[t]. Seeds one-fourth only of the ſize of the firſt ſort, without any ſtreaks, either obſcurely wrinkled or quite ſmooth, ovate-cylindrical, brown or blackiſh[u].

Native of the South of France, Switzerland, Carniola, Spain, Italy. Cultivated by Mr. Miller in 1759. It flowers from june to auguſt[x].

8. Scarcely a ſpan high. Branches divaricate. Leaves lanceolate. Compound umbel with five rays, and a five-leaved involucre, the length of the umbel. The partial umbel has beſides the umbelliferous

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[b] Woodw. M. S. Engl. bot. Pollich.
[c] Engl. bot.
[d] Johnſon upon Gerard.
[e] Haller.
[f] Linn.
[g] Villars.
[h] Hort. kew.
[i] Villars.
[k] Hort. kew.
[l] Haller.
[m] Linn.
[n] Dauph. 2. 574, 575.
[o] Hort. kew.
[p] Linn. Hall. Krock. Villars.
[q] Hort. kew.
[r] Linn. Hall. Pollich.
[s] Hort. kew.
[t] Linn. Scop.
[u] Gærtn.
[x] Hort. kew.

peduncles, ſeveral ſimple ones, each bearing one flower. The petals are purpliſh[y].

It differs from the *Odontites* in being leſs. The branches in that are more divaricate, and almoſt at a right angle. The ſtems in that are evidently ſtriated; in this ſmooth, ſcarcely ſtriated at all. The leaves in the *Odontites* linear, ſeſſile, acuminate; in this, from a linear origin, becoming ovate or elliptic, and ending in a ſmall ſpine. In the *Odontites* the univerſal involucre is of five unequal leaves; the partial of five like them, but equal: the leaves of the partial involucre converge after flowering. The folioles of both involucres are tranſparent, with three remarkable green nerves, and tranſverſe green lines between the nerves. The partial involucre expanding very much during the time of flowering. Uſually eleven flowers in an umbel. The plants bear from four to ſix of theſe, with unequal rays; the inner ones ſhorter. Central umbel ſeſſile. Petals yellow with an inflected hook. In the *ſemicompoſitum* the leaves of the partial involucre are green, ſtriated, not tranſparent, with the edges very even but ſubhirſute. Petals much ſmaller, almoſt white; flowers almoſt ſeſſile, the central one only having ſomething of a peduncle. Fruits ſubhirſute. Univerſal involucre of five unequal folioles, reſembling thoſe of the partial, but longer. Rays of the umbels hardly longer than the univerſal involucre, whereas in the *Odontites* they are much longer. Flowers in each umbel five or ſix[z].

Native of Spain, Montpellier, Villafranca. Annual. It was introduced in 1778, by Monſ. Thouin; and flowers in july and auguſt.

9. This is commonly a very ſmall plant, not more than a few inches in height; in ſome ſituations it is ſcarcely more than one inch high, in others it riſes to a foot. The root is perennial. The ſtem ſimple. The leaves graſs-like and ſtiff. Umbel unequal. Univerſal involucre ovate acute ſhort; partial, equal obovate acute. Umbellules equal, ſmall, the length of the partial involucre[a].

Gouan inſiſts that the involucre is not three-leaved, but two, four or five-leaved, and always unequal, inſomuch that the largeſt of the leaflets is almoſt half an inch, and the leaſt ſcarcely half a line in length. The partial involucre is uſually compoſed of five, but ſometimes of ſix or ſeven leaflets.

Haller joins the *anguloſum* with this, and Gouan adds the *petræum*, affirming that the ſpecimens in Seguier's herbarium differ not in the leaſt from thoſe which he himſelf collected on the Pyrenees for the *ranunculoides*. Villars on the contrary inſiſts that the true *B. petræum* of Pona is really a diſtinct ſpecies, and that varieties of this have been miſtaken for it. He gives two ſpecies, *B. anguloſum*, and *gramineum*, which he ſuſpects however may be only varieties of the *ranunculoides*.

Native of the South of France, Switzerland, and the Pyrenees.

10. Root perennial. All the leaves lanceolate, nerved, rigid, petioled. Univerſal involucre three-leaved, ſubulate, very ſhort; partial briſtle-ſhaped and ſhort.

It grows naturally about Montpellier, and Frankfort on the Mayne[b].

11. Root annual ſimple naked. Stem half a foot high, branched, diffuſed, ſmooth, ſlightly angular. Leaves linear, graſſy, ſtem-claſping, ending in a very ſharp point, marked with three very fine nerves. Peduncles long, both lateral and terminating. Leaflets of the univerſal involucre very narrow and ſharp, unequal; the pedicels longer than the involucre. Leaflets of the partial involucre linear-ſetaceous, unequal, longer than the flowers; which are ſubſeſſile. Seeds oblong, ſtreaked, cut off as it were at the tip[c]. Native of Provence, and Auſtria.

12. Our Leaſt Hare's-ear is an annual plant, with the ſtem a foot high, and much branching; the branches alternate, long, and many-flowered. Leaves rigid, linear, acute. Univerſal involucre has three ſhort unequal awl-ſhaped leaves: partial five, awl-ſhaped (or briſtle-ſhaped), awned, longer than the rays. Umbellules axillary, ſmall, only two or three together[d]. Haller will not admit that it has properly any univerſal involucre; and remarks, that it can ſcarcely be ſaid that the umbels are really compound.

Native of Germany, Auſtria, Switzerland, France, Italy, and England, near Huntingdon, Elleſley, Cambridge, Lynn, Holkham, Malden, Haſtings, Pétt; in the Iſle of Thanet, and probably in many more places, where it has been overlooked; being a plant of little appearance or colour, loſt in a manner in the graſs among which it grows. It flowers in july and auguſt.

13. Root annual. Stem ſix feet high (Haller ſays, from two to three feet, and others two feet only), ruſhy, of an even ſurface; with alternate upright branches. Leaves graſſy, in two rows, ſmooth and even, milky. Involucre lanceolate, the length of the umbel, which has four rays. The umbellules have five or ſix yellow flowers[e].

Gerard adds, that the ſtem is ſtraight, round, hollow within; that the leaves are gradually ſmaller and ſheathing; that the branches are divaricate and leafy; that the lateral flowers are ſolitary or in pairs; the terminating ones umbelled, with few umbellules and unequal pedicels; that the involucre has about three linear acute leaflets; and the involucel about four linear-ſubulate leaflets[f].

Villars informs us, that the leaves are all long, weak, thin, and hanging down, and that the ſeeds are pointed and bigger than thoſe of the other ſorts.

Ray obſerves that it is a larger, taller plant than the foregoing, with ſtouter ſtems not branching from the bottom; but for ſome ſpace having only narrow ſharp leaves, two or three inches long, placed alternately. On the upper part of the ſtem branches ſpring from the axils of the leaves, ſubdivided into very ſlender twigs, bearing very ſmall umbels, if they may be ſo called, at their ends, compoſed of two or three floſcules, with an involucre of four or five very ſlender and ſhort leaflets at their baſe. The ſeeds are almoſt of the ſize and colour of Parſley. At the baſe of each twig there is only one leaf, whereas in *B. tenuiſſimum* there are two. Theſe are certainly diſtinct ſpecies, and are both very common about Montpellier[g]. This is native of other parts of France, of Italy, Switzerland, and Germany. It flowers in july and auguſt, and was cultivated in the botanic garden at Chelſea in 1722[h].]

14. Common ſhrubby Hare's-ear is an evergreen ſhrub riſing to the height of five or ſix feet, and dividing into many branches ſo as to form a large regular buſh. The ſtem is covered with a purpliſh bark; the branches are well furniſhed with oblong, ſmooth, ſhining, ſtiff leaves, of a ſea-green colour, placed alternately, four inches long, and one broad in the middle; at the ends of theſe the flowers are produced in umbels: they are yellow at firſt, but fade away to a brown: they come out in july or auguſt, but ſeldom perfect ſeeds in England.

Native of the South of France, Italy [and the Levant. Cultivated by Gerard, in 1596[i].

15. The leaves of this are ſharp and rather fleſhy[k]. It is a native of Spain; was cultivated in 1739, by Mr. Miller; and flowers in auguſt and ſeptember[l].]

16. This riſes with a ſhrubby ſtalk to the height of five or ſix feet, ſending out ſome ſide branches, which in the ſpring have on their lower parts leaves compoſed of many ſmall flat leaflets, finely cut like thoſe of Coriander, and of a ſea-green colour; theſe leaves ſoon fall off, and the upper part of the branches is cloſely covered with long ruſh-like leaves having four angles, coming out in cluſters from each joint. The flowers grow in ſpreading umbels at the extre-

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[y] Linn. [z] Allioni. [a] Linn. [b] Ibid. [c] Gerard. prov.

[d] Linn. Hall. Woodw. M. S. [e] Linn. [f] Prov. 224. [g] Hiſt. p. 474. [h] Hort. kew. [i] Ibid. [k] D'Aſſo. [l] Hort. kew.

mities of the branches; they are ſmall, of an herbaceous colour, and are ſucceeded by oblong channelled ſeeds.

[According to Linneus, it has the winter leaves of Parſley, and the ſummer leaves of Broom. The involucre has many ſubulate leaflets, connected at the baſe and ſhrivelling: the involucels have five leaflets. Some of the umbels are ſimple, others compound.

It is a native of the Cape of Good Hope; flowers from june to auguſt; and was cultivated by Mr. Miller in 1752 [m].

Mr. Miller had many more ſpecies in the older editions of his dictionary, than in the two laſt; probably omitted becauſe they were not worth cultivating either for their uſe or beauty.

17. Root perennial. Stem low, ſhrubby, unequal, ſtreaked, rigid; with very frequent joints, and branches divaricate and bent back. Root-leaves linear-lanceolate, three-nerved, acute; ſtem-leaves very like them; thoſe on the branches ſharper and very ſhort. Umbels terminating: univerſal with from three to five rays, four lines in length, and as many very ſhort leaflets to the involucre; partial with from five to ſeven rays, a line in length, and five leaflets to the involucel, ſcarcely a third of a line long. When the fructification is compleated, the rays of the univerſal umbel, and the branches, become thorny, as in *Alyſſum ſpinoſum* [n].

Native of Spain.

18. Native of the Cape of Good Hope. Introduced in 1778, by Patrick Ruſſell, M. D.

19. Stems upright, ſparingly branched, round, dark-coloured, annulated with the ſcars left by the fallen leaves, from three to four feet in height: branches alternate, upright, marked with lines, fiſtuloſe, green. Leaves alternate, approximating, half-ſtem-claſping, quite entire, cultrate about the edges, with a ſharp reflex point, attenuate at the baſe, having one whitiſh nerve, glaucous, permanent, five inches long and near an inch broad, when held up to the light appearing very finely netted. Scape or common peduncle in which the branches terminate furniſhed in the lower part with remote leaflets, branched at top into lateral umbels, marked with lines, a foot and half in length, more ſlender by half than the branch from which it ſprings. Umbels alternate, peduncled, the lower ones axillary, ſmaller, ſpreading; pedicels ſhort, upright; flowers yellow, ſcarcely two lines in breadth. Each umbel has about fifteen rays. Univerſal involucre has about eight oblong, acuminate leaflets, which are ſlightly convex and hang down: partial five-leaved, ſmaller, ovate. Seeds oblong, rounded on one ſide with five wings, flat on the other. It differs from the common ſhrubby ſort in the oblique ſituation of the leaves, and in having the peduncles branched. The whole plant is very fragrant when rubbed [o].

Native of Gibraltar; found there by Maſſon, and introduced in 1784 [p].]

PROPAGATION AND CULTURE.

The Bupleurums in general are cultivated only in botanic gardens. The ſeeds ſhould be ſown in autumn, where the plants are deſigned to remain, for they do not bear tranſplanting well. To keep the plants clean from weeds is all the culture they require.

14. The European ſhrubby ſort is commonly known among gardeners by the title of Shrubby Æthiopian Hartwort, and is now propagated in the nurſery-gardens for ſale. Being hardy it will thrive in the open air, and may be intermixed with other ever-green ſhrubs of the ſame growth, in the front of taller trees, where their ſtems are deſigned to be excluded from ſight. It is propagated by cuttings, which ſhould be planted in pots filled with freſh loamy earth, and in winter ſheltered under a hot-bed frame; in the ſpring the cuttings will put out roots, but they will not be fit to tranſplant till the autumn following; ſo the pots ſhould be placed in a ſhady ſituation in ſummer, and in dry weather they muſt be refreſhed with water. The young plants may be planted in a nurſery-bed at two feet diſtance for a year or two to get ſtrength, and then tranſplanted where they are to remain.

The fifteenth ſort may be treated in the ſame manner: but it is not ſo hardy.

16. This alſo is propagated by cuttings, which readily take root, if they are planted in april, in pots filled with light earth, and plunged into a moderate hot-bed; when they have taken root, they ſhould be inured to the open air by degrees, and after they have obtained ſtrength may be planted each into a ſeparate pot filled with light loamy earth, placing them in the ſhade, till they have taken freſh root, when they may be placed with other exotic plants in a ſheltered ſituation, where they may remain till the autumn, and then they muſt be removed into the green-houſe or dry-ſtove.

If this plant be propagated by ſeeds, they ſhould be ſown in autumn, ſoon after they are ripe, in pots filled with light earth, which muſt be ſheltered under a frame in winter, and in the ſpring removed to a very gentle hot-bed; the plants muſt be inured to the open air by degrees, and then treated in the ſame manner as thoſe raiſed from cuttings.

[17, 18, 19. May all be propagated by cuttings, and treated as the ſixteenth: or by ſeeds, when they can be obtained. They will probably bear the open air in mild ſeaſons, but are not yet ſufficiently common to run that hazard.

BURCARDIA. (*In memory of Jo. Henr. Burckhard, M. D. who publiſhed* Character plant. 1702.)

Scop. Lin. gen. Schreb. n. 530. Piriqueta. *Aubl.* 117. *Juſſ.* 295.

Claſſ. 5. 5. Pentandria Pentagynia.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* ovate, externally villoſe, acute, deciduous.

Cor. *Petals* five, roundiſh, obtuſe, ſpreading, almoſt the length of the calyx.

Stam. *Filaments* five, capillary. *Anthers* ovate.

Pist. *Germ* three-cornered. *Styles* five or ſix, long. *Stigmas* flat, broadiſh, fleſhy, with five prominent ſtreaks.

Per. *Capſule* three-ſided, one-celled, three-valved. *Receptacle* linear, faſtened longitudinally to the middle of each valve.

Seeds ſeven or eight, ſubovate, adhering to each receptacle.

Obs. *The capſule is ſometimes four-cornered.*

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* five-petalled. *Capſ.* angular, one-celled, three-valved, ſeven or eight-ſeeded.

SPECIES.

1. Burcardia villoſa.

Piriqueta villoſa. *Aubl. guian.* 1. 298. *t.* 117.

DESCRIPTION, &c.

This is an annual plant, with a branched ſtem, two feet high, hirſute with reddiſh brown hairs. Leaves alternate, ſubſeſſile, ovate-oblong, wrinkled, toothed, covered with hairs of the ſame colour with thoſe on the ſtem. Flowers at the end of the ſtem and branches, axillary, ſolitary, on long hairy peduncles. The whole plant indeed is covered with ſtiff hairs. It is found on ſandy coaſts of Cayenne and Guiana [q].

Burchardia. Heiſt. See *Callicarpa.*

Burdock. See *Arctium*, and *Xanthium.*]

BURMANNIA. (*So named in honour of John Burmann, M. D. profeſſor of botany at Amſterdam; author of Theſaurus Zeylanicus; Decades rariorum plantarum Africanarum, &c.*)

Lin. gen. n. 397. *Reich.* 429. *Schreb.* 542.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of Liliaceous flowers. *Coronariæ.* Linn. *Bromeliæ* Juſſ.

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[m] Hort. kew.

[n] Gouan. Linn. ſuppl.

[o] L'Heritier.

[p] Hort. kew.

[q] Aublet.

GENERIC CHARACTER.

Cal. *Perianth* long, one-leafed, priſmatic, coloured, with three longitudinal membranous angles; the mouth trifid ſmall.

Cor. *Petals* three, ovate, oblong, very ſmall, placed in the mouth of the calyx, extremely minute.

Stam. *Filaments* ſix, very ſhort. *Anthers* in the mouth of the calyx, very ſhort, two always together, ſeparated by a reflected point.

Pist. *Germ* cylindric, ſhorter by half than the calyx. *Style* filiform, the length of the corolla. *Stigmas* three, obtuſe, concave.

Per. *Capſule* covered by the calyx, cylindric, three-cornered, three-celled, three-valved, gaping at the angles.

Seeds numerous, very ſmall.

ESSENTIAL CHARACTER.

Cal. priſmatic, coloured, trifid: angles membranous. *Petals* three. *Capſ.* three-celled, ſtraight. *Seeds* minute.

SPECIES.

1. Burmannia diſticha.
Lin. ſpec. 411. *Reich.* 2. 10. *fl. zeyl.* 128. *hort. cliff.* 128. *Burm. zeyl.* 50. *t.* 20. *f.* 1. *Raii ſuppl.* 559. *n.* 25.
Spike double.

2. Burmannia biflora.
Lin. ſpec. 411. *Reich.* 2. 10. *hort. cliff.* 128. *Gron. virg.* 36.
Flowers two together.

[DESCRIPTIONS, &c.

1. Root compoſed wholly of capillary fibres, and very ſmall. The plant has the habit or appearance of an *Anthericum.* Root-leaves ſix, eight, or nine, graſs-like or enſiform, two inches long, quite entire. Stem upright, ſtraight, quite ſimple, a ſpan or a ſpan and half in height, having ſix or ſeven very ſmall, alternate, ſcale-like leaves, ſheathing at the baſe, an inch long, ſcarcely ſeparating from the ſtem, but in a manner embracing it. Two equal, ſimple, divaricating ſpikes, each compoſed of about nine flowers, terminate the ſtem. The flowers are ſeſſile, in a ſingle row, pointing upwards; they are blue, very elegant, and do not fall off.

Native of Ceylon, in open watery places. Called in the country *Jawæl, Jawul,* or *Dyajawul*; that is *Water Jawul!*[a]. Cultivated by Mr. Miller, in 1768.]

2. Root ſtrong and fibrous, with ſeveral oblong, oval leaves ariſing from it, which are ſmooth and entire, four or five inches long; among theſe ſprings the flower-ſtem, ſix or eight inches high, terminated by blue flowers, growing two together in each ſheath.

It grows naturally in Virginia and Carolina, in watery places; and was cultivated by Mr. Miller with the former.

PROPAGATION AND CULTURE.

Theſe plants are very difficult to preſerve in gardens, for as they naturally grow in marſhy places, which are covered with water great part of the year, they will not thrive when planted in dry ground, and being too tender to live abroad in England, they muſt be planted in pots, plunged in troughs of water, ſo deep as to cover the ſurface of the mould about three inches. The troughs in which the firſt ſort is planted ſhould be placed in a warm ſtove, where the plants ſhould conſtantly remain, being careful to ſupply the water as it diminiſhes. Thoſe in which the ſecond ſort is put ſhould be placed in a green-houſe in winter to protect the plants from froſt, but in ſummer they may be expoſed to the open air. With this management, if carefully attended to, the plants may be preſerved, and ſometimes may be brought to produce flowers.

Burnet. See *Poterium* and *Sanguiſorba.*

[Burnet-Saxifrage. See *Pimpinella.*

Bur-reed. See *Sparganium.*

Bursa Pastoris. See *Bunias, Draba, Iberis,* and *Thlaſpi.*

Bursæ Pastoris similis. See *Arabis.*

BURSERA. (*So named in memory of Joachim Burſer, the diſciple of Caſpar Bauhin, a great collector of plants. His herbarium in thirty volumes is now at Upſala.*)
Lin. gen. n. 440. *Reich.* 475. *Schreb.* 1608. *Jacqu. amer.* 94. *Swartz obſ.* 130. *Juſſ.* 372.
Claſſ. 23. 2. Polygamia Dioecia.

GENERIC CHARACTER.

* *Hermaphrodite.*

Cal. *Perianth* one-leafed, minute, three-parted: *parts* ovate, acute.

Cor. *Petals* three, ovate, acute, ſpreading, entire, deciduous.

Stam. *Filaments* ſix, ſubulate, erect, fixed round the baſe of the germ. *Anthers* ovate, erect.

Pist. *Germ* ovate. *Style* ſhort, thick, trifid at the tip. *Stigmas* very ſhort, ſimple.

Per. *Capſule* fleſhy, obovate, three-cornered, three-celled, three-valved.

Seeds berried ſolitary (commonly only one), compreſſed.

Obs. *There are obſcure veſtiges of two cells, but a ſingle ſeed occupies the whole capſule.*

* *Male on a ſeparate tree.*

Cal. *Perianth* five-toothed, minute.

Cor. *Petals* five, lanceolate, acuminate, reflex, ſhrivelling.

Stam. *Filaments* five, eight, ten, placed round a ſlightly convex ſurface, ſcarcely ſhorter than the petals, ſubulate. *Anthers* oblong, two-celled.

Pist. A rudiment. *Germ* none. *Style* trifid, caducous, or none.

ESSENTIAL CHARACTER.

Herm. *Cal.* three-leaved. *Cor.* three-petalled. *Capſ.* fleſhy, three-valved, one-ſeeded.

Male. *Cal.* five-toothed. *Cor.* five-petalled. *Stam.* ten, (five to eight).

SPECIES.

1. Burſera gummifera. *Jamaica Birch Tree.*
Lin. ſpec. 471. *ſyſt.* 342. *Reich.* 2. 105. *Jacqu. amer.* 94. *t.* 65. *pict.* 49. *t.* 96. *Swartz obſ.* 131. *Plenck, ic. t.* 251.

Piſtacia foliis pinnatis deciduis, foliolis ovatis. *Lin. ſpec. edit.* 1. 1026.

Terebinthus. *Comm. hort.* 1. 149. *t.* 77. *Brown. jam.* 345. *Sloan. jam.* 2. 89. *t.* 199. *Cateſb. car.* 1. *t.* 30.

Betula americana, bacca triquetra, odore terebinthi. *Petiv. Pluk. phyt. t.* 151. *f.* 1.

DESCRIPTION, &c.

This is a very lofty tree, with an upright, round, ſmooth trunk, covered with a livid, ſhining bark, peeling off in round pieces, like the European Birch. Branches terminating, ſmooth, horizontal. Twigs ferruginous, and villoſe. Leaves pinnate. Petioles round, villoſe, petiolules compreſſed, channelled, villoſe beneath. Leaflets two or three pairs, beſides the odd one; they are ovate with a ſhort point, entire, veined, and ſmooth. Racemes axillary and terminating, ſhorter than the petioles, upright, many-flowered, pubeſcent: pedicels alternate, ſhort, one-flowered. Flowers ſmall and white. Capſule red, reſembling a drupe. On the male trees, the flowers are more copious and crowded in the racemes, but are ſcarcely larger[b].

According to Sir Hans Sloane, the roots run very ſuperficially; the trunk is as thick as a hogſhead or pipe; there are four or eight pairs of leaflets, an inch and half long, and half as broad near the round baſe where broadeſt; the petals are five in number, thick, yellowiſh and ſhort; the berries three-ſided, the ſize of a ſmall pea, with a reddiſh-brown ſkin, very gummy, and ſmelling like turpentine; under which lies a white, very hard, triangular ſtone, containing a kernel. The tree having ſtood naked ſome time has firſt its flowers come out, and its leaves begin to bud a little after.

Authors differ very much in their deſcriptions of the fructification. The generic character given above is from Swartz.

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[a] Linn. zeyl. and Burm. zeyl.

[b] Swartz.

This tree is common in all the ſugar-iſlands of the Weſt Indies. The bark is very thick, and exudes a clear tranſparent reſin, which ſoon hardens in the air, and looks like the maſtic of the ſhops; but by inciſion it yields a conſiderable quantity of a more fluid ſubſtance, which has much of the ſmell and appearance of turpentine, and may be uſed for the ſame purpoſes. The bark of the root is thought to be the *Sima-roubà* of the ſhops, which is an effectual remedy in bloody-fluxes: it is adminiſtered in decoctions; and one or two drams is ſufficient for a quart of water; for if it be ſtrong, it purges or vomits[c].

In the French iſlands it is called *Gommier blanc*, and an infuſion of the buds and young leaves is recommended there in diſorders of the breaſt.

It flowers from may to july[d]. With us it has not flowered, although it was cultivated in the royal garden at Hampton Court, ſo long ſince as 1690[e].

Burseria. See *Verbena.*

Butcher's-Broom. See *Ruſcus.*]

BUTŎMUS. (Βοῦς & τομὸς, *Bovem ſcindens: becauſe the ſharp leaves are ſaid to wound the tongue and lips of kine.*)

Lin. gen. n. 507. *Reich.* 550. *Schreb.* 693. *Tournef.* 143. *Gærtn. t.* 19. *Juſſ.* 46.

Claſſ. 9. 3. Enneandria Hexagynia.

Nat. order of *Tripetaloideæ.—Junci* Juſſ. One of the connecting links between *Lilies* and *Ruſhes.*

GENERIC CHARACTER.

Cal. *Involucre* ſimple, three-leaved, ſhort.

Cor. *Petals* ſix, roundiſh, concave, withering: three outer alternate, ſmaller, more acute.

Stam. *Filaments* nine, ſubulate. *Anthers* bilamellate.

Pist. *Germs* ſix, oblong, acuminate, ending in *ſtyles. Stigmas* ſimple.

Per. *Capſules* ſix, oblong, gradually attenuated, erect, one-valved, gaping on the inſide.

Seeds very many, oblong-cylindric, obtuſe at both ends, fixed to the wall of the capſules.

ESSENTIAL CHARACTER.

Cal. none. *Petals* ſix. *Capſ.* ſix; many-ſeeded.

SPECIES.

1. Butomus umbellatus. *Flowering Ruſh* or *Water Gladiole.*

Lin. ſpec. 532. *Reich.* 2. 233. *lapp.* 159. *ſuec.* 350. *Hudſ. angl.* 174. *With.* 420. *Curt. lond.* 1. 29. *abr. t.* 1. *Lightf. ſcot.* 211. *Relh. cantabr.* 164. *Hall. helv. n.* 1186. *Scop. carn. n.* 475. *Pollich pal. n.* 391. *Krock. ſileſ. n.* 619. *Villars dauph.* 2. 278. *Fl. dan. t.* 604. *Mill. illuſtr. fig.*

B. *Cæſalp.* 553. *Neck. gallob.* 189. *Raii ſyn.* 273.

Juncus floridus. *Matth.* 1037. *Camer. epit.* 781. *Baub. hiſt.* 2. 524. *Raii hiſt.* 701.—major. *Bauh. pin.* 112. *Park.* 1197. 1. *Rudb. elyſ.* 1. 109. *f.* 1.

Sedo affinis juncoides umbellata paluſtris. *Mor. hiſt.* 3. *ſ.* 12. *t.* 5. *f.* 3.

Gladiolus aquatilis. *Dod. pempt.* 600.——paluſtris Cordi. *Ger.* 27. 2. *emac.* 29. 2.

[DESCRIPTION, &c.

Root perennial. Leaves enſiform, long, triangular, ſmooth, quite entire, ſpongy, at bottom ſheathing, at top flat and twiſted. Scape upright round, ſmooth, from one to three or five and ſix feet high. Flowers to thirty, each on a ſingle round ſmooth peduncle, from an inch to about a finger's length, forming an upright umbel, ſurrounded at bottom by an involucre of three withering membranous ſheaths; beſides a ſmaller ſtipule to each peduncle. Corolla handſome, near an inch in breadth; commonly of a bright or pale fleſh-colour, purple or roſe-colour. Filaments placed in a regular circle on the receptacle. Anthers before the ſhedding of the pollen, reddiſh, four-grooved, and terminated by a ſhort point; appearing afterwards ſomewhat heart-ſhaped, flat and bilamellate. The pollen is of a bright yellow colour. Germ nearly triangular, the outer ſide broad and roundiſh: the ſtigma has a ſmall channel in it, which afterwards ſpreads into two lips[f]. Capſules within the permanent corolla, ovate and beaked, connected below near half their length, membranaceous. Seeds ſmall, ſubcylindric, grooved, on one ſide furniſhed with a very narrow membranaceous rib or hilum, rufeſcent, fixed, without any proper receptacle to the inſide of the capſule all round: ſkin double; outer cruſtaceous, hard, brittle; inner membranaceous, very thin, adhering cloſely to the ſeed: albumen almoſt cylindric, but thinner towards the navel, fleſhy, white: embryo one-lobed, ovate-globular, minute, in the thicker part of the albumen or white, oppoſite to the umbilicus or navel, greeniſh[g].—In and by the ſides of watery ditches, moats, lakes, ponds, and brooks, in moſt parts of Europe, from Lapland to Italy. It flowers with us from july to ſeptember. The corolla varies in different ſhades of red, or purple mixed with white; and is ſometimes entirely white. The ſtem at bottom, and the peduncles at top are often tinged with red. The number three is evidently predominant in the fructification: the corolla being doubly tripetalous; the ſtamens thrice three; the piſtils ſix; the capſules ſix in a hexagon form; the involucre three-leaved. We know not of any uſe to which this plant may be applied, but its beauty is acknowledged. "The Water-Gladiole or graſſie Ruſh," ſays Gerarde, "is of all others the faireſt and moſt pleaſant to behold, and ſerveth very well for the decking and trimming up of houſes, becauſe of the beautie and braverie thereof."—It is the only plant of the claſs *Enneandria,* which grows wild in Britain.]

Mr. Miller mentions a variety, as found near London, intermixed with the common ſort; which is not half ſo large in leaf, ſtalk, or flower.

PROPAGATION AND CULTURE.

Flowering-Ruſh may be propagated in boggy places; or by planting it in ciſterns kept filled with water, and having about a foot thickneſs of earth in the bottom, into which the roots ſhould be planted, or the ſeeds ſown as ſoon as they are ripe; or on the ſides of ponds or ſlow-flowing ſtreams, where it will have a good effect in diverſifying the ſcene.

Butneria. See *Calycanthus.*

[**Butonica.** See *Barringtonia.*

Butter-bur. See *Tuſſilago.*

Butter-wort. See *Pinguicula.*

BÜTTNERIA. (*From David Sigiſm. Auguſt. Büttner, profeſſor of botany at Gottingen.*)

Lin. gen. 268. *Reich.* 288. *Schreb.* 366. *Loefl. it.* 313. *Jacqu. amer.* 76. *Juſſ.* 277.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Columniferæ. Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cleft, deciduous: *diviſions* ovate, acute, ſpreading very much.

Cor. *Petals* five, oblong, ſhort, converging; above broadiſh, concave; ending in a long, ſubulate briſtle, incumbent on the nectary at the baſe, then erect-expanding, longer than the calyx, and in two other ſmall, lateral, ſhort, reflex briſtles.

Nectary five-leaved, ventricoſe-campanulate, ſhorter than the calyx: leaflets obovate, obtuſe, flat, erect, ſemiconnate by the filaments.

Stam. *Filaments* five, ſubulate, on the outſide of the nectary, each ſpringing from two adjoining leaflets of it. *Anthers* twin, diſtinct, bifid, roundiſh.

Pist. *Germ* roundiſh, quinquangular. *Style* ſubulate, ſhort. *Stigma* obtuſe, obſcurely quinquefid.

Per. *Capſule* roundiſh, depreſſed, five-grained, five-valved, muricate.

Seeds ſolitary, ovate, compreſſed.

ESSENTIAL CHARACTER.

Cor. five-petalled. *Filaments* at the top connate with the petals. *Capſ.* five-grained, muricate.

SPECIES.

1. Büttneria ſcabra.

Lin. ſpec. 284. *ſyſt.* 236. *Reich.* 551. *Loefl. it.* 313. *Aublet. guian.* 1. 241. *t.* 96.

Leaves lanceolate, rib and petioles prickly.

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[c] Browne.

[d] Swartz.

[e] Hort. kew.

[f] Curtis, Withering.

[g] Gærtner.

2. Büttneria carthaginenſis.
Lin. ſyſt. 236. *Jacqu. amer. pict.* 41.—aculeata. *amer.* 76.
Leaves ovate, rib and petioles prickly.

3. Büttneria microphylla.
Lin. ſyſt. 236. *Reich.* 551. *mant.* 209. *Jacqu. hort.* 10. *t.* 29.
Branches flexuoſe even, leaves unarmed.

DESCRIPTIONS, &c.

1. This is a perennial plant, ſhrubby at bottom, from three to five feet high, with alternate, long, angular branches, armed with ſhort, reflex, cartilaginous prickles. Leaves linear-lanceolate, alternate, toothletted, pale green eſpecially underneath, where the midrib has recurved prickles along it; the largeſt are four or five inches long and four or five lines in breadth; the lower ones are petioled, the upper ſubſeſſile; at the baſe are two deciduous ſtipules. At the axils of the leaves, ſtem and branches, the flowers are produced ſingly on ſhort peduncles. Found by Aublet between Cayenne and Couron, in june [a].

2. Jacquin affirms this to be different from the foregoing. He deſcribes it as a ſhrub with branches ſpreading on every ſide in the manner of the common Bramble. Stems perennial, rather woody, five-cornered, the furrows and angles obtuſe, armed with crooked reflex prickles: the tender branches round, prickly, alternate. Leaves ſmooth, quite entire, or with one or two ſerratures only, alternate, deciduous, the petiole and midrib prickly at the back; on the old branches ovate, acute, four inches long or more, on the younger lanceolate-acuminate, leſs. Racemes ſhort, aggregate and axillary on the younger branches. Flowers without ſmell, ſmall, white, very numerous. Native of Carthagena and St. Domingo: flowering ſeptember and october [b].

3. Spines of the ſtem ſolitary, by the ſide of the leaves, horizontal. Leaves alternate, or in pairs, remote, oval, very blunt, ſubſeſſile, ſpreading. Peduncles lateral, axillary, capillary, many, equal to the leaves. Calyx five-leaved, ſpreading. Petals linear, lobed on each ſide at the baſe. Fruit thorny all over [c].

It differs from the foregoing, in having unarmed leaves, the trunk and branches larger and round, the peduncles one-flowered, and the corolla purple and white variegated.

Found by Jacquin, in february 1757, near Port au Prince in the iſland of St. Domingo; and introduced by him into Europe [d].

Button-tree. See *Conocarpus.*
Button-weed. See *Spermacoce.*
Button-wood. See *Cephalanthus.*

BUXBAUMIA.

A kind of Moſs, of which there are only two ſpecies. 1. *B. aphylla*, figured in *Fl. dan. t.* 44. *Dill. muſc. t.* 68. *f.* 5. and, 2. *B. folioſa*, figured by *Dillenius, t.* 32. *f.* 13. Both are to be found in the diſſertation of the younger Linneus on Moſſes, p. 25 and 33. and the latter is figured there, t. 1. f. 4.]

BUXUS. (Πύξος; *from* πύκα, *denſè, ſpiſſè*: δια, το πυκνου του ξυλου, *the timber being very denſe and cloſe.*)

Engl. *Box.* Fr. *Buis.*

Lin. gen. n. 1053. *Reich.* 1148. *Schreb.* 1420. *Tournef.* 345. *Juſſ.* 388. *Gærtn. t.* 108.
Claſſ. 21. 4. Monoecia Tetrandria.
Nat. order of *Tricoccæ.*—*Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male flowers prominent from the buds of the plant.*

Cal. *Perianth* three-leaved: *leaflets* roundiſh, obtuſe, concave, ſpreading.
Cor. *Petals* two, roundiſh, concave, very like the calyx, but larger.
Stam. *Filaments* four, ſubulate, erect-expanding, rather larger than the calyx. *Anthers* erect, twin.
Pist. Rudiment of a germ without ſtyle or ſtigma.

* *Females in the ſame bud with the males.*

Cal. *Perianth* four-leaved: *leaflets* roundiſh, obtuſe, concave, ſpreading.
Cor. *Petals* three, roundiſh, concave, very like the calyx, but larger.
Pist. *Germ* ſuperior, roundiſh, obtuſely three-cornered, ending in three, very ſhort, permanent *ſtyles*. *Stigmas* obtuſe, hiſpid.
Per. *Capſule* coriaceous, roundiſh, three-beaked, three-celled, burſting elaſtically into three parts.
Seeds twin, oblong, rounded on one ſide, flat on the other.

ESSENTIAL CHARACTER.

Male. *Cal.* three-leaved. *Petals* two. The rudiment of a germ.
Fem. *Cal.* four-leaved. *Petals* three. *Styles* three. *Capſ.* three-beaked, three-celled. *Seeds* two.

SPECIES.

1. Buxus ſempervirens.
Lin. ſpec. 1394. *Reich.* 4. 128. *hort. cliff.* 441. *upſ.* 283. *mat. med.* 200. *Gærtn. fruct.* 2. 125. *Hudſ. angl.* 417. *With.* 1068. *Hall. helv. n.* 1610. *Scop. carn. n.* 1173. *Allion. pedem. n.* 2097. *Du Roi harbecc.* 1. 118. *Duham. arb.* 1. 115. *t.* 46. *Pallaſ. roſſ.* 1. 17. *Villars dauph.* 2. 336. *Raii hiſt.* 1693. *Ger.* 1225. *emac.* 1410. *Park.* 1428. *f.* 1. 1429. *Camer. epit.* 601.
α. B. arboreſcens. *Bauh. pin.* 471. *Mill. dict. n.* 1. *Blackw. t.* 196. *Common Box-tree.*
β. B. anguſtifolia. *Raii ſyn.* 445. *Hudſ.* β. *Mill. dict. n.* 2. *Narrow-leaved Box-tree.*
γ. B. ſuffruticoſa. *Mill. dict. n.* 3. *Dwarf Box.*
B. fol. rotundioribus. *Bauh. pin.* 471.—humilis. *Dod. pempt.* 782.

DESCRIPTION, &c.

[Box is well known in its dwarf ſtate, and as a ſhrub about three feet in height; it becomes however, when left to itſelf, a tree, twelve or fifteen feet high, with a trunk equalling the human thigh in thickneſs, covered with a rugged, grayiſh bark, that of the branches yellowiſh. The wood is of a yellow colour, of an even cloſe grain, very hard and ponderous. It is the only one of the European woods which will ſink in water. Theophraſtus ranks it with the Ebony; for cloſeneſs of grain. The leaves are ovate or oval in the common ſort, hard, ſmooth, gloſſy, evergreen, very dark green above, pale green underneath, ſomething reſembling thoſe of Myrtle, but blunt and commonly emarginate at the end, the edges are revolute, they are ſet on very ſhort petioles, and on the twigs they come out regularly in pairs, ſo cloſe as almoſt to conceal them. On theſe, from the axils of the leaves, come out the ſmall herbaceous flowers, in round bunches; a female flower occupying the middle of the bunch, and being ſurrounded by ſeveral males. The female flower is ſucceeded by a capſule of a globular form, very ſmooth, ſhining, tricoccous, and before it opens having three beaks, then reſembling a tripod: the rind is three-valved, and the valves are two-horned: the *cocculi* or grains are of the conſiſtence of paper, two-valved, and opening with an elaſtic ſpring: receptacle central, three-ſided, and ſhort: in each cell is a pair of ſeeds, ovate, growing more ſlender upwards, triangular-compreſſed, obliquely truncate at the end, blackiſh brown or black, ſmooth [e].

Mr. Miller inſiſts that the Common Box-tree, the narrow-leaved, and the Dwarf or Dutch Box] are three certainly diſtinct ſpecies. The two ſorts of Box Tree have been frequently raiſed from ſeeds, and conſtantly produced plants of the ſame kind from thoſe the ſeeds were taken from; and the Dwarf Box will never riſe to any conſiderable height with any culture, nor have I ever ſeen this ſort flower, where the plants have been encouraged to grow many years in the greateſt luxuriancy. There are two or three varieties of the firſt, which are propagated in the gardens, one with yellow, and another with white ſtriped leaves. The other has the tops of the leaves only marked with yellow, which is called Tipped Box.

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[a] Aublet.
[b] Jacquin.
[c] Linn.
[d] Jacquin.
[e] Gærtner.

[The Box-tree is a native of moſt parts of Europe from Britain ſouthwards. I have ſeen whole mountains covered with it between Lyons and Geneva, in Savoy, *&c.* but none of any ſize. It is alſo very common in many parts of Burgundy, Dauphiné and Provence. It abounds in many countries of Aſia, as about mount Caucaſus, in Perſia, China, Cochinchina, *&c.* Alſo in America. In England it was formerly much more common than it is at preſent. Gerarde ſays, " it groweth upon ſundry waſte and barren hils in Englande :" and Parkinſon, " that it is found with us in many woods, and wood grounds ; that it is alſo planted in divers orchards or houſe backſides, where it never groweth high, but ſerveth as a buſh to dry linnen on, *&c.*" Many of theſe buſhes however have grown up to trees of a reaſonable ſize, about old manſions, and farm-houſes, but are now for the moſt part deſtroyed.

" Theſe trees riſe naturally," ſays Evelyn, " in Kent, at Boxley, and in Surry, giving name to Box-hill. He that in winter ſhould behold ſome of our higheſt hills in Surry clad with whole woods of them, for divers miles in circuit; as in thoſe delicious groves of them belonging to the late Sir Adam Brown of Bechworth-caſtle, might eaſily fancy himſelf tranſported into ſome new or enchanted country."

The enchantment, alas! has been long broken.] Mr. Miller, in 1759, lamented, that the trees on Box-hill, had been then pretty much deſtroyed ; though many remained of a conſiderable bigneſs. [The deſtruction ſince that time has been much greater.

It has been conjectured that Box-hill was planted with theſe trees by the Earl of Arundel : but there is the moſt authentic proof that they were there before his time, and the ground on which they grow was not his property[f].

Not only this hill near Darking in Surry, and Boxley in Kent, but Boxwel in Coteſwold, Glouceſterſhire, was named from this tree.

Mr. Woodward remarks it as plentiful on the chalk hills near Dunſtable. It is fond of open dry ſituations, and a calcareous ſoil. In temperate climates and ſeaſons it flowers in february and march.

The wood of the Box-tree ſells at a high price, by weight. Being very hard and ſmooth, and not apt to warp, it is well adapted to a variety of nicer works. " It is of ſpecial uſe," ſays Evelyn, " for the turner, engraver, carver, mathematical-inſtrument-maker, comb and pipe or flute-maker ; the roots for the inlayer, and cabinet-maker. Of Box are made wheels and ſhivers, pins, pegs for muſical inſtruments, nut-crackers, button-moulds, weaver's ſhuttles, hollar-ſticks, bump-ſticks, and dreſſers for the ſhoemaker, rulers, rolling-pins, peſtles, mall-balls, beetles, tops, tables, cheſs-men, ſcrews, bobbins for bone-lace, ſpoons, knife-handles, nay the ſtouteſt axle-trees, but eſpecially combs :

" Non ultima belli
" Arma puellaris ; laqueos hæc nectit amantum,
" Et venatricis diſponit retia formæ.[g]"

The Engliſh wood is eſteemed inferior to that which comes from the Levant ; and the American Box is ſaid to be preferable to ours.

The ancients made combs of Box, and muſical inſtruments to be played upon by the mouth. The Romans likewiſe clipped it into form, for which nothing is more fit, ſays Pliny ; *ut quæ* (*arbor*) *ob densè ſubnaſcentes ſurculos & frondes, in animalium aliorumve effigies componi & detonderi præ alia quæcunque apta eſt.* And Martial obſerves of the garden at Baſſus's country-houſe :

" ———— otioſis ordinata myrtetis,
" Viduaque Platano, *tonſilique buxeto.*"

It was ſecond to the Yew with us in former times for the purpoſe of being clipped into the ſhape of animals, *&c.* : but the Dwarf Box ſtood unrivalled " for bordering up a knot, and was eſteemed a marvellous fine ornament to the flower-garden." The branches were in requeſt among our anceſtors for decking up houſes[h] ; they are ſtill ſeen among other evergreens in churches at chriſtmas, and in ſome countries they are borne by attendants at funerals.

In our plantations, the Box ſtill keeps its place deſervedly among ornamental evergreens. It will flouriſh under the deepeſt ſhade, and will thrive in any ſoil and expoſure. Dr. Stokes affirms that it is fit to cut down in about thirty years.

Box has been much celebrated as a medicine in the venereal diſeaſe, colics, intermittent fevers, *&c.* Haller ſays, *vix credo ſerio in uſum recipi.* Our Gerarde obſerves, " that it is more fit for dagger-hafts than to make medicines ; though fooliſh empiricks and women leaches do miniſter it againſt the apoplexy and ſuch diſeaſes." He adds, " that turners and cutlers call this wood dudgeon, becauſe they make dudgeon-hafted daggers with it."

Parkinſon, in his firſt work ſays, " it has no phyſical uſe among the moſt and beſt phyſicians, although ſome have reported it to ſtay fluxes, and to be as good as Guaiacum for the French diſeaſe." Yet in his ſecond work he ſets it down " as a medicine for the bite of a mad dog ! as a cure for the bots in horſes ; and the leaves and ſaw-duſt boiled in lye, to change the hair to an Aborne (Auburn) or Abraham colour."

According to Dr. Withering, " an empyreumatic oil, diſtilled from the ſhavings, is often uſed as a topical application for the piles, and ſeldom fails to procure eaſe ; it will frequently relieve the tooth-ach, and has been given internally in epilepſies ; the leaves powdered deſtroy worms." Decoctions of the wood and bark are wholly diſuſed, on account of their being very nauſeous and diſagreeable to the ſtomach.

Pliny affirms that no animal will touch the ſeed of Box[i]. Gmelin relates that the branches are fatal to the camels that eat them[k]. None of our animals ſeem to touch this tree. Corſican honey was ſuppoſed by the ancients to owe its infamy to the bees feeding on the Box.

The name varies very little from the Greek and Latin in the European languages; being *Bucks* or *Buckſbaum* in German ; *Buxbom* in Swediſh and Daniſh ; *Buis* or *Bouis* in French ; *Buſſo* or *Boſſo* in Italian ; *Box* in Spaniſh ; *Bucho* or *Buxo* in Portugueze. The Ruſſians have adopted *Samſchit* from the Tartars. In Perſian it is *Schimſchat* ; in Turkiſh *Tſchemtſchir.* In Japoneſe *Kō tſuge.* In Chineſe *Huynh duong.* In Cochinchineſe *Hoam tuon.*]

PROPAGATION AND CULTURE.

All the varieties of Box may be propagated by cuttings planted in autumn in a ſhady border, obſerving to keep them watered until they have taken root, when they may be tranſplanted into the nurſery, until they are fit for the purpoſe intended. [Theſe cuttings may be planted ſo early as auguſt. but the beſt time is when the autumnal rains fall, They ſhould be a foot in length, and rather more than half ſhould be planted in the ground, at the diſtance of four inches from each other. A ſlip of the laſt year's wood, ſtripped from an older branch, is an excellent ſet, and there is little fear of its growing. The cuttings or ſlips may ſtand three years, and then be tranſplanted into the nurſery any time between auguſt and april, chooſing moiſt weather for the purpoſe, if this work be performed early or late. In the nurſery the rows may be two feet aſunder, and the plants a foot from each other in the rows[l].]

2. They may be propagated by laying down the branches. [This may be done between michaelmas and march ; and it is the natural way by which Box frequently propagates itſelf ; for when it breaks down

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[f] Gentleman's Magazine, 57, 880.

[g] Cowley.

[h] Parkinſon parad. p. 606.

[i] Hiſt. nat. l. 16.

[k] Itin. 3. 108.

[l] Hanbury.

by its own weight, or by a fall of ſnow, ſoon after it comes into contact with the ground, it ſends forth fibres.]

3. Box may be propagated by ſeeds ſown ſoon after they are ripe, in a ſhady border, and duly watered in dry weather. This is the beſt method to raiſe large trees. [The beſt ſoil for the ſeeds is a light loam or ſand, and they ſhould be ſown half an inch deep. They will come up in the ſpring, though probably many will lie in the ground to a ſecond ſeaſon. They ſhould ſtand two or three years in the ſeed-bed; and when they are ſtrong enough to plant out, they may be removed into the nurſery, and placed at the ſame diſtance as was preſcribed for the cuttings.]

The beſt ſeaſon for removing this tree is october, though it may be tranſplanted almoſt at any time, except in ſummer, if it be taken up with a good ball of earth.

Dwarf Box is increaſed by parting the roots or planting the ſlips; but as it makes ſo great an increaſe of itſelf, and ſo eaſily parts, it is hardly worth while to plant the ſlips that have no roots. It is ſo common that it may be purchaſed from the nurſeries at a cheap rate. The manner of planting it in edgings is well underſtood by every working gardener.

[BYSSUS.

A genus of the Cryptogamia Algæ, and the laſt in the ſcale of vegetation in that claſs. The ſpecies in Linneus are fourteen, but there are certainly many more of them. They appear in form of threads or a kind of meal on rotten wood, the bark of trees, rocks, damp banks, and walls, eſpecially of damp cellars. Hudſon and Withering enumerate nineteen Britiſh ſpecies: and Lightfoot fourteen.

One ſort is common on wine caſks, at firſt is like flakes of ſnow, but turns yellow, and at laſt like a mouſe's ſkin: in this ſtate it has black grains at the baſe like gunpowder, rots the caſks, and is excellent to ſtaunch blood. The green paper Byſſus is a farina concreting on the ſurface of the water, and forming a wide thin film on the ſurface. Weis denies it to be a vegetable[a]. Withering is of opinion that it is a *Conferva*.

BYSTROPŌGON. (*From* Βυω, *obturo, and* Πωγων, *barba; the calyx being cloſed by a ſort of beard.*)
L'Herit. ſert. angl. t. 22, 23.
Claſſ. 14. 1. Didynamia Gymnoſpermia.
Nat. order of *Verticillatæ*. *Labiatæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, divided into five awl-ſhaped ſegments, cloſed by a beard at the opening.
COR. monopetalous, ringent. Upper lip bifid, lower trifid, the outmoſt ſegment moſt produced.
STAM. *Filaments* four, didynamous, diſtant. *Anthers* incumbent.
PIST. *Germ* ſuperior, four-parted. *Style* ſubulate. *Stigma* bifid.
PER. none. *Calyx* cloſed with a beard, and cheriſhing the ſeeds.
SEEDS four.

ESSENTIAL CHARACTER.

Cal. five-ſubulate, bearded at the opening. *Cor.* upper lip bifid, lower trifid, *Stamens* diſtant.

SPECIES.

1. Byſtropogon pectinatum. *Balm-leaved B.*
L'Herit. ſert. 19. *n.* 1. *Hort. kew.* 2. 292.
Nepeta pectinata. *Lin. ſpec.* 799. *Reich.* 3. 34. *Swartz obſ.* 225. *Sloan. jam.* 1. 173. *t.* 108. *f.* 1?
Galeopſis. *Brown. jam.* 259. 2.
Panicles compact, flowers directed one way, leaves ovate.
2. Byſtropogon ſidæfolium. *Sida-leaved B.*
L'Herit. ſert. 19. *n.* 2.
Panicles very looſe, peduncles in whorls, filiform, leaves cordate.
3. Byſtropogon ſuaveolens. *Sweet-ſcented B.*
L'Herit. ſert. 19. *n.* 3.
Ballota ſuaveolens. *Lin. ſpec.* 815. *Reich.* 3. 63. *Swartz obſ.* 225. *Pluk. phyt. t.* 306. *f.* 3. *Plum. cat.* 6. *ic.* 155. *t.* 163. *f.* 1. (Meliſſa.) *Sloan. jam.* 1. 171. *t.* 102. *f.* 2. (Mentaſtrum.) *Brown. jam.* 257. *t.* 18. *f.* 3. (Meſophærum.) *Raii hiſt.* 1332. (Erva Cidreira).
Peduncles axillary ſolitary, calyxes truncate awned, leaves cordate.
4. Byſtropogon plumoſum. *Woolly-flowered B.*
L'Herit. ſert. 20. *n.* 4. *t.* 22. *Hort. kew.* 2. 292.
Mentha plumoſa. *Lin. ſuppl.* 273.
Panicles dichotomous, calyxes feathered, leaves ovate ſubſerrate tomentoſe beneath.
5. Byſtropogon origanifolium. *Marjoram-leaved B.*
L'Herit. ſert. 20. *n.* 5.
Panicles dichotomous, calyxes feathered, leaves ovate quite entire very white beneath.
6. Byſtropogon canarienſe. *Canary B.*
L'Herit. ſert. 20. *n.* 6. *Hort. kew.* 2. 292.
Mentha canarienſis. *Lin. ſpec.* 807. *Reich.* 3. 46. *cliff.* 307. *Pluk. phyt. t.* 307. *f.* 2.]
Heliotropium canarienſe. *Mill. dict. n.* 5. *Comm. hort.* 2. 129. *t.* 65.
[*Peduncles dichotomous, flowers in heads, leaves ovate crenate very villoſe beneath.*
7. Byſtropogon punctatum. *Cluſter-flowered B.*
L'Herit. ſert. 20. *n.* 7. *t.* 23. *Hort. kew.* 2. 293.
Panicles dichotomous, flowers in heads, leaves ovate toothed ſmooth finely dotted.

DESCRIPTIONS, &c.

1. Stem ſuffruteſcent or herbaceous, generally five or ſix feet high or more, but varying in height, four-cornered, even, brachiate, ſcarcely fragrant. Leaves petioled, cordate, veined, naked, ſerrate. Spikes ſimple or manifold, terminating, directed one way, interrupted, ſcarcely leafy; compoſed of peduncled, faſtigiate whorls, ſupported by ſeveral briſtle-ſhaped bractes, the length of the flowers; which grow very thick together, curiouſly diſpoſed on the ſmalleſt ſlips of the branched tops; they are whitiſh, and all the parts are very ſmall; the neck of the calyx and the filaments are commonly covered with down. The corolla is ſcarcely larger than the calyx; the border is five-cleft, four of the clefts being equal, ſharp, ſpreading, the fifth or lip purpliſh and roundiſh. Stamens the length of the corolla and diſtant. Style purpliſh. Stigmas ſimple. Seeds roundiſh, black, gloſſy. Spikes very odorous, like thoſe of White Horehound (Marrubium album)[b].

This plant is found in Sloane's herbarium, but the figure in his hiſtory does not correſpond with it[c].

Native of Jamaica, in all the low lands and dry ſavannahs about Kingſton and Spaniſh Town. It has alſo been found in Peru by Dombey. It flowers in december and january, and was introduced here in 1776, by Mr. Gilbert Alexander[d].

2. This alſo is a native of Peru, and was diſcovered there by Dombey[e].

3. Stem upright, becoming ſhrubby at bottom, branched, hirſute. Branches ſomewhat erect, and villoſe. Leaves oppoſite, roundiſh, ſometimes elliptic, crenate, nerved, villoſe: petioles long, ſlender, lax. Peduncles axillary, towards the ends of the branches, three or five-flowered. Flowers approximating, blue: calyx ten-ſtreaked, villoſe, viſcid; teeth awned, upright, villoſe: tube of the corolla narrower at the baſe, from the middle to the opening ſpreading out; upper lip compoſed of the two upper erect lateral ſegments and the helmet, which is ſmaller than the ſegments, ovate, arched, bent down, keeled above; lower lip compoſed of the two lower ſegments, which are alſo bent down. Filaments from the bottom of the tube, ſtanding up above the opening of the corolla, pubeſcent. Anthers blackiſh. Germ ovate: ſtyle ſhorter than the ſtamens: ſtigma ſimple, blunt. Seeds two, naked, ovate, black, ſlightly compreſſed. There are ſeldom four ſeeds. It is an annual plant, and

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[a] Lightfoot.

[b] Linn. ſpec. Swartz, Browne. [c] L'Heritier. [d] Hort. kew.
[e] L'Heritier.

the whole of it has a very ſtrong ſmell like that of its congeners[f].

The Portugueze call it *Erva Cidreira*, from its ſmelling ſomewhat like a Citron. In Jamaica, where it is common about Kingſton and Old-harbour, it is known by the name of *Spikenard*, on account of its ſtrong but pleaſant ſmell[g]. It is one of the moſt grateful cephalics and alexipharmics; and may be uſed in diſorders of the nerves and viſcera, where ſuch warm medicines are required[h].

It is a native of the continent of South America, as well as the iſlands of the Weſt Indies.

4. This and the next ſpecies, connect the two laſt with the foregoing ones[i].

It is a native of the Canary iſlands, where it was found by Maſſon. Introduced here in 1779, and flowers in june and july[k].

5. This is very nearly allied to the foregoing ſort, but the leaves are quite entire, and ſnow-white underneath. It was alſo found by Maſſon[l].]

6. Stem woody, three or four feet high, dividing into many branches. Leaves on long peduncles, hairy, and aſh-coloured on their under ſide. The flowers are produced from the ſide of the branches on pretty long peduncles, each ſuſtaining four roundiſh heads, dividing by pairs, and ſpreading from each other. They come out in june and july, but do not produce ripe ſeeds in England. The corolla is white. The leaves when bruiſed, emit an agreeable odour. The gardeners have given it the title of Madam Maintenon. It grows naturally in the Canary iſlands, [and in the iſland of Madeira. In 1714 it was cultivated by the Dutcheſs of Beaufort; and flowers from june to auguſt[m].

7. The calycine ſegments are not ſubulate as in the other ſpecies; it is however of the ſame genus with them[n]. Native of Madeira, and introduced here in 1775, by Sir Joſeph Banks, Baronet: it flowers from july to ſeptember[o].

PROPAGATION AND CULTURE.

The three firſt ſorts muſt be preſerved in the bark-ſtove; the four laſt in the dry-ſtove or conſervatory. They may all be propagated by cuttings during the ſummer months.

Byttneria. See *Buttneria*.

C.

Caapeba. See *Ciſſampelus*.

Caapomonga. See *Plumbago*.

Cabbage. See *Braſſica*.

Cabbage-tree. See *Areca* and *Cacalia Kleinia*.]

CACALIA. (Κακαλία, *the name of an herb in Dioſcorides, and Pliny.*)

Lin. gen. n. 933. *Reich.* 1013. *Schreb.* 1269. *Gærtn. t.* 166. *Juſſ.* 178. *Vaill. act. gall.* 1719. *Tournef.* 258. *Raii meth.* 34. Kleinia, *edit. prior.* Cacalianthemum, *Dill. elth.* 54, 55. Porophyllum, *Vaill. act. gall.* 1719. *t.* 20. *f.* 39.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* ſimple, oblong, at the baſe only ſubcalycled, cylindric: *ſcales* five to ten, equal, lanceolate-linear, forming a tube; a few very ſhort, incumbent on the baſe.

Cor. *Compound* tubular: *Corollules* hermaphrodite, in number the ſame as the longer leaves of the calyx, uniform.—*Proper* funnel-form, gradually leſſening to the tube: *border* four or five-cleft, erect.

Stam. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

Pist. *Germ* oblong. *Style* filiform, the length of the ſtamens. *Stigmas* two, oblong, revolute.

Per. none. *Calyx* unchanged.

Seeds ſolitary, oblong, ovate-narrow. *Down* capillary, very long.

Rec. naked, flat, dotted.

Obs. Cac. alpina *differs in having the leaflets of the calyx glued together, and the corollules four-cleft.—With the addition of a ray, this genus would be changed into* Cineraria.

ESSENTIAL CHARACTER.

Cal. cylindric, oblong, at the baſe only ſubcalycled. *Down* capillary. *Recept.* naked.

SPECIES.

* *Shrubby.*

1. Cacalia papillaris. *Rough-ſtalked Cacalia.*
Lin. ſpec. 1168. *Reich.* 3. 707. Kleinia 3. *hort. cliff.* 395.
Cacalianthemum caudice papillari. *Dill. elth.* 63. *t.* 55. *f.* 63.
Stem ſhrubby fortified with truncated petiolary ſpines.

2. Cacalia Anteuphorbium. *Oval-leaved Cacalia.*
Lin. ſpec. 1168. *Reich.* 3. 707.
Kleinia. *Lin. hort. cliff.* 395. 4.
Anteuphorbium. *Bauh. pin.* 387. *Dod. pempt.* 378. *Mor. hiſt.* 3. 345. *n.* 5. *ſ.* 7. *t.* 37. *Dill. elth. t.* 55. *f.* 63. 2, 3. (flos).
Stem ſhrubby, leaves ovate-oblong flat, petioles having a triple line at the baſe.

[3. Cacalia cuneifolia. *Wedge-leaved Cacalia.*
Lin. ſyſt. 733. *Reich.* 3. 708. *mant.* 110.
Stem ſhrubby, leaves wedge-form fleſhy.]

4. Cacalia Kleinia. *Oleander-leaved Cacalia,* or *Cabbage-tree.*
Lin. ſpec. 1168. *Reich.* 3. 708. *Gærtn. fruct.* 2. 400.
Kleinia. *hort. cliff.* 395. 1.
Cacalianthemum fol. nerii glauco. *Dill. elth.* 61. *t.* 54. *f.* 62.
Arbor lavandulæ folio. *Cluſ. exot.* 1. 5. *p.* 6, 7. *Bauh. hiſt.* 1. 265. *f.* 1.
Frutex. ind. orient. lavend. fol. *Bauh. pin.* 401.
Linariæ ſim. Arbuſcula canarienſis, &c. *Pluk. phyt. t.* 304. *f.* 3.
Tithymaloides fruteſcens nerii fol. *Klein. monogr. Burm. ind.* 175.
Stem ſhrubby compound, leaves lanceolate flat, ſcars of the petioles obſolete.

5. Cacalia Ficoides. *Flat-leaved Cacalia.*
Lin. ſpec. 1168. *Reich.* 3. 708.
Kleinia. *hort. cliff.* 395. 2.
Senecio afr. arb., ficoides fol. & facie. *Comm. rar. t.* 40. *Bradl. ſucc.* 5. 11. *t.* 49. *Dill. elth.* 61.
Stem ſhrubby, leaves compreſſed, fleſhy.

[6. Cacalia repens. *Glaucous-leaved Cacalia.*
Lin. ſyſt. 733. *Reich.* 3. 708. *mant.* 110.
Stem ſhrubby, leaves depreſſed fleſhy.

7. Cacalia ſuffruticoſa. *Flax-leaved Cacalia.*
Lin. ſyſt. 733. *Reich.* 3. 709. *mant.* 109.
C. linifolia. *Ard. ſpec.* 2. 39. *t.* 19.
Stem underſhrubby branching, leaves linear flat ſcattered.

8. Cacalia laurifolia. *Bay-leaved Cacalia.*
Lin. ſyſt. 733. *ſuppl.* 351.
Shrubby, ſmooth; leaves petioled, ovate, triple-nerved, obtuſe, quite entire, very ſmooth; thyrſe terminal; calyx four-leaved, ſmooth.

9. Cacalia cordifolia. *Heart-leaved Cacalia.*
Lin. ſyſt. 733. *ſuppl.* 351.
Shrubby, hirſute; leaves petioled, cordate-ovate, nerved, acute, ſcabrous; calyx four-leaved, four-flowered, pubeſcent.

10. Cacalia aſclepiadea. *Aſclepias-like Cacalia.*
Lin. ſyſt. 733. *ſuppl.* 352.
Shrubby, tomentoſe; leaves petioled, ovate-lanceolate, quite entire, very ſmooth above, tomentoſe beneath, the edges rolled back, panicles terminal.

11. Cacalia appendiculata. *Ear-leaved Cacalia.*
Lin. ſyſt. 733. *ſuppl.* 352.
Shrubby, tomentoſe; leaves cordate, ovate, acute, angular, tomentoſe beneath, petioles with leafy appendicles.

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[f] Swartz.
[g] Sloane.
[h] Browne.
[i] L'Heritier.
[k] Hort. kew.
[l] L'Heritier.
[m] Hort. kew.
[n] L'Heritier.
[o] Hort. kew.

12. Cacalia tomentoſa. *Woolly-leaved Cacalia.*

Lin. ſyſt. 733. *ſuppl.* 353.

Shrubby, tomentoſe; leaves lanceolate, toothed, tomentoſe beneath, ſeſſile.

* *Herbaceous.*

13. Cacalia Porophyllum. *Perforated Cacalia.*

Lin. ſpec. 1169. *Reich.* 3. 709. *Swartz obſ.* 298.

Porophyllum fol. ellipticis. *Lin. hort. cliff.* 494.

Senecio indicus, atriplices fol. glabro. *Mor. hiſt.* 3. 106. *ſ.* 7. *t.* 17. *f.* 7. *Raii ſuppl.* 184.

Chryſanthemum amer. frut., balſaminæ fol. &c. *Pluk. alm.* 100. *t.* 161. *f.* 1.

Stem herbaceous undivided, leaves elliptic ſubcrenate.]

14. Cacalia ſonchifolia. *Sowthiſtle-leaved Cacalia.*

Lin. ſpec. 1169. *ſyſt.* 733. *Reich.* 3. 709. *mant.* 463. *Murr. in comm. gott. nov.* 3. 79. *t.* 7. *Lour. cochinch.* 486.

Kleinia caule herb., fol. lyr. *Lin. fl. zeyl. n.* 305.

Muel Schavi. *Rheed. mal.* 10. 135. *t.* 68.

Senecio maderaſp. ſinapios fol., flor. parvis luteis. *Pluk. amalth.* 192. *t.* 444. *f.* 1.

Chondrilla zeyl. minor marina, fol. ſin. *Burm. zeyl.* 61.

Sonchus amboinenſis. *Rumph. amb.* 5. 297. *t.* 103. *f.* 1.

Tagolina luzonum, fl. purpureo. *Pet. gaz. t.* 80. *f.* 13. *Camell. luz.* 3. *n.* 8.

Stem herbaceous, leaves lyrate ſtem-claſping toothed.

[15. Cacalia incana. *Hoary Cacalia.*

Lin. ſpec. 1169. *Reich.* 3. 710.

Stem herbaceous, leaves lanceolate toothed.

16. Cacalia ſaracenica. *Creeping-rooted Cacalia.*

Lin. ſpec. 1169. *ſyſt.* 734. *Reich.* 3. 710.

Solidago fol. lanc. decurr., caule angulato. *Monier. obſ.* 168. *Sauv. monſp.* 84. *Gouan. monſp.* 444.

Senecio perennis, ſolidaginis fol. *Vail. act.* 366.

Virga aurea max., rad. repente, &c. *Mor. hiſt.* 3. 123. 1.

V. ſ. Solid. ſar. latifolia ſerrata. *Bauh. hiſt.* 2. 1063.

Conyza montana, &c. *Chom. act. par.* 1705. *p.* 394. fig.

Stem herbaceous, leaves lanceolate ſerrate decurrent.

17. Cacalia haſtata. *Spear-leaved Cacalia.*

Lin. ſpec. 1170. *ſyſt.* 734. *Reich.* 3. 710. *Gærtn. fruct.* 2. 400.

Senecio fol. ex dentato trilobis acumin. ſerr. *Gmel. ſib.* 2. 136. *t.* 66.

Stem herbaceous, leaves three-lobed acuminate, ſerrate, flowers nodding.]

18. Cacalia ſuaveolens. *Sweet-ſcented Cacalia.*

Lin. ſpec. 1170. *ſyſt.* 734. *Reich.* 3. 711. *hort. upſ.* 254. Kleinia.

Stem herbaceous upright, leaves haſtate-ſagittate toothletted, petioles dilated at top.

19. Cacalia atriplicifolia. *Orach-leaved Cacalia.*

Lin. ſpec. 1170. *Reich.* 3. 711. *Gron. virg.* 118. *Mor. hiſt.* 3. 94. *ſ.* 7. *t.* 15. *f.* 7.

Porophyllum fol. deltoid. angul. *Gron. virg.* 1. 94.

Nardus amer. procerior, fol. cæſiis. *Pluk. alm. t.* 101. *f.* 2. *Raii hiſt.* 3. 242.

Stem herbaceous, leaves ſubcordate, tooth-ſinuate, calyxes five-flowered.

20. Cacalia alpina. *Alpine Cacalia.*

Lin. ſpec. 1170. *ſyſt.* 734. *Reich.* 3. 711. *Gouan. hort. monſp.* 429. *Jacqu. auſtr.* 3. *t.* 234. *Hall. helv. n.* 137. *Allion. pedem. n.* 644. *Mill. dict. n.* 1.

α. C. fol. craſſis hirſutis *Bauh. pin.* 197. *Mor. hiſt.* 3. 94. *ſ.* 7. *t.* 12. *f.* 1. *Monn. obſ.* 147. *Hall. opuſc.* 207. (Jacquin gives theſe ſynonyms to his C. tomentoſa, which is C. albifrons. *Lin. ſuppl.* ſee *n.* 22.)

C. Alliariæ. *Gouan. illuſt.* 65.

C. incano fol. *Cluſ. hiſt.* 2. 115. 1. *Raii hiſt.* 291. *Ger. emac.* 815. *n.* 1. *Park.* 1221. *f.* 1. *Hall. var. a.*

β. C. fol. cutaneis acutioribus & glabris. *Bauh. pin.* 198. *Mor. hiſt.* 3. 94. *ſ.* 7. *t.* 12. *f.* 6.

C. glabra. *Mill. dict. n.* 2. *Hall. d.*

Tuſſilago Cacalia. *Scop. carn.* 2. *n.* 1055.

C. glabro fol. *Cluſ. hiſt.* 2. 115. 2. *Lob. ic.* 592. *Raii hiſt.* 291. *n.* 2. *Ger. emac.* 815. *n.* 2.

Leaves reniform-cordate acute toothletted.

[21. Cacalia echinata.

Lin. ſyſt. 734. *ſuppl.* 353.

Herbaceous, leaves reniform cordate angular-toothed tomentoſe beneath, leaflets of the calyx tubercled.

22. Cacalia albifrons. *White-leaved Cacalia.*

Lin. ſyſt. 734. *ſuppl.* 353.

C. tomentoſa. *Jacqu. auſtr.* 3. 20. *t.* 235.

Herbaceous, leaves cordate biſerrate acute tomentoſe beneath, ſtipules oblong rounded.

23. Cacalia bipinnata. *Bipinnate-leaved Cacalia.*

Lin. ſyſt. 734. *ſuppl.* 353.

C. pinnatifida.. *Berg. cap.* 230. *Lin. mant.* 281. *Reich.* 3. 712.

Herbaceous, leaves bipinnate linear.

24. Cacalia acaulis. *Stemleſs Cacalia.*

Lin. ſyſt. 734. *ſuppl.* 353.

Stemleſs; leaves ſemicolumnar; ſcapes one-flowered.

25. Cacalia radicans. *Rooting Cacalia.*

Lin. ſyſt. 734. *ſuppl.* 354.

Herbaceous, creeping, rooting, leaves columnar-ovate fleſhy.

26. Cacalia articulata. *Jointed-ſtalked Cacalia.*

Lin. ſyſt. 734. *ſuppl.* 354. *L'Herit. ſtirp. nov.* 175. *t.* 83.

C. laciniata. *Lin. ſyſt.* 733. *Jacqu. ic. collect.* 1. 77.

Fleſhy; ſtem decumbent jointed; lower leaves haſtate, upper lyrate.]

27. Cacalia lutea. *Yellow Cacalia.*

Mill. dict. n. 10.

Stem herbaceous, leaves five-parted acute glaucous beneath, flowers terminal on very long peduncles.

[28. Cacalia carnoſa. *Narrow-leaved Cacalia.*

Ait. hort. kew. 3. 156.

Stem ſhrubby; leaves roundiſh fleſhy bent in, peduncles terminating one-flowered naked.

29. Cacalia ſcandens. *Climbing Cacalia.*

Ait. hort. kew. 3. 157.

Stem herbaceous climbing, leaves ſagittate toothed, petioles ſimple.

30. Cacalia ruderalis.

Swartz prodr. 110.

Kleinia ruderalis. *Jacqu. amer.* 215. *t.* 127.

Stem herbaceous branched, leaves lanceolate entire glaucous.

31. Cacalia procumbens.

Lour. cochinch. 485.

Sonchus volubilis. *Rumph. amb. t.* 103. *f.* 2.

Stem ſuffruticoſe, procumbent; leaves ovate-lanceolate, ſubſerrate, fleſhy; racemes elongated, interrupted.

32. Cacalia bulboſa.

Lour. cochinch. 485.

Leaves radical lyrate, ſtem almoſt naked, panicle few-flowered.

33. Cacalia pinnatifida.

Lour. cochinch. 486.

Leaves pinnatifid, ſegments lanceolate ſerrate; ſtem herbaceous twiſted.]

DESCRIPTIONS, *&c.*

1. This reſembles the *Kleinia* (n. 4.) in its form and manner of growth, but the leaves are narrower and more ſucculent. Theſe do not fall off entire, as in the other, but break off at the beginning of the foot-ſtalks, which are very ſtrong and thick, and always continue; ſo that the main ſtalk of the plant, and the lower part of the branches, which are deſtitute of leaves, are ſet round on every ſide with three truncated foot-ſtalks: [and thus is the ſtem defended in a ſingular manner from external injuries[a].

This ſpecies was cultivated in the garden of James Sherard, M. D. at Eltham, about the year 1724. It was ſent from Batavia, but probably came originally from the Cape of Good Hope, where it is known to be a native[b].] It has not yet produced any flowers in England.

2. This riſes with many ſucculent ſtalks from the root, as large as a man's finger, branching out up-

[a] Linn. cliff.

[b] Dill. elth.

wards into many irregular ſtalks of the ſame form, but ſmaller. Leaves ſucculent, alternate, blunt; under each footſtalk are three ſmooth lines or ribs which run along the branch. It is generally known by the name of *Anteuphorbium*, being ſuppoſed to have qualities contrary to Euphorbium.

[It has been cultivated in European gardens ſince the year 1570, when it was growing in Boiſot's garden at Bruſſels[c]. It appears in Gerarde's catalogue, and therefore was cultivated here in 1596[d]. It very rarely flowers in Europe; in 1732 however it flowered in Mr. Blaithwait's garden at Dirham in Gloceſterſhire; and the flowers were ſent up by Powers his gardener to Dillenius, who has figured them[e]. This alſo is a native of the Cape of Good Hope.

3. Stem fleſhy, ſmaller than in the fifth, ſeventh, and eighth ſpecies. Leaves ſcattered, veinleſs, without any rib, flat above but ſomewhat convex underneath, and fleſhy. The leaves not being oppoſite, it cannot be a *Cotyledon*. Native of the Cape. Cultivated at Upſala, but it has not flowered there[f].]

4. This riſes with a thick fleſhy ſtem, divided at certain diſtances, as it were, into ſo many joints; each of theſe diviſions ſwells much larger in the middle. The ſtalks divide into many irregular branches of the ſame form; which, towards their extremities have long, narrow leaves, of a glaucous colour, ſtanding all round without order. As theſe fall off, they leave a ſcar at the place, which always remains on the branches. The flowers are produced in large cluſters, at the extremities; they are of a faint carnation colour. [The receptacle is narrow, ſmooth, and has obſolete fleſhy dots ſcattered over it. The ſeeds are almoſt cylindrical, ſmooth, and ruſeſcent: the down is longer than the calyx, of a ſilky whiteneſs, with capillary rays very minutely toothletted[g].]

It grows naturally in the Canary iſlands, and flowers in auguſt, ſeptember, and the greater part of october, but does not produce ſeed in this country. [It was cultivated in 1732, in the Eltham garden[h]; but was probably known earlier, ſince Mr. Miller ſays] that it has long been an inhabitant in the Engliſh gardens.

It is called Cabbage-tree by the gardeners, from the reſemblance which the ſtalks have to thoſe of Cabbage. Others have named it Carnation-tree, from the ſhape of the leaves, and colour of the flowers.

There have been foſſils dug up in ſome parts of England, which Dr. Woodward ſuppoſed to have impreſſions of this plant upon them.

[Cluſius is the firſt who mentions this plant. A figure and deſcription of it were ſent him from London by Garret, who received it from the Eaſt-Indies. Theſe are both imperfect: they are adopted however by John Bauhin; and his figure is better than Plukenet's[i].

Linneus, in his former works, made it a ſeparate genus, under the name of *Kleinia*, from *Jac. Theod. Klein*, who publiſhed a figure and deſcription of this plant, under the name of Tithymaloides, in the year 1730.]

5. This riſes with ſtrong round ſtalks to the height of ſeven or eight feet; they are woody at bottom, but ſoft and ſucculent upwards, ſending out many irregular branches. Theſe, for more than half their length, have thick, taper, ſucculent leaves, a little compreſſed on two ſides, ending in points, covered with a whitiſh meal; when broken, they emit a ſtrong odour of turpentine, and are full of a viſcid juice. At the extremities of the branches the flowers are produced in ſmall umbels; they are white, and cut into five parts at top: the ſtigma is of a dark purple colour, and ſtands erect above the tube. The ſeeds do not ripen in England. In France, the leaves are ſometimes pickled, with the white meal preſerved on them.

It grows naturally at the Cape of Good Hope: [and was cultivated in 1727, by Richard Bradley, Profeſſor of Botany at Cambridge. It flowers from june to november[k]. Mr. Miller ſays, that it was introduced from Holland about the year 1718[l].

6. The whole plant, in ſtature very much reſembles the fifth ſort; it is alſo covered with a glaucous meal; but the leaves have their upper ſurface concave, and are not compreſſed on the ſides. The root is creeping, whence the trivial name. It is a native of the Cape of Good Hope[m]: was cultivated by Mr. Miller in 1757; and flowers in june[n].

7. This is an underſhrub, a palm in height, variouſly branched and filiform. Leaves quite entire, by no means fleſhy. Peduncles terminating, ſolitary, one-flowered, erect, the length of the ſtem. Calyx quite ſimple, five-leaved: leaflets ovate, obtuſe, erect, the ſides concealed and membranous. Floſcules many, purple. Down with hiſpid hairs. It has altogether the flower of the *Porophyllum* (n. 13.), but the herb is different[o]. Native of Braſil[p].

8. A very ſmooth ſhrub, reſembling the Lauruſtine (*Viburnum Tinus*). Leaves oppoſite, on ſhort petioles, the nerves running out beyond the baſe, green beneath, ſhining above, the conſiſtence of evergreens. Panicle terminal, like a thyrſe, conic. Calyx four-flowered; leaflets equal, oblong, obtuſe, two and two oppoſite. Border of the corolla larger than the tube, four-toothed. Piſtils very long. Found in Mexico, by Mutis[q].

9. Leaves oppoſite, on long petioles, broad-ovate, acuminate, ſerrate, hiſpid-ſcabrous, three-nerved and veiny. Petioles tomentoſe. Panicles terminal, cloathed with floral leaves. Calyxes very ſmooth (the diagnoſis ſays—*pubeſcent*), naked: leaflets equal, oppoſite, lanceolate, ſmooth, erect. Border of the corolla four-parted. Styles ſcarcely longer than the ſtamens. Down of the ſeeds entirely ſimple, longer than the calyx. It varies with entire and ſerrate leaves. Obſerved in South America, by Mutis[r].

Theſe two ſpecies agree ſo exactly in the flower; and are ſo remarkable in the fourfold diviſion of the calyx, and the number of the floſcules, that they might very well make a ſeparate genus, if I were not averſe from multiplying genera[s].

10. Stems round, hoary with a ſoft nap, ſtraight. Leaves oppoſite, ſpreading, ovate at the baſe and gradually drawn to a point, very tomentoſe beneath, but the upper ſurface quite ſmooth, veined, the conſiſtence of a bay leaf. Petioles roundiſh, tomentoſe. Panicles ſmall, heaped. Calyx calycled with larger ſcales, few-flowered. The herb has the appearance of an *Aſclepias*.

Found in South America, by Mutis[t].

11. Stem angular, tomentoſe, hoary. Leaves higher than the ſtem, on long petioles, not much emarginated at the petiole, nerved and veined, the upper ſurface very ſmooth and green, beneath white with nap. Immediately below the leaf, are very ſmall leaflets conſiſting of three pairs, oppoſite, petioled, ovate, quite entire, growing gradually leſs toward the leaf itſelf. Panicles terminal. Pedicels bracted. Flowers yellow. Found in watery places of the iſland of Teneriffe, by Francis Maſſon; who ſent another plant, found on the mountainous parts of the iſland, which he looked upon as a different ſpecies: but it differs from this, only in having the ſtem very ſmooth; and the leaves cordate-oblong, a little toothed and not angular[u].

12. Found at the Cape of Good Hope by Thunberg[x].

13. Stem from eight inches to a foot in height, round, ſlender. Leaves few, like thoſe of Atriplex or ſea Purſlane, on petioles half an inch in length. The top of the ſtem divides into peduncles, ſubdivided into pedicels, bearing ſmall flowers reſembling thoſe of *Erigeron*[y].

It is an annual plant, and a native of America.

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[c] Dill. elth. 63.
[d] Hort. kew.
[e] Hort. elth. 64.
[f] Linn. mant.
[g] Gærtner.
[h] Hort. kew.
[i] Dill. elth.
[k] Hort. kew.
[l] Dict. edit. 7.
[m] Linn. mant.
[n] Hort. kew.
[o] Linn. mant.
[p] Arduini.
[q] Linn. ſuppl.
[r] Ibid.
[s] Ibid.
[t] Ibid.
[u] Ibid.
[x] Ibid.
[y] Moriſon.

Introduced here in 1780, by Benjamin Bewicke, Eſq. and flowering from june to october [z].

This ſpecies, and *C. ruderalis* differ from the genus in their habit, and in having a ſubturbinate calyx; but there are not other generic marks ſeparating them from *Cacalia* [a].

14. Root annual. Stems almoſt ſimple, ſmoothiſh herbaceous, round, upright, reclining, near two feet high, branching a little towards the top. Lower leaves oblong, deeply lyrate, ſmooth, with the diviſions rather acute; the upper cordate-lanceolate, ſtem-claſping, a little toothletted at the baſe, with a few hairs eſpecially on the rib. Flowers few, the ſize of common Groundſel, in a terminating panicle, cylindric, with the proper peduncles briſtle-ſhaped. Calyx entirely ſimple. Florets purple, minute [b].

This ſpecies ſhows, that a calycled calyx is not a character common to the whole genus. The piſtil alſo is ſomewhat longer than the ſtamens. It is much uſed both in the medicine and œconomy of the Indians [c]: being eſteemed detergent, and the young leaves being eaten raw in ſalads [d].

It is a native of the Eaſt Indies, Ceylon, Amboina, China, Cochinchina. *&c.*] Mr. Miller ſays that he has alſo received the ſeeds from the Spaniſh Weſt Indies. It flowers in july, and the ſeeds ripen in ſeptember. [Mr. Miller cultivated it in 1768 [e].

15. Stature of *Verbeſina alata.* Stem erect, lofty. Leaves broad-lanceolate, ſcarcely petioled, thickiſh, ſerrate-toothed. Peduncles terminating, branched, long, naked, with one or two very ſmall leaflets. Native of the Eaſt-Indies [f].

16. This is a perennial plant very much reſembling *Senecio ſaracenica.* The bractes are briſtle-ſhaped [g]. Native of the South of France. Cultivated in 1772, by Mr. James Gordon, ſen. It flowers from auguſt to october [h].

17. Root perennial. Stem covered with a glaucous meal. Leaves haſtate-deltoid. Flowers compoſed of about five white florets; without the briſtle-ſhaped bractes, eſpecially at the ſubdiviſions. Anthers black. Peduncles hoary, tomentoſe [i]. Calyx cylindrical, many-leaved, with a ſingle or imperfectly double row of leaflets, calycled, with acuminate ſcales. Receptacle flattiſh, naked, with pentagon areas incloſing a depreſſed little nipple. Seeds almoſt cylindrical, ſtreaked, pale bay-coloured; crowned with a ſoft, white, capillary down, very minutely toothletted, a little longer than the ſeed [k]. Obſerved in Siberia, firſt by Gmelin, and afterwards by Pallas, who introduced it here in 1780 [l].]

18. This has a perennial creeping root, ſending out many ſtalks. Leaves long, ſmooth, veined, of a pale green on their under ſide, but a deep ſhining green above, placed alternately. The ſtalks riſe to the height of ſeven or eight feet, are ſtreaked, quite ſimple, and terminated by corymbs of white flowers. [The peduncles even above the ramifications, have briſtle-ſhaped bractes ſcattered over them, which are ſmooth, not hoary. It ſmells very ſweet when dry [m].]

Native of Virginia and Canada; flowering in auguſt, and ripening its ſeeds in october. The roots which have been caſt out of the Chelſea garden, have been carried by the tide to a great diſtance, have lodged on the banks of the river, and faſtened themſelves to the ground, where they have increaſed ſo much, that in a few years this plant may appear to be a native of this country. [Mr. Miller cultivated it in 1752 [n].]

19. Root perennial, compoſed of many fleſhy ſpreading tubers, ſending out ſeveral ſtrong ſtalks in the ſpring, four or five feet high. Leaves ſea-green on their under ſide, but darker above, placed alternately the length of the ſtalks, which are terminated by umbels of herbaceous-coloured flowers.

[It is of the ſame ſize and ſtature with the foregoing ſort. The lower leaves are cordate; the upper broader than long, and ſmooth. It differs from the *ſuaveolens* not only in the form and glaucous hue of the leaves; but alſo in having flowers five times ſmaller, with only five florets in each, whereas the foregoing ſorts have more [o].

Native of Virginia and Canada. Flowers here in auguſt. Cultivated in 1739, by Mr. Miller [p].

20. Root perennial. Stem a foot and half high and more, leafy and branching at intervals. Leaves on very long petioles; the loweſt either very long heart-ſhaped, or broader approaching to kidney-ſhaped, with the intervals of the toothings ſemilunar: ſome are wholly ſmooth; ſome have the nerves only hairy; others are wholly tomentoſe, and thicker. The ſtem branches at top, and on ſubdiviſions bears a broad and denſe corymb. Calyx of about five ſcales, conglutinated ſo as to appear one-leafed. Floſcules (three to five) quadrifid, purple. Seeds quadrangular, long, grooved [q].

Haller, beſides the two principal varieties, the ſmooth and tomentoſe, mentions that it is found with white florets, and with leaves deeply cut.

Mr. Miller makes two ſpecies of this: the firſt, or rough ſort he calls *alpina*; the ſecond, or ſmooth ſort, *glabra.*] The firſt, he ſays, has leaves ſhaped like thoſe of Ground-Ivy, but of a thicker texture, of a ſhining green on their upper ſide, but white on their under; among theſe ariſes the flower-ſtalk, which is round, branching towards the top, and grows a foot and half high; under each diviſion of the ſtalk is placed a ſingle leaf, of the ſame ſhape with thoſe below, but much ſmaller, the branches are terminated by a corymb of flowers, having about three purpliſh florets. The ſecond has the appearance of the other, but the leaves are almoſt heart-ſhaped, pointed, ſharply ſerrate, and on both ſides very green; the ſtalks riſe higher; the ſtem-leaves have much longer foot-ſtalks; and the flowers are of a deeper purple colour.

[Monſ. Villars has three ſpecies, beſides varieties. Firſt, *Cacalia glabra,* with ſmooth kidney-ſhaped, ſerrate leaves, the upper ones linear, the flowers in corymbs, with coloured calyxes, and about ſix florets in each. He thinks it is ſufficiently diſtinct from the others, in having a lower ſtem about a foot in height; the leaves thicker, a little fleſhy, ſmooth and more regularly toothed, cut off at the baſe by a tranſverſe ſection, inſtead of being bent back towards the origin of the petiole; and three to ſix coloured leaflets to the calyx, ſhorter by half than the florets. The leaves are ſometimes a little villoſe, but their figure is always the ſame, the number of florets does not vary, nor the form of their growth in a corymb.

Secondly, *Cacalia tomentoſa,* with kidney-ſhaped leaves very white on both ſides, the flowers in corymbs, with hirſute calyxes, and about twenty florets in each. This has the habit of the foregoing, but differs in having a thick down covering all its parts and rendering them tomentoſe or cottony; the upper leaves are lanceolate; and the calyxes contain from fifteen to twenty florets; the leaflets of the calyx terminate in a blackiſh point, like thoſe of common Groundſel (Senecio vulgaris). The third has this character, but not the firſt. The ſeeds are gloſſy, ſtreaked, crowned with a ſeſſile egret, which has the hairs feathered or a little toothed.

Thirdly, *Cacalia hirſuta,* with haſtate doubly-ſerrate hirſute kidney-ſhaped leaves, thoſe on the ſtem embracing with a dilated ſtipule, flowers in racemes, with from three to ſix florets in each. The ſtems are three feet high, often branched; the leaves very large, villoſe, often a foot wide, and their lateral ſegments approach to the petiole, they are revolute before they are entirely developed; in the raceme each peduncle has a linear bracte at its baſe, and the calyxes have an involucre of three linear open leaves [r]. This is deſcribed at length by Gouan [s], who ſuppoſes it to be quite diſtinct from the *alpina* of Linneus.

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[z] Hort. kew.
[a] Swartz.
[b] Linn. mant.
[c] Murray.
[d] Loureiro.
[e] Hort. kew.
[f] Linn. ſpec.
[g] Linn. ſpec. & ſyſt.
[h] Hort. kew.
[i] Linn. ſyſt. & ſpec.
[k] Gærtner.
[l] Hort. kew.
[m] Linn. ſpec.
[n] Hort. kew.
[o] Linn. ſpec.
[p] Hort. kew.
[q] Haller.
[r] Dauph. 3. 170—173.
[s] Illuſtr, p. 65.

Allioni conſiders them all as one ſpecies; *ſmooth* in ſubalpine moiſtiſh ſituations, among buſhes, *hirſute* or very hairy in colder loftier rocky alpine ſituations, *tomentoſe* or cottony among ſtones in open ſituations, on the higher alps. He adds, that he has obſerved the tomentoſe variety to become hirſute, when cultivated in a garden[t].

Scopoli follows Adanſon[u], in making this plant a *Tuſſilago*: The genera are nearly allied; but Linneus inſiſts, that on inſpection he finds this to agree in the characters of the genus with the foregoing ſpecies; and that hence the *Cacalias* ought to be united with the *Kleinias*[x].

Native of Switzerland, M. Jura, Dauphiné, Piedmont, Auſtria, Carniola. It was cultivated in 1739, by Mr. Miller[y].

21. This reſembles the *alpina* very much, but differs in having the calyxes tubercled, and the leaves tomentoſe beneath. It was obſerved by Maſſon in the iſland of Teneriffe, on precipices near the coaſt[z].

22. This is a ſingular plant, and very diſtinct from the others in having two leaves at the baſe of the petioles, reſembling ſtipules; they are ſeſſile, oblong, ſlightly toothletted, and tomentoſe beneath[a]. It ſeems to be the third ſort of Villars, deſcribed above under n. 20. the *C. Alliariæ* of Gouan, and the Petaſites, n. 141. of Haller.

Native of Auſtria, *&c.*

23. Stem upright, ſtreaked, even. Leaves ſomewhat crowded, toothed, even, about four inches long. Panicles terminating, ſubfaſtigiate; pedicels ſcaly; calyxes five-leaved, five-flowered, acute. Native of the Cape of Good Hope[b].

24, 25. Theſe were both found at the Cape, by Thunberg[c].

26. This is an elegant plant, ſmooth and glaucous, of an unpleaſant balſamic flavour. Stems many, fleſhy, round, upright but weak, marked with ſcars from the fallen leaves, and painted with lines of a deeper green; they are three feet high or more, and branching. Peduncles elongated, branching, round; the branches irregularly ſubcymoſe; the laſt peduncles ſcaly. Flowers fetid, nodding a little: calyx very ſmooth; leaflets from eleven to thirteen, ſharp; without any incumbent ſcales at the baſe. Florets twenty-five, a little longer than the calyx, white, with the border acute, and ſpreading much. Anther dark purple. Stigma bifid, yellow. Seeds linear, villoſe, crowned with a white, ſeſſile egret. The leaves are ſcattered and petioled, generally pinnate, the pinnules oblong, tooth-gaſhed or entire, the end-one largeſt[d]. According to L'Heritier, they are pinnatifid, or haſtate, but more frequently ternate-pinnatifid; the ſegments lanceolate, ſpreading very much, the two loweſt diſtinct; the ſinuſes rounded. There is a ſharp, ſhort linear bracte at the baſe of each pedicel, and ſome others at the baſe of the calyx, which is compoſed of about ten leaflets.

Found at the Cape of Good Hope, by Maſſon, and introduced in 1775. It flowers in november[e].]

27. This grows naturally at St. Helena, from whence I received the plants: the roots ſpread and increaſe under the ſurface, the leaves ariſe immediately from the root, have very ſhort foot-ſtalks; they are cut into five or ſix long acute ſegments almoſt to the midrib, the ſegments are alſo acutely cut on their ſides in two or three places: the under ſide of the leaves are glaucous, their upper ſide of a dark green. The flower-ſtalk ariſes between the leaves immediately from the roots; this is naked, about eight inches high, terminated by ſix or eight yellow compound flowers ſtanding on long foot-ſtalks, almoſt in an umbel; the flowers are ſucceeded by oblong ſeeds, which rarely ripen in England.

[28. Native of the Cape of Good Hope. Cultivated in 1757, by Mr. Miller. It flowers in june[f].

29. This alſo is a native of the Cape, where it was found by Maſſon. It was introduced in 1774; and flowers in april[g].

Mons. L'Heritier has given this name to the *Eupatorium ſcandens* of Linneus, which he has removed to this genus[h].

30. This is an annual plant, upright, not more than three feet high, very ſmooth, panicled. Leaves very various in ſize, moſtly alrernate, either entire or unequally repand or gaſhed, acute, petioled. Peduncles one-flowered, terminating, ſolitary, upright. Flowers void of ſcent, with a green calyx, and a corolla green and yellow mixed. Native of St. Domingo and Martinico[i].

31. Stems perennial, nine feet high, procumbent, round, equal, ſmooth, ſucculent, branched. Leaves bright green, ſmooth, alternate, petioled. Calyx cylindric, even, calycled. Corollules gold-coloured, few, long, with the ſegments of the border erect. There is a variety, with the ſtems and under ſurface of the leaves purple. Native of China and Cochinchina: where it is uſed as a pot-herb.

32. Root a roundiſh, knotted, perennial bulb. Root-leaves oblong, toothletted, ſomewhat fleſhy, petioled, few. Stem a foot and half high, upright, round. Flowers gold-coloured on a terminating peduncle ſeveral together. Calyx cylindric; calycle five-leaved, the leaflets filiform, looſe. Tube of the corollules longer than the calyx, inflated, reflex, with a ſhort, converging border. Stigmas two, long, erect. Native of China and Cochinchina.

It is emollient, refrigerant and reſolvent; uſed chiefly externally in reſolving tumours, and in the Eryſipelas, as a cataplaſm; the juice of the leaves in inflammations of the eyes; as a gargariſm in inflammations of the fauces.

33. Stem two feet high, upright, thick. Leaves pinnate-gaſhed, the ſegments ſmooth, and not fleſhy. Flowers yellow, in a terminating panicle, few together. Calyx oblong, round, calycled.

This is different from C. pinnatifida Lin. mant. which is our bipinnata, n. 23.

Native of China near Canton, among rice.[k]]

PROPAGATION AND CULTURE.

All the ſorts which are natives of the Cape of Good Hope may be propagated by cuttings during the ſummer months: theſe ſhould be cut from the plants and laid to dry a fortnight, that the wound may be healed over before they are planted. Moſt people plunge the pots, in which theſe are planted, into a moderate hot-bed, to forward their putting out roots; but if they are planted in june or july, they will root as well in the open air. I have frequently had the branches broken off by accident, and fallen on the ground, which have put out roots without any care. Theſe branches may be kept ſix months out of the ground, and will take root if planted. They ſhould have a light ſandy earth, and in winter be placed in an airy glaſs-caſe, where they may enjoy the ſun and air in mild weather, but muſt be protected from froſt. During the winter ſeaſon, the plants muſt have but little water; and in ſummer, when they are placed in the open air, it ſhould not be given them too often, nor in great quantity, but they muſt be treated like the Ficoides, and other ſucculent plants from the ſame country.

1, 2. The firſt and ſecond ſorts require a ſandy, poor ſoil, and to be kept very dry both ſummer and winter: hard rains often cauſe them to rot; but they require the open air in ſummer.

4. The fouth muſt have a dry warm glaſs-caſe in winter, and very little water. In ſummer it muſt be placed in the open air in a warm ſheltered ſituation. With this management the plants will flower annually, and grow to the height of eight or ten feet.

14. The fourteenth ſort is propagated by ſeeds, which if ſown in the autumn, ſoon after they are

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[t] Fl. pedem. 1. p. 178.
[u] Familles des plantes, p. 122.
[x] Linn. ſpec.
[y] Hort. kew.
[z] Linn. ſuppl.
[a] Ibid.
[b] Ibid.
[c] Ibid.
[d] Jacquin.
[e] Hort. kew.
[f] Ibid.
[g] Hort. kew.
[h] Stirp. nov. p. 176.
[i] Jacquin.
[k] Loureiro.

ripe, into a pot, and plunged in the tan-bed in a ſtove, will more certainly ſucceed than thoſe ſown in the ſpring: but where there is not ſuch a conveniency, the ſeeds ſhould be ſown on a hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be planted on another hot-bed to bring them forward, ſhading them till they have taken new root, after which air ſhould be daily admitted to them in proportion to the warmth of the ſeaſon. When the plants have acquired ſtrength, they ſhould be planted in pots, and either plunged into a moderate hot-bed under a deep frame, or placed in a glaſs-caſe, where they will flower and perfect their ſeeds.

18, 19. Theſe multiply greatly by their ſpreading roots, and alſo by the ſeeds, which are wafted to a great diſtance by the wind. The roots ſhould be tranſplanted in autumn; and they require a moiſt ſoil, with an open ſituation.

20. Is propagated by parting the roots, for it ſeldom produces good ſeeds in England. The beſt time to do this is in autumn. It requires a loamy ſoil, and a ſhady ſituation.

28. Increaſes faſt by its roots, which may be parted either the beginning of ſeptember, or the end of march, and ſhould be planted in pots filled with light earth, and plunged into the tan-bed in the ſtove, where it ſhould be conſtantly kept, being too tender to thrive elſewhere in this climate.

Cacalia. See *Eupatorium* and *Tuſſilago.*

[Cacalianthemum. See *Cacalia.*

Cacāo. See *Theobroma.*

——— affinis. See *Randia.*

Cacara. See *Dolichos.*]

CACHRYS. (Καχρυς, *hordeum toſtum, roaſted* or *parched barley. The ſeed reſembles a grain of barley. Tournef.*)
Lin. gen. n. 342. *Reich.* 372. *Schreb.* 474. *Gærtn. t.* 140. *Juſſ.* 223. *Tournef.* 172. *Raii meth.* 48.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ*, or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel univerſal* manifold: *partial* ſimilar.
Involucre univerſal many-leaved, linear-lanceolate: *partial* ſimilar.
Perianth proper ſcarcely obſervable.

Cor. *univerſal* uniform: *floſcules* all uniform.
Proper of five, lanceolate, almoſt upright, equal, flattiſh petals.

Stam. *Filaments* five, ſimple, the length of the corolla. *Anthers* ſimple.

Pist. *Germ* turbinate, inferior. *Styles* two, ſimple, the length of the corolla. *Stigmas* headed.

Per. *Fruit* ſubovate, angular, obtuſe, very large, ſuberous-cortical, ſplitting in two.

Seeds two, very large, very convex on one ſide, flat on the other; fungous, with ſolitary ovate-oblong nucleuſes.

ESSENTIAL CHARACTER.

Fruit ſubovate, angular, ſuberous-cortical.

SPECIES.

1. Cachrys Libanotis. *Smooth-ſeeded Cachrys.*
Lin. ſpec. 355. *Reich.* 681. *hort. cliff.* 94. 1. *Mor. hiſt.* 3. 267. *ſ.* 9. *t.* 1. *f.* 6. *umb. t.* 3. *f.* 3. *Mill. dict. n.* 3.
Libanotis ferulæ fol., ſem. anguloſo. *Bauh. pin.* 158. *Bauh. hiſt.* 3. 40. *Raii hiſt.* 424. *n.* 2. *Ger.* 858. *f.* 3. *emac.* 1010. *f.* 4. *Park.* 882. *f.* 1.
α. C. ſemine fungoſo lævi, foliis ferulaceis. *Tourn. inſt.* 325.
C. trifida. *Mill. dict. n.* 1.
Leaves ſuperdecompound, leaflets ſpreading acuminate, ſeeds ovate furrowed unarmed.

2. Cachrys ſicula. *Hairy-ſeeded Cachrys.*
Lin. ſpec. 355. *Reich.* 1. 681. *Mor. hiſt. f.* 3. and *umb. t.* 3. *f.* 2. *Linn. hort. cliff.* 1. β, γ.
Hippomarathrum creticum. *Bauh. pin.* 147. *prodr.* 76.
H. ſiculum. *Bocc. ſic.* 36. *t.* 18. *Raii hiſt.* 424. *n.* 3.
α. C. linearis. *Mill. dict. n.* 4.
Leaves ſuperdecompound with filiform leaflets, ſeeds roundiſh-ovate grooved, wrinkled.

[3. Cachrys tenuifolia. *Fine-leaved Cachrys.*
Gouan. illuſtr. 12.
Leaves ſuperdecompound ſmooth with very numerous filiform leaflets, ſeeds oval.

4. Cachrys odontalgica.
Lin. ſyſt. 280. *ſuppl.* 181. *Gærtn. fruct.* 2. 274. *Pallaſ. it.* 3. 720. *t.* G. *f.* 1, 2, 3.
Leaves ſuperdecompound rough with hairs, the end-leaflets digitate-multifid bluntiſh, ſeeds obovate truncate even.

5. Cachrys panacifolia.
Vahl. ſymb. 1. 25.
C. hungarica. *Mill. dict. n.* 5. *Linn. hort. cliff.* 94. *n.* 2? — panacis folio. *Tournef. inſt.* 325. *Bocc. ſic.* 1. *t.* 1. (Panax).
Leaves pinnate and ternate with oblong crenate leaflets, ſeeds hirſute.]

DESCRIPTIONS, &c.

1. The firſt ſort has a thick fleſhy root like Fennel, which runs deep into the ground, ſending out ſeveral narrow pinnate leaves, ending in many points; between theſe ariſes a ſmooth jointed ſtalk about three feet high, which is terminated by large umbels of yellow flowers.

[α. There is no material difference in Miller's deſcriptions of his firſt and third ſpecies.

Native of Sicily. Cultivated by Gerarde, in 1597 [a].

2. Upper leaves oppoſite. The terminating univerſal umbel ſeſſile, with the univerſal and partial involucres branching. The other umbels peduncled, with both involucres ſimple. Seeds very thick, grooved, hiſpid [b].

Native of Spain and Sicily.

Mr. Miller makes two ſpecies of this.] He deſcribes them as having very thick ſweet-ſmelling roots, which ſtrike deep into the ground, ſending out ſeveral very narrow pinnate leaves, like thoſe of Hog-Fennel, but ſhorter. The ſtalks are ſmooth and jointed like thoſe of Fennel; terminated by large umbels of yellow flowers, like thoſe of Dill. The ſtalk of the *ſicula* riſes four or five feet high; and of his *linearis* five or ſix feet.

[3. The *Cachrys Libanotis* of Gouan ſeems to be a different ſpecies from that of Linneus. It is thus deſcribed in the illuſtrations of that author.

Root perennial, brachiate, fleſhy, gratefully aromatic, with branches an inch thick, a cubit in length, covered with a ſmooth bark. Stem branched from the bottom, ſpherical-panicled, greeniſh, ſhining, and very ſlightly ſtreaked. Leaves ferulaceous, triangular, the pinnas, pinnules, and leaflets oppoſite; the latter filiform, equal, ſcarcely three lines in length. Petioles at each inſertion thicker, ſlightly ſtreaked. Sheaths nerved, ſtreaked. Upper leaves only four-fold pinnate. Branches at the top of the ſtalk often three or four in a ſort of whorl. Umbels almoſt a ſpan in diameter, conſiſting of from ſixteen to twenty rays, which are nearly equal, and two inches in length. Univerſal involucre variable; in the principal umbels it conſiſts of equal capillary-multifid leaflets, as in *Daucus, Ammi,* &c.; whereas thoſe which terminate the ſubdiviſions of the branches are either naked, or have a very ſmall undivided involucre like the involucels. From the centre of the receptacle ſometimes but ſeldom iſſues a ſingle peduncle, fleſhy at the top and flat. All the umbellules are ſmall, and conſiſt of from fourteen to ſixteen unequal rays; a third or half an inch in length. All the involucels conſiſt of filiform unequal ſimple leaflets. Flowers yellow.

Native of the country about Montpellier; flowering in may.

4. Root-leaves ternate; the extreme leaflets very elegantly incurved upwards. Stem ſingle, ſtreaked, from nine to twenty-one inches in height, panicled at top with umbelled branches diſpoſed in a ſort of thyrſe. There are ſtipuliform leaves at the origin of the lower branches, and on the middle of the umbelliferous ones. The involucres conſiſt of a few

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[a] Hort. kew.

[b] Linn. ſpec.

narrow deciduous leaves. Rays of the umbel from four to ſix. Umbellules more copious and crowded, with ten or more flowers, of a deep yellow, appearing the beginning of may. Fruit very large[c], ovate-cylindric, white, ſmooth: ſeeds ovate-oblong, plano-convex. The poſition of the cotyledons very unuſual; they being collateral, almoſt as in *Meniſpermum*, except that they are both in one cell of the albumen[d].

The root is very long, and being of a very ſharp aromatic flavour, it is uſed in the tooth-ach. Found abundantly between the Volga and Jaick[e].

5. Stem three feet high, ſtreaked, hoary, round, full. Root-leaves pinnate, in fives; ſtem-leaves ternate: leaflets ſeſſile, the three outmoſt almoſt confluent, villoſe on the veins, rugged, paler underneath, the lateral ones oblique at the baſe on one ſide, the end one larger than the others. Petioles ſtreaked, as is alſo the midrib. Umbels concave, thirteen-rayed. Involucres ſeven or eight-leaved; leaflets linear-ſubulate, reflex, villoſe, many times ſhorter than the rays. Involucels more copious in leaflets, in other reſpects like the involucres. Petals minute, white. Seeds oblong, hirſute, hoary, a little ſuberous. Styles reflex, permanent, ſhorter than the ſeeds.

Native of New Caſtille and Barbary[f].]

PROPAGATION AND CULTURE.

Theſe plants are all propagated by ſeeds, which ſhould be ſown ſoon after they are ripe; for if they are kept out of the ground till the following ſpring, they often miſcarry, and when they ſucceed, they never come up until the ſpring after; ſo that by ſowing them in autumn, a whole year is ſaved, and the ſeeds ſeldom miſcarry. Theſe ſeeds ſhould be ſown on a ſhady border, where the plants are to remain; for the plants having long tap roots, will not bear tranſplanting ſo well as many other kinds. The diſtance three feet apart; ſo that if each kind is ſown in a drill, when the plants are come up, they may be thinned, leaving two of the moſt promiſing plants of each kind to remain. Theſe plants will begin to appear early in april, when they muſt be carefully cleared from weeds; and in dry weather, if they are gently watered while young, it will greatly promote their growth; after which time they will require no farther care but to keep them clean from weeds, and every ſpring to dig the ground carefully between them, ſo as not to injure the roots.

Theſe plants decay to the ground every autumn, and come up again in the ſpring: they commonly flower in the beginning of june, and their ſeeds are ripe in ſeptember. Their roots ſometimes run down three or four feet deep in the earth provided the ſoil be light, and are often as large as Parſneps. They will continue many years, and if the ſoil be moiſt and rich, they will annually produce good ſeeds; but when they grow on a dry ſoil, the flowers commonly fall away without ſeeds.

CACHRYS. See *Laſerpitium*.

CACTUS. (Κάκτος, *the name of a prickly plant in Theophraſtus, Pliny, &c. Athenæus ſays it is the ſame plant which the Romans call Carduus, the Greeks* Κινάρα; *the Artichoke.*)

Lin. gen. 613. *Reich.* 668. *Schreb.* 838. *Gærtn. t.* 138. *Juſſ.* 311. Melocactus. *Tournef.* 425. Cereus. *Juſſ. act. gall.* 1716. *Mill. dict.* Opuntia. *Tournef.* 123. *Mill. dict.* Tuna. *Dill. elth.* 295—299. Pereſkia. *Plum. t.* 26. *Mill. dict.* Rhipſalis. *Gærtn. t.* 28.

Claſſ. 12. 1. Icoſandria Monogynia.

Nat. order of *Succulentæ*. *Cacti* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, imbricate, hollow-tubular, with ſcaly leaflets ſcattered over it, ſuperior, deciduous.

COR. *Petals* numerous, rather obtuſe, broad: the *outer* ones ſhorter; the *inner* larger, converging.

STAM. *Filaments* numerous, ſubulate, inſerted into the calyx. *Anthers* oblong, erect.

PIST. *Germ* inferior. *Style* the length of the ſtamens, cylindric. *Stigma* headed, multifid.

PER. *Berry* rather oblong, one-celled, umbilicate, roughened as the calyx is.

SEEDS numerous, roundiſh, ſmall, neſtling.

OBS. Cereus J. *is a long, ſtraight, angular plant.*
Melocactus T. *roundiſh, angular.*
Opuntia T. *branching, dichotomous.*
Pereſkia P. *arboreous, leafy; with a leafy fruit.*
The Melocacti *are monocotyledonous, the* Opuntiæ *dicotyledonous, and yet they are of the ſame natural genus.*

ESSENTIAL CHARACTER.

Cal. one-leafed, ſuperior, imbricate. *Cor.* manifold. *Berry* one-celled, many-ſeeded.

SPECIES.

* *Echinomelocacti, of a roundiſh form.*

1. Cactus mammillaris. *Smaller Melon-Thiſtle.*
Lin. ſpec. 666. *Reich.* 2. 465. *hort. cliff.* 181. 1. *upſ.* 119. 1.
Echinomelocactus. *Herm. par. t.* 136.—lanuginoſus tuberculis ſpinoſis undique obſitus, fructu e lateribus ſparſim egrediente. *Raii hiſt.* 1917. *dendr.* 25. 4, 5.
Ficoides ſ. Melocactus mamm. glabra, &c. *Pluk. alm.* 148. *t.* 29. *f.* 1.
F. ſ. Ficus americana ſphærica tuberculata lacteſcens, fl. albo. *Comm. hort.* 1. 105. *t.* 55. *Bradl. ſucc.* 3. 11. *t.* 29. *Raii dend.* 24. *n.* 1.
α. *Simple, with red ſpines.*
C. mamillaris. *Mill. dict.*
β. *Manifold, with white ſpines.*
C. proliferus. *Mill. dict. n.* 6. *Childing Melon-Thiſtle.*
Roundiſh, covered with ovate bearded tubercles.

2. Cactus Melocactus. *Great Melon-Thiſtle,* or *Turk's-cap.*
Lin. ſpec. 666. *ſyſt.* 459. *Reich.* 2. 465. *hort. cliff.* 181. 2. *upſ.* 119. 2. *Mill. dict. n.* 1. *Swartz obſ.* 198.
C. humilis ſubr. ſulcatus & coronatus, ſpinis confertis. *Brown. jam.* 238. 10.
Melocactus indiæ occidentalis. *Bauh. pin.* 384.
Echino-Melocactus. *Cluſ. exot. t.* 92. *Bradl. ſucc.* 4. 9. *t.* 32. *Sloan. jam.* 2. 159.
Melocarduus echinatus. *Ger.* 1013. *emac.* 1177. *Raii hiſt.* 1467.—americanus. *Park.* 1627.
α. C. Melocactus. *Mill. dict. n.* 1. *Common Melon-Thiſtle.*
β. C. albiſpinus. *Mill. dict. n.* 4. *edit.* 7.
Fourteen-angled, with long recurved white ſpines.
γ. C. recurvus. *Mill. dict. n.* 3. *Lin. mant.* 243.
C. nobilis. *Reich.* 2. 466.
Fifteen-angled, with broad recurved ſpines ſet very cloſe.
δ. C. intortus. *Mill. dict. n.* 2.
Melocactus purpureis ſtriis in ſpiram intortis. *Plum. cat.*
Fifteen-angled, angles ſpirally twiſted, ſpines erect.
Roundiſh, fourteen (or fifteen) angled.

** Cereuſes, *erect, ſupporting themſelves.*

3. Cactus Pitajaya.
Lin. ſyſt. 459. *Reich.* 2. 466. *Jacqu. amer.* 151. *edit.* 2. 75. *Park.* 1628.
Cereus triangularis. *Mill. dict. n.* 9.
Erect, triangular.

4. Cactus heptagonus. *Seven-angled upright Torch-Thiſtle.*
Lin. ſpec. 666. *Reich.* 2. 466. *hort. cliff.* 181. 3.
Cereus heptagonus. *Mill. dict. n.* 6? See n. 8.
Erect oblong ſeven-angled.

5. Cactus tetragonus. *Four-angled upright Torch-Thiſtle.*
Lin. ſpec. 667. *Reich.* 2. 466. *hort. cliff.* 181. 4. *upſ.* 119. 3.
Cereus tetragonus. *Mill. dict. n.* 2.
Cer. erect. minor, fructu ſpinoſo coſtarum numero varians. *Herm. par.* 117. *Boerh. n.* 9. *Raii dendr.* 23. *n.* 7.
Erect, quadrangular, long; angles compreſſed.

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[c] Pallas.

[d] Gærtner.

[e] Pallas.

[f] Vahl.

6. Cactus hexagonus. *Six-angled upright Torch-Thiſtle.*
Lin. ſpec. 667. *Reich.* 2. 466. *hort. cliff.* 181. 5. *upſ.* 119. 4.
Cereus hexagonus. *Mill. dict. n.* 1.
Cer. erectus, &c. *Herm. par.* 116. *Raii dendr.* 23. *n.* 6. *Bradl. ſucc.* 1. *t.* 1. *Boerh. lugdb.* 1. 292. *n.* 1, 2.
Melocactus monoclonos, fl. albo, fructu atropurpureo. *Plum. ſpec.* 19. *ic.* 191?
Erect ſix-angled long; angles diſtant.

[7. Cactus pentagonus. *Five-angled upright Torch-Thiſtle.*
Lin. ſpec. 667. *Reich.* 2. 467. *hort. cliff.* 182. 9.
Erect, long, jointed; with about five angles.]

8. Cactus repandus. *Slender upright Torch-Thiſtle.*
Lin. ſpec. 667. *Reich.* 2. 467. *hort. cliff.* 182. 8. *Brown. jam.* 238. 9.
Cereus gracilis. *Mill. dict. n.* 8? an pot. heptagonus, n. 6.
Cer. altiſſ. grac., fructu extus luteo, intus niveo, &c. *Sloan. jam.* 2. 158. *Raii dendr.* 22. *Trew. ehret. t.* 14.
Erect, long, eight-angled; angles compreſſed waved, ſpines longer than the wool.

9. Cactus lanuginoſus. *Woolly upright Torch-Thiſtle.*
Lin. ſpec. 667. *Reich.* 2. 467. *hort. cliff.* 182. 7.
Cereus repandus. *Mill. dict. n.* 5.
Cer. curaſſavicus erectus maximus, fructu rubro non ſpinoſo, lanugine flaveſcente. *Herm. par.* 115. *Boerh. n.* 5, 6. *Raii dendr.* 23. *n.* 5.
Erect, long, with about nine angles; angles obſolete; ſpines ſhorter than the wool.

10. Cactus peruvianus. *Peruvian upright Torch-Thiſtle.*
Lin. ſpec. 667. *ſyſt.* 459. *Reich.* 2. 467. *hort. cliff.* 181. 6. *upſ.* 120. 5. *Brown. jam.* 238. 8. *Swartz obſ.* 199.
Cereus lanuginoſus. *Mill. dict. n.* 3.
Cer. erectus, fr. rubro non ſpinoſo. *Herm. par.* 114. *Boerh. n.* 4. *Raii dendr.* 22. *n.* 4.
Cer. peruv. ſpinoſus, fr. rub. nucis magnitudine. *Bauh. pin.* 458. *Raii hiſt.* 872. 1467. *Ger.* 1015. *emac.* 1179. *f.* 3. *Park.* 1628.
Euphorbii arbor cerei effigie. *Lob. ic.* 2. 25.
Cer. craſſiſſimus, fr. intus & extus rubro. *Sloan. jam.* 2. 157. *Raii dendr.* 21. (*cliff.*)
Erect, long, with about ten bluntiſh angles.

11. Cactus Royeni. *Royen's upright,* or *nine-angled Torch-Thiſtle.*
Lin. ſpec. 668. *ſyſt.* 459. *Roy. lugdb.* 279.
Cereus Royeni. *Mill. dict. n.* 7.
Cer. erect. grac. ſpinoſiſſimus: ſp. flavis, polygonus, lanugine alba palleſcente. *Boerh. lugdb.* 1. 293. *n.* 7, 8.
Cer. erectus, fr. rubro non ſpinoſo, lanuginoſus. *Herm. par.* 115? ſee n. 9.
Erect, jointed, nine-angled: joints ſubovate, ſpines equal in length to the wool.

*** Cereuſes *creeping, with roots from the ſides.*

12. Cactus grandiflorus. *Great-flowering creeping Cereus.*
Lin. ſpec. 668. *Reich.* 2. 468. *hort. cliff.* 182. 10. *upſ.* 121. 11.
Cereus grandiflorus. *Mill. dict. n.* 11.
Cer. ſcandens minor polygonus articulatus. *Herm. par.* 120. *Mill. fig. t.* 90. *Boerh. n.* 11.
Cer. gracilis ſc. ramoſus plerumque ſexangularis, fl. ingenti atque fragranti, &c. *Trew. ehr. t.* 31, 32. *Eph. nat. cur.* 1752. IX. *t.* 11, 12, 13. *Volk. heſp.* 1. *t.* 234.
Creeping, with about five angles.

13. Cactus flagelliformis. *Pink-flowering creeping Cereus.*
Lin. ſpec. 668. *Reich.* 2. 468. *hort. upſ.* 121. 12. *Curt. mag. t.* 17. *Amer. Nurimb. t.* 154. *Brown. jam.* 238. 7. *Swartz obſ.* 200.
Cereus flagelliformis. *Mill. dict. n.* 12.
Cer. minimus ſcandens polygonus ſpinoſiſſimus, fl. purpureo. *Ehret. ſel.* 2. *f.* 2. *Trew. ehret. t.* 30.
Ficoides amer. ſ. Cereus min. ſerpens amer. *Pluk. alm.* 148. *t.* 158. *f.* 6. *Sloan. jam.* 2. 158. *Raii dendr.* 22. *n.* 2.
Creeping, ten-angled.

[14. Cactus paraſiticus. *Paraſitical creeping Cereus.*
Lin. ſpec. 668. *Reich.* 2. 469.

15. Cactus pendulus. *Slender Cereus.*
Swartz prodr. 77. *Brown. jam.* 238. 11. *Ait. hort. kew.* 2. 153.
Caſſyta baccifera. *Mill. illuſtr.*
Rhipſalis Caſſutha. *Gærtn. fruct.* 1. 137. *t.* 28.
Viſcum. *Sloan. jam.* 2. 93. 7. but not the figure.
Pendulous, branches in whorls round ſmooth without prickles.]

16. Cactus triangularis. *Triangular Cereus,* or *Strawberry Pear.*
Lin. ſpec. 669. *ſyſt.* 460. *Reich.* 2. 469. *hort. cliff.* 182. 11. *upſ.* 121. 13. *Brown. jam.* 238. 6. *Jacqu. amer.* 152. *edit.* 2. 75. *Act. helv.* 5. 268. *t.* 2.
Cereus compreſſus. *Mill. dict. n.* 10.
Cer. amer. triang. radicoſus. *Bradl. ſucc.* 1. 4. *t.* 3. *Eph. nat. cur. vol.* 9. *app.* 199. *t.* 10. *f.* 14. & *vol.* 10. *app.* 349. *t.* 3.
Melocactus amer. repens trigonus, fl. albo, fructu violaceo. *Plum. ic.* 199, 200?
β. C. triangularis folioſus. *Jacqu. amer.* 152. *t.* 181. *f.* 65.
Creeping triangular.

**** Opuntias, *compreſſed with proliferous joints.*

[17. Cactus moniliformis. *Necklace Indian Fig.*
Lin. ſpec. 669. *Reich.* 2. 469.
Melocactus ex plurimis globulis Opuntiæ modo naſcentibus, ſpinoſiſſimis. *Plum. ſpec.* 19. *ic.* 198. *Tournef. inſt.* 653.
Proliferous-jointed; joints globular thorny glomerate.]

18. Cactus Opuntia. *Common Indian Fig,* or *prickly Pear.*
Lin. ſpec. 669. *Reich.* 2. 470. *hort. cliff.* 183. 15. *upſ.* 120. 6. *Brown. jam.* 237. *n.* 2. *Allion. pedem. n.* 1932. *Plenck, ic. t.* 373.
Opuntia vulgaris. *Mill. dict. n.* 1. *fig. t.* 191. *Hall. helv. n.* 1099. *Bauh. hiſt.* 1. 154. *fig.*
Ficus indica, fol. ſpinoſo, fr. majore. *Bauh. pin.* 458.
Proliferous-jointed looſe; joints ovate, ſpines ſetaceous.

19. Cactus Ficus indica. *Oblong Indian Fig.*
Lin. ſpec. 669. *Reich.* 2. 470. *hort. cliff.* 183. 13. *upſ.* 120. 7. *Lour. cochinch.* 306.
Opuntia Ficus indica. *Mill. dict. n.* 2.
O. fol. oblongo media. *Tourn. inſt.* 239.
Ficus indica. *Matth. p.* 234. *f.* 3. *Ger.* 1329. *emac.* 1512. — major. *Park. theat.* 1497. *Raii hiſt.* 1464.
Proliferous-jointed, joints ovate-oblong, ſpines ſetaceous.

20. Cactus Tuna. *Great Indian Fig,* or *upright prickly Pear.*
Lin. ſpec. 669. *Reich.* 2. 470. *hort. cliff.* 183. 14. *upſ.* 120. 8. *Brown. jam.* 237. 3.
Tuna major, ſpinis validis flavicantibus, fl. gilvo. *Dill. elth.* 396. *t.* 295. *f.* 380.
Opuntia Tuna. *Mill. dict. n.* 3.
O. major, validiſſ. ſpinis munita. *Tourn. inſt.* 239.
O. major, fol. oblongo-rotundo, ſp. longis & validiſſ. fl. luteo. *Sloan. jam.* 2. 149. *t.* 224. *f.* 1. (fruit). *Raii dendr.* 19.
β. O. elatior. *Mill. dict. n.* 4. Spines very long, black.
Tuna elatior, ſp. validis nigricantibus. *Dill. elth. t.* 294. *f.* 379.
γ. O. maxima. *Mill. dict. n.* 5. Joints very thick, long and broad; ſpines unequal.
O. max., fol. ſpinoſo latiſſ. & longiſſimo. *Tourn. inſt.* 240. *Raii dendr.* 19. *n.* 2.
Proliferous-jointed; joints ovate-oblong; ſpines ſubulate.

21. Cactus cochenillifer. *Cochineal Indian Fig.*
Lin. ſpec. 670. *Reich.* 2. 471. *hort. upſ.* 121. 10. *Brown. jam.* 237. *n.* 4.
Tuna mitior, fl. ſanguineo, cochenillifera. *Dill. elth.* 399. *t.* 297. *f.* 383.
Opuntia cochinelifera. *Mill. dict. n.* 6.
O. max. fol. oblongo-rotundo majore, ſpinulis mollibus obſito, fl. ſtriis rubris variegato. *Sloan. jam.* 2. 152. *t.* 8. *f.* 1, 2. *Raii dendr.* 19.
Ficus indica major lævis ſ. non ſpinoſa vermiculos proferens.

proferens. *Pluk. alm.* 146. *t.* 281. *f.* 2. *Raii hiſt.* 1465.
Proliferous-jointed; joints ovate-oblong, almoſt unarmed.

22. Cactus curaſſavicus. *Curaſſoa* or *leaſt Indian Fig,* or *Pinpillow.*
Lin. ſpec. 670. *Reich.* 2. 471. *hort. cliff.* 182. 12. *upſ.* 120. 9.
Opuntia curaſſavica. *Mill. dict. n.* 7.
O. minima americana ſpinoſiſſima. *Bradl. ſucc.* 1. 5. *t.* 4.
Ficus indica, ſ. O. curaſſ. minima. *Comm. hort.* 1. 107. *t.* 56.
F. ind. ſ. O. minor cauleſcens—ramis cineritiis, ſpinoſiſſima. *Pluk. alm.* 147. *t.* 281. *f.* 3.
Proliferous-jointed; joints cylindric-ventricoſe compreſſed.

23. Cactus Phyllanthus. *Spleenwort-leaved Indian Fig.*
Lin. ſpec. 670. *Reich.* 2. 471. *hort. cliff.* 182. 16. *upſ.* 120.
Opuntia Phyllanthus. *Mill. dict. n.* 9.
Cereus ſcolopendri fol. brachiato. *Dill. elth.* 73. *t.* 64. *f.* 74.
Phyllanthus amer., ſinuoſis fol. longis, &c. *Pluk. alm.* 295. *t.* 247. *f.* 5.
Fic. ſ. O. non ſpinoſa, ſcolopendriæ fol. ſinuato. *Raii dendr.* 21. *n.* 7.
Proliferous, enſiform-compreſſed, ſerrate-repand.

[24. Cactus alatus.
Swartz prodr. 77. *Brown. jam.* 237. 5.
Opuntia non ſpinoſa. *Sloan. jam.* 2. 159. 17.
Proliferous, enſiform compreſſed crenate.]

25. Cactus ſpinoſiſſimus. *Cluſter-ſpined Indian Fig.*
Mart. hort. cantabr. 88. *Ait. hort. kew.* 2. 155.
Opuntia ſpinoſiſſima. *Mill. dict. Houſt. M. S. S.*
Stem upright compreſſed, branches oppoſite bifarious compreſſed, ſpines briſtle-ſhaped.

26. Cactus Pereſkia. *Barbadoes Gooſeberry.*
Lin. ſpec. 671. *Reich.* 2. 472. *hort. upſ.* 122. 14. *Brown. jam.* 237. 1.
Pereſkia. *Linn. hort. cliff.* 183. — aculeata. *Mill. dict.*
P. acul., fl. albo, fructu flaveſcente. *Plum. gen.* 35. *Dill. elth.* 305. *t.* 227. *f.* 294.
Malus amer. ſpinoſa, portulacæ fol. fructu folioſo, ſem. reniformi ſplendenti. *Comm. hort.* 1. 135. *t.* 70.
Portulaca amer. latifolia, ad fol. ortum lanugine obducta, longioribus aculeis horrida. *Pluk. alm.* 304. *t.* 215. *f.* 6.
Groſſulariæ fructu majore arbor ſpinoſa, fructu folioſo e viridi-albicante. *Sloan. jam.* 2. 86. *Raii dendr.* 27.
Stem arboreous round, prickles double recurved, leaves lanceolate-ovate.

[27. Cactus portulacifolius. *Purſlain-leaved Indian Fig.*
Lin. ſpec. 671. *Reich.* 2. 472.
Opuntia arbor ſpinoſiſſima, fol. portulacæ cordatis. *Plum. ſpec.* 6. *ic.* 190. *t.* 197. *f.* 1.
Stem round arboreous thorny; leaves wedge-form retuſe.

DESCRIPTIONS, *&c.*

This genus conſiſts of ſucculent plants, permanent in duration, ſingular and various in ſtructure; generally without leaves, and having the ſtem or branches jointed; for the moſt part armed with ſpines in bundles, with which, in many ſpecies, briſtles are intermixed. Theſe bundles of ſpines are placed on the top of the tubercles in the *Smaller Melon-Thiſtle* (n. 1.), which is tubercled all over, and produces its flowers between the tubercles. In the *Great Melon-Thiſtle* (n. 2.) the ſpines are ranged in a ſingle row on the ridge of the ribs. Theſe are of an ovate or globular form. The *Torch-Thiſtles* (n. 3—11.) on the contrary are ſlender, riſe up high, are jointed and branched; many of them are almoſt cylindrical, with from five to ten ſhallow ribs, ſome however are ſquare or three-cornered. The ſtructure of the *Creeping Cereuſes* (n. 12, 13, &c.) is the ſame with theſe, except that the ſtems are weak and cannot ſupport themſelves; they therefore ſeek ſupport from trees, and throw out roots from the ſtem, like Ivy. In the *Indian-Figs* (n. 17. &c.) the branches are jointed, and flatted like the ſole of a ſhoe; the bundles of ſpines or briſtles are ſcattered over the ſurface, and the flowers are produced from the edge of the extreme branches. In the *Phyllanthus* (n. 23.) the branches are thinner, and may fairly be denominated leaves, they are indented along the edge, and the flowers come out ſingly from the indentures. This ſeldom has any ſpines. *Pereſkia* has a round ſtalk with leafy branches; the leaves alternate, flat, and thick; the prickles are large and ſtiff, and come out in bundles on the ſtalk and branches, chiefly at the axils; the flowers are produced ſeveral together from the axils alſo. In this and the Indian-Figs the flowers are pitcher-ſhaped; in the other ſpecies they are ſubcylindrical and longer; in Phyllanthus very long. The fruit, in ſome of the ſorts is ſmall, like Currants; but in moſt, it is larger, and ſhaped like a Fig, whence their name of *Indian-Fig*[a].

This genus, ſcattered by the old writers and Mr. Miller, under the names of *Cactus*, *Cereus*, *Opuntia*, and *Pereſkia*, is here collected, after the example of Linneus.

Theſe ſingular plants are all natives of the continent of South America and the Weſt-Indian iſlands.]

I. *Melon-Thiſtles* or *Turk's-caps.*

1. This differs from the ſecond in being ſmaller, and in being covered with tubercles, between which the flowers and fruit come out, round the middle of the plant. The flowers appear in july and auguſt. The fruit is of a fine ſcarlet colour, and continuing freſh upon the plants through the winter, they are very beautiful at that ſeaſon.

[Linneus obſerves[b], that it is fortified all over with bearded *papillæ* like the *Meſembryanthemum*; that it is milky like the *Euphorbia*; and that it has the fructification of *Cactus*.

Ray mentions, that it was cultivated at Fulham, in the garden of Biſhop Compton, "the ever to be celebrated patron of Botany and polite arts." It was alſo in the royal garden at Hampton Court, in 1690[c].]

β. The Childing variety, is but little larger than the other, growing nearly in the ſame form; but this produces a great number of young plants from the ſides, by which it is increaſed. It produces tufts of a ſoft white down upon the tubercles or knobs, and alſo between them, ſo that the whole plant appears as if it were covered with fine cotton. The flowers are larger, but have not been ſucceeded by fruit in England; inſtead of it young plants have been thruſt out the following ſeaſon from the ſame places where the flowers had appeared.

2. The Great Melon-Thiſtle appears like a large fleſhy green Melon, with deep ribs, ſet all over with ſtrong, ſharp thorns. When it is cut through the middle, the inſide is found to be a ſoft, green, fleſhy ſubſtance very full of moiſture. The flowers and fruit are produced in circles round the upper part of the cap.

Some of theſe which have been brought to England, have been more than a yard in circumference, and two feet and a half high including the cap. But in the Weſt Indies there are plants near twice as large.

[Linneus obſerves that this plant reſembles a hedge-hog in its form and ſpines; and on the top has a diſcoid, convex, villoſe body, from which the flowers proceed[d].]

β, δ. Mr. Miller received the varieties with white ſpines and with ſpiral ribs from Antigua; and never perceived the leaſt diſpoſition in them to produce fruit, or even caps.

γ. Was brought into England by Dr. William Houſtoun, who procured the plants from Mexico. This has two orders of thorns, in one of which they are ſtraight, and ſet on at the joints in cluſters, ſpreading out from the centre each way like a ſtar; and in the middle of each cluſter is produced one broad flat thorn near two inches in length, which ſtands erect, is recurved at the point, and of a browniſh red colour. Theſe thorns are by the inhabitants of Mexico, ſet in gold or ſilver, for toothpicks.

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[a] Juſſieu gen.
[b] Hort. cliff.
[c] Hort. kew.
[d] Hort. cliff.

[In Linneus's *mantiſſa*, it is ſaid to be roundiſh, with fourteen angles; there are many dots on the back of the angles, faſcicled with aceroſe ſpines; the ſpine in the middle of each faſcicle is large and recurved.]

Mr. Miller having made four ſpecies of this Great Melon-Thiſtle, thinks that if the iſlands in the Weſt Indies were examined, many more ſorts would be found.

Theſe ſtrange plants commonly grow upon the ſteep ſides of rocks in the hotteſt parts of America, where they ſeem to be thruſt out of the apertures, having little or no earth to ſupport them; their roots ſhooting down into the fiſſures of the rock to a conſiderable depth, ſo that it is troubleſome to get the plants up. As they delight in ſuch rocky places, they ſeldom live long when tranſplanted into a better ſoil.

In times of great drought the cattle repair to the barren rocks where theſe plants grow, rip them up with their horns, tear off the outſide ſkin, and greedily devour all the fleſhy moiſt part.

The fruit is frequently eaten by the inhabitants of the Weſt Indies. It is about three quarters of an inch in length, of a taper form, drawing to a point at the bottom, but blunt at the top: the taſte is an agreeable acid.

[Gerarde complains, that the Great Melon-Thiſtle would not grow with him, by reaſon of the coldneſs of the climate. Ray had the plants in pots, ſix years old. Fairchild of Hoxton raiſed many young plants from the ſeed. Bradley cultivated it in 1727. He in his Philoſophical account of the works of Nature, publiſhed in 1721: and Miller, in the Floriſt's Dictionary 1724, mention, that one was then to be ſeen in the ſtove at Hampton Court. It is frequently brought from the Weſt Indies, but ſeldom continues long in our climate.

II. *Torch-Thiſtles* or *Torch-wood.*

3. This has the habit of the ſixteenth, but is upright, and eight or ten feet high: when it grows higher it wants ſupport, but does not put out any roots from the ſtem. The flower is whitiſh, very handſome, but has hardly any ſmell; it is half a foot in diameter, and blows in the night. The fruit is of the form and ſize of a hen's egg, of a ſhining ſcarlet colour on the outſide; the pulp is white, fleſhy, ſweet, eatable, full of ſmall black ſhining ſeeds.

Native of Carthagena, and the iſle of Mango[e].

4, *&c.* The angular upright Cactuſes, are commonly called Torch-Thiſtles, and in the Weſt Indies Torch-wood, becauſe when they grow old they will burn, and the Indians uſe them as flambeaux. Many of them are figured by Plumier, but are by no means perfectly known; they remain therefore to be well deſcribed by travellers.] They differ in the ſize of their ſtems, the number of the angles, and the length of the ſpines; [but they have not all flowered in England. Mr. Miller received ſeveral of the ſpecies from the Britiſh iſlands in the Weſt Indies ſo early as 1728.

4. Linneus ſays, that his plant of *Cactus heptagonus* was exactly ovate, with ſeven angles deeply cut, and that it continued the ſame for many years, though it grew well: others ſay, that they have ſeen it a foot and half and two feet high[f].

The *Cereus heptagonus* of Miller does not ſeem to be the ſame with the *Cactus heptagonus* of Linneus. It rather agrees with his *repandus*.

This has not flowered in England.]

5. The angles of this are compreſſed, and far aſunder. It is very ſubject to put out many ſhoots from the ſides, which ſtops its upright growth, ſo that the plants rarely riſe more than four or five feet high.

[It was cultivated by Mr. Miller in 1731, and flowers in july[g].]

6. The angles of the hexangular Torch-Thiſtle are armed with ſharp ſpines, coming out in cluſters at certain diſtances, and ſpreading from a centre every way: the outer ſubſtance of the plant is ſoft, herbaceous, and full of juice, but in the middle there is a ſtrong fibrous circle running the whole length, which ſecures the ſtems from being broken by winds. They will riſe to the height of thirty or forty feet, if their tops are not injured, and they have room to grow; but whenever the ſtems are cut, or injured, they put out ſhoots from the angles, immediately under the wounded part, and frequently one or two lower down: theſe, if they are not cut off, form diſtinct ſtems, and grow upright; but they are ſeldom ſo large as the principal ſtem, eſpecially if more than one be left on a plant. The flowers come out from the angles on the ſide of the ſtem; they have a thick, fleſhy, ſcaly, round, channelled, hairy peduncle, ſupporting a ſwelling germ, upon the top of which ſits the ſcaly, prickly calyx, cloſely ſurrounding the corolla, till a little time before it expands. The flower is then as large as that of a Hollyhock: the inner petals are white, and crenated at their extremity. The calyx is green with ſome purple ſtripes. It is not ſucceeded by fruit in this country, nor do the plants often produce flowers; but when they do there are generally ſeveral. The uſual time of flowering is in july.

This has been the common ſort in the Engliſh ſtoves. It grows naturally in Surinam, whence it was brought to Holland, where it produced flowers in the year 1681; and from the Dutch gardens, moſt parts of Europe have been ſupplied with this plant.

[In 1690, it was introduced here by Mr. Bentick. Mr. Bradley ſays, "this beautiful plant was firſt raiſed in England by Mr. Adam Holt, at the Biſhop of London's (Compton) palace at Fulham; and that it flowered at Sir Richard Child's at Wanſtead."

7. Stem jointed; the internodes a foot long. Knots of ſpines come out along the edge without any viſible nap among them. Sometimes, but rarely, the ſtem has ſix angles: it never puts out any roots, and though ſlender and weak, grows upright[h]. It was introduced about 1769[i].

8. Miller puts Sloane's ſynonym, which Linneus attributes to this ſpecies, to his *gracilis* n. 8. which he deſcribes as] having the ſmalleſt ſtem of any of the upright ſorts; generally nine obtuſe angles armed with ſhort ſpines, placed at farther diſtances than thoſe of the other ſorts, and the channels between the angles, not near ſo deep. The flowers are produced from the angles, in the ſame manner as the ſixth; but they are ſmaller, and the calyx is of a light green, without any mixture of colour. The fruit is about the ſize and ſhape of a Bergamot Pear, having many ſoft ſpines on the ſkin; the outſide is a pale yellow, the inſide very white, full of of pulp, having a great number of ſmall black ſeeds lodged in it. This ſort frequently flowers in july, and in warm ſeaſons will perfect its fruit, which has very little flavour in this country. [It is however frequently ſerved up at table in the Weſt India iſlands.]

Miller characterizes his *heptagonus* in the ſame manner as Linneus does this ſpecies; namely, as having eight angles, and ſpines longer than the wool. He adds Boerhaave's ſynonym of *Cereus erect, very thick and extremely angular, with many very long white ſpines, and yellow wool.*

[Linneus doubts whether this may not be a variety of the next ſpecies[k].

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[e] Jacquin.

[f] Hort. cliff.

[g] Hort. kew.

[h] Linn. hort. cliff.

[i] Hort. kew.

[k] Hort. cliff.

9. This is very ſpiny. The ſpines, eſpecially the younger ones, have a browniſh wool about them. The fruit is of the ſize and form of a hen's egg, red on the outſide and without ſpines[l].

Native of America. It was introduced in 1690, by Mr. Bentick[m].

10. The ſtem is a fathom or more in height, almoſt ſimple, two or three inches in diameter, blunt at the end, having ten deep angles, ſet with thorns, crowded eight or ten together, about an inch in length, ſpreading, the inner ones ſhorter, tomentoſe at the baſe. The angles at the top have the ſpines concealed among the wool, and they come out gradually as the ſtem grows up. The wool is white and brown. Flowers ſeſſile, in the very angles of the extremities, ſcattered; ovate at the baſe, two inches long, elongated, red. Berry unarmed, blood red within, eatable[n]. Native of Peru and Jamaica, in dry open ſituations on the coaſt. Introduced by Mr. Miller in 1728[o].]

Miller diſtinguiſhes his *peruvianus* by its having very ſtrong ſpreading ſpines. He gives Herman's ſynonym of *Cereus upright very large, with a red thorny fruit.* To his *lanuginoſus* he gives the ſame ſynonym from Herman, that Linneus does to his *peruvianus*, namely *of a red fruit without thorns.*

11. Introduced in 1728, by Mr. Miller[p].

III. *Creeping Cereuſes.*

Theſe are remarkable for the beauty and ſweetneſs of their flowers.]

12. The great night-flowering Creeping Cereus when arrived to a ſufficient ſtrength, will produce many exceeding large, beautiful, ſweet-ſcented flowers, like moſt of this kind, of very ſhort duration, ſcarcely continuing ſix hours full blown: nor do the flowers ever open again when once cloſed. They begin to open between ſeven and eight of the clock in the evening, are fully blown by eleven, and by three or four in the morning they fade, and hang down quite decayed; but during their ſhort continuance, there is ſcarcely any flower of greater beauty, or that makes a more magnificent appearance; for the calyx of the flower, when open, is near a foot diameter; the inſide of which, being of a ſplendid yellow colour, appears like the rays of a bright ſtar, the outſide is of a dark brown; the petals being of a pure white add to the luſtre; the vaſt number of recurved ſtamens ſurrounding the ſtyle in the centre of the flower make a fine appearance: add to all this the fine ſcent of the flower, which perfumes the air to a conſiderable diſtance: there is ſcarce any plant which deſerves a place in the hot-houſe ſo much as this, eſpecially as it may be trained againſt the wall, where it will not take up any room. The uſual ſeaſon of its flowering is in july, and when the plants are large many flowers will open the ſame night, and there will be a ſucceſſion of them for ſeveral nights together. Sometimes ſix, eight, or ten flowers open at the ſame time on one plant, making a moſt magnificent appearance by candle-light; but none of them are ſucceeded here by any appearance of fruit.

[Native of Jamaica and Vera Cruz. Introduced before 1700, in the royal garden at Hampton-court[q].]

13. The Pink-flowered Creeping Cereus produces a greater number of flowers than the foregoing ſort: they come out in may, and ſometimes earlier, when the ſeaſon is warm: the petals are of a fine pink colour both within and without, they are not ſo numerous, and the tube of the flower is longer than that of the other. Theſe flowers keep open three or four days, provided the weather, or the place where the plants ſtand be not too warm; and during their continuance they make a fine appearance. This ſort has very ſlender trailing branches, which require a ſupport; they are not jointed, nor do they extend ſo far as thoſe of the other ſort, ſo that they may be eaſily trained to a little trellis of ſticks, and the plant may be conveyed into the houſe, whilſt in flower, to adorn any of the rooms. The flowers are ſo beautiful, and are produced in ſuch great plenty, that this may be placed in the firſt claſs of exotic plants. It has produced fruit in the ſtove at Chelſea, but the fruit did not ripen.

This ſort grows naturally in Peru, whence it was ſent to the royal garden at Paris; and in the year 1734, Mr. Miller had ſome cuttings of it from Bernard de Juſſieu, which ſucceeded in the Chelſea garden.

[14. This is probably the root of ſome ſpecies of Epidendrum.

15. Stem roundiſh, green, woody, ſtriated, as big as a gooſe's quill; divided into ſeveral ſlender, round, ſtriated branches, and they into twigs, at diſtances of one, two, and three inches; at which diviſions are ſet little twigs, an inch and half long in whorls[r]. It grows chiefly on the largeſt trees in Jamaica, hanging commonly to the length of three or four feet[s].

Introduced in 1758, by Mr. Miller. It flowers in ſeptember[t].

Gærtner deſcribes the fruit as an inferior berry, crowned with the rudiment of the flower, ſpherical, ſnow white, pellucid, one-celled: pulp watery. Seeds eight or twelve, conglomerate in the centre of the fruit, ſmall oblong, ſomewhat angular or wedge-form compreſſed and thicker on the outſide, very ſlenderly dotted in ſtreaks, ferruginous. He keeps it diſtinct from this genus, becauſe the embryo of *Cactus* is ſlightly ſpiral, and the albumen of the ſeed farinaceous; whereas there is no albumen in this, and the embryo fills the whole cavity of the ſeed.

16. This climbs up trees to a conſiderable height, ſupporting itſelf by throwing out roots; it alſo covers ſhady rocks. The fruit is the beſt flavoured of any of the ſorts, being ſlightly acid with a mixture of ſweetneſs, pleaſant and cooling. It has no leaves, but is ſomewhat irregular with ſcars. It is a native of the Weſt India iſlands. In Martinico, where the inhabitants eſteem the fruit, it is called *Poirier de Chardon* or Thiſtle Pear[u].]

It firſt flowered here in the royal garden at Hampton-court, and at the Marquis of Rockingham's at Wentworth-caſtle, in Yorkſhire.

[β. The fruit is much larger, of a ſhining ſcarlet colour, and clothed with leaves which are almoſt entire: the pulp is white, ſweetiſh, eatable, but having very little flavour: the ſeeds are black and gloſſy. It is a native of the iſland of St. Euſtatia[x].

IV. *Indian Figs* or *Prickly Pears.* In French *Raquette.*

17. This is a ſeſſile plant, conſiſting of globular joints growing out of each other, armed with very long, ſharp, ſubulate ſpines, commonly ſolitary but ſometimes coming out two together. The flowers are produced from the upper joint, they are ſeſſile, the tube is long and ſcaly, the petals ſpreading and ſinuous, the ſtyle very long and prominent, and the ſtigma very broad and many-parted. It is a very ſingular plant, and the leaſt known of any in this genus[y]. Native of South America.]

18. The joints or branches of the Common Opuntia or Indian Fig are ovate, compreſſed, and have very ſmall leaves coming out in knots on their ſurface, as alſo on their upper edges, which fall off in a ſhort time; and at the ſame knots there are three or four ſhort briſtly ſpines, which do not appear unleſs they are cloſely viewed; but on being handled they enter the ſkin, are troubleſome, and very difficult to get out again. The branches ſpread near the ground, and frequently trail upon it, putting out new roots, and thus extending to a conſiderable diſtance, but never riſing in height; they are fleſhy and herbaceous whilſt young, but as they

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[l] Herman.
[m] Hort. kew.
[n] Swartz.
[o] Hort kew.
[p] Ibid.
[q] Ibid.
[r] Sloane.
[s] Browne.
[t] Hort. kew.
[u] Jacquin.
[x] Ibid.
[y] Plumier.

grow old become drier, of a tough contexture, and have woody fibres. The flowers come out on the upper edges of the branches generally, though ſometimes they are produced on their ſides. The ſkin or cover of the fruit is ſet with ſmall ſpines in cluſters, and the inſide is fleſhy of a purple or red colour. It flowers here in july and auguſt, but unleſs the ſeaſon is very warm, the fruit will not ripen in England.

This ſort is now found growing wild on the ſides of the roads about Naples and in other parts of Italy, in Sicily, Spain, [Portugal, the Valais, the South of France, Minorca, *&c.*]: but it is probable that it was brought originally from America, of which all the other ſorts are natives.

[Gerard ſays, that this plant was brought from Virginia into Italy, Spain, England, *&c.* and that he could never make it bear fruit here, though he beſtowed great pains and coſt in keeping it from the injury of our old climate. He adds, that it grows in Barbary, and that his ſervant William Marſhall found it abundantly in the iſland of Zante.]

Mr. Miller received ſome branches of it from Mr. Peter Collinſon, who aſſured him they were ſent from Newfoundland, where the plants grow naturally, and which is much farther to the north than it was before known to grow. How it endures the cold of that country is inconceivable, for though it will live abroad in England, in a warm ſituation and dry ſoil, yet in ſevere winters it is generally deſtroyed, if not protected from froſt.

[That of which Mr. Miller has given a plate in his figures of plants, came from Nova Scotia, where it is ſaid to be common. He obſerves, that it is a much larger plant than the common ſort, and armed with ſtronger prickles; that the fruit alſo is much larger, and of a deeper purple colour; the joints rounder and more compreſſed; beſides that it is hardier, and grows more upright.]

19. The oblong-branched Indian Fig, has the branches growing more upright than thoſe of the foregoing, and they are armed with long briſtly ſpines, coming out in cluſters on both the compreſſed ſides, and ſpreading open like the rays of a ſtar. The flowers come out from the upper edges of the leaves, like the former; but they are larger, and of a brighter yellow colour. The fruit is alſo larger, and of a deeper purple colour; the outer ſkin is alſo armed with longer ſpines. This is the moſt common ſort in Jamaica, and upon the fruit of this the wild ſort of Cochineal inſect feeds, which is called Silveſter. Some of the plants were ſent with the live inſects upon them from Jamaica, by Dr. Houſtoun, who was writing a hiſtory of them. Theſe inſects kept alive upon the plants here three or four months. If the fruit be eaten, it will dye the urine of a bloody colour.

[This ſeems to be a native not only of South America, but alſo of the Eaſt Indies, Cochinchina and Japan, and Madeira; or perhaps rather has been tranſplanted thither.]

20. This has ſtronger branches than the foregoing ſort, and they are armed with larger thorns, which are awl-ſhaped, whitiſh, and in cluſters. The flowers are large, of a bright yellow colour; and the fruit is ſhaped like that of the foregoing.

β. This grows taller, the branches are larger, thicker, and of a deeper green, and are armed with ſtrong black ſpines, coming out in cluſters which are far aſunder. The flowers are ſmaller, and of a purpliſh colour, as are alſo the ſtamens; the fruit is of the ſame form with that of the common ſort, and does not ripen here.

γ. Is the largeſt of all the ſorts yet known. The joints are more than a foot long, and eight inches broad; they are very thick, of a deep green colour, and armed with a few ſhort ſpines; the older branches of this often become almoſt taper, and are very ſtrong. It has not flowered, though many of the plants were more than ten feet high.

[This ſort makes very ſtrong fences; the prickles are ſo ſharp, that cattle are afraid of coming near them; and it ſpreads very much both by the joints and the ſeed. When the iſland of St. Chriſtopher was to be divided between the Engliſh and the French, three rows of the *Tuna* were planted by common conſent between the boundaries[z].

Dr. Smith, in his very ingenious paper upon the irritability of vegetables[a], informs us, that the long and ſlender ſtamens of the flower are very irritable; and that if a quill or feather be drawn through them, in the ſpace of two or three ſeconds they begin to lie down gently on one ſide, and in a ſhort time become recumbent at the bottom of the flower.

It is a native of South America and Jamaica; and was cultivated in 1732, at Eltham, by James Sherard, M. D.[b]]

21. This, which is ſuppoſed to be the ſort upon which the Cochineal inſect feeds, has oblong, ſmooth, upright branches, riſing to the height of eight or ten feet, having ſcarcely any ſpines on them, and the few which there are ſo ſoft as not to be troubleſome when handled. The flowers are ſmall, and of a purple colour; they do not ſpread open, appear late in autumn with us, and the fruit drops off in winter without coming to perfection.

[The Cochineal inſect feeds on many ſucculent plants, but moſt commonly on the Cactus genus. For this reaſon the Indians propagate large quantities of the moſt harmleſs ſpecies to breed the inſects upon[c].

Dampier's account is as follows:

The plant on which the Cochineal inſect feeds is like the Prickly Pear, about five feet high, and as prickly; only the leaves are not quite ſo big, but the fruit is bigger. On the top of the fruit there grows a red flower: this when the fruit is ripe, falls down on the top of it, and covers it ſo that no rain or dew can wet the inſide. A day or two after, the flower being ſcorched up by the heat of the ſun, the fruit opens wide, and the inſide appears full of ſmall red inſects. The Indians, when they perceive the fruit open, ſpread a large linen cloth, and then with ſticks ſhake the plant, to diſturb the inſects, ſo that they take wing to be gone, but keep hovering over the plant, till by the heat they fall down dead on the cloth, where the Indians let them remain two or three days till they are dry. The Cochineal plants are called by the Spaniards *Toona*. They are planted in the country about Guatimala, Cheape, and Guaxaca, in the kingdom of Mexico.

The difference, in point of goodneſs, obſervable in the Cochineal, is entirely owing to the plant it feeds upon. The Prickly Pear (*C. Tuna*) ſo abundant in Jamaica, is covered with the inſects, but not having their proper food, they are in general diminutive, and have very little red tincture in their bodies.

Theſe plants bear a ſucculent fruit at their extremities, filled with a delicate red coloured juice. This is the natural food of the inſect. The exuviæ and animal ſalts of the inſect are, from the minuteneſs of its parts, inſeparable from the eſſential principles of the dye, and muſt diminiſh the brilliancy of the colour: and this has put ſome perſons upon inſpiſſating the juice of the fruit itſelf.

The ripe fruit is ſaid to check fluxes by its mild reſtringency; it is alſo a powerful diuretic, and ſometimes imparts a tinge to the urine[d].

This alſo was cultivated at Eltham in 1732[e].]

22. The leaſt Indian Fig has thicker more ſwelling joints than the other ſorts, cloſely armed with ſlender white ſpines. The branches ſpread out on every ſide, and where they have no ſupport fall to the ground, very often ſeparating at the joints, and as they lie upon the ground putting out roots, and forming new plants. This ſort very rarely produces flowers in England. In the Weſt Indies it is called Pinpillow, from the appearance which the branches have to a pincuſhion ſtuck full of pins.

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[z] Sloane.
[a] Philoſ. tranſ. vol. 78. part 1. p. 161.
[b] Hort. kew.
[c] Browne.
[d] Long.
[e] Hort. kew.

It is ſaid to grow naturally at Curaſſao. [Mr. Bentick introduced it here in 1690[f]. It flowered at Badminton, in the garden of that incomparable patroneſs of natural learning, the late Dutcheſs of Beaufort, as Bradley expreſſes it.]

23. Spleenwort-leaved Indian Fig has very thin branches, which are indented regularly on their edges, like Spleenwort; they are of a light green, ſhaped like a broad-ſword, and without ſpines. The flowers come out from the ſide, and at the end of the branches, and are of a pale yellow colour. The fruit rarely ripens in England.

It grows naturally in the Braſils, [Surinam, &c. and was cultivated by Mr. Miller in 1731[g].

24. Stem round, aſh-coloured, flexile, whence iſſue ſeveral leaves, which at firſt are very hairy, and afterwards grow to a foot in length, and an inch broad in the middle, decreaſing to both extremes; they are of a pale green colour, and have round indentures on their edges; out of theſe proceed the flowers. The fruit is ſmall and compreſſed[h]. Native of Jamaica.]

25. The branches of this ſort have the joints much longer, narrower and more compreſſed than in any of the others. The ſpines are very long, ſlender, and of a yellowiſh brown colour, coming out in cluſters all over the ſurface of the branches, croſſing each other, ſo as to render the plant dangerous to handle; for upon being touched, the ſpines quit the branches, adhere to the hand, and penetrate the ſkin, ſo as to be very troubleſome.

[Its growth is more upright and lofty than the other Opuntias; the trunk below the branches is ſo abſolutely covered with ſpines as to be inviſible, and to ſeem nothing but a congeries of theſe. Hence the gardeners have, whimſically enough, named this plant Robinſon Cruſoe's coat. The branches are remarkable neat and flatted, ſeldom ſubdividing much, but protending horizontally in a double row and in the ſame plane. The ſpines are very long and ſlender, in parcels, and have a woolly tuft at their baſe, which is moſt evident in the more tender joints. Upon the whole this ſpecies is very different from the reſt, and has more of an air of neatneſs and elegance than any of theſe ſtrange plants, notwithſtanding its roughneſs.]

It was ſent to Mr. Miller from Jamaica by Dr. Houſtoun (before 1733). He found it there in great plenty, but could never obſerve either flower or fruit upon any of the plants; nor have they produced either in England.

26. This has many ſlender branches, which trail on whatever plants grow near them. Theſe branches, as alſo the ſtem of the plant, are beſet with long whitiſh ſpines, which are produced in tufts. The leaves are roundiſh, very thick and ſucculent; and the fruit is about the ſize of a walnut, having tufts of ſmall leaves on it, and within a whitiſh mucilaginous pulp.

It grows in ſome parts of the Spaniſh Weſt Indies, whence it was brought to the Engliſh ſettlements in America, where it is called Barbadoes Gooſeberry. The Dutch have named it Blad Apple.

[Plumier made it a new genus under the name of *Pereſkia*, from Nic. Fabr. Peireſk, Senator of Aix, who collected a conſiderable library and herbarium, but publiſhed nothing.

It was cultivated in 1696, in the royal garden at Hampton-court[i].

27. Stem leafleſs, but armed with bundles of briſtle-ſhaped ſpines. Leaves on the branches wedge-ſhaped, emarginate, thick, ſucculent, alternate, with ſubſolitary, ſubulate ſpines between them. Flowers at the ends of the twigs, ſolitary, ſometimes but ſeldom two together; petals roſaceous, flat, cordate. Fruit roundiſh, ſomewhat angular, having no tufts of leaves on it, by which it is diſtinguiſhed from the foregoing, which it otherwiſe much reſembles[k].]

PROPAGATION AND CULTURE.

I. *Melon Thiſtles.*

1. The firſt ſort produces quantities of fruit annually; and as the ſeeds grow very readily, it is now very common in thoſe gardens where there are ſtoves to keep them; for if the fruit is permitted to drop upon the earth of the pots, and that is not diſturbed, there will plenty of plants come up without any farther trouble; and theſe ſeedling plants may be taken up as ſoon as they are of a proper ſize to remove, and planted ſix or ſeven of them into a ſmall halfpenny pot, where they may ſtand one year; by which time they will be large enough to be each planted into a ſeparate pot, and afterward they will make great progreſs, eſpecially if they are plunged into a hot-bed of tanners bark in ſummer; for although this ſort is much more hardy than the large kind, and may be preſerved in a moderate ſtove, yet the plants will not make near the progreſs as thoſe which are kept in a greater degree of heat. This ſort will continue many years with proper care, and the plants will grow to be a foot high or more; but when they are ſo tall, the lower part of them is not ſo ſightly, their green being decayed, and the ſpines changed to a dark dirty colour, they appear as if dead, ſo that the upper part of theſe old plants only ſeem to have life; whereas the plants of the middling ſize appear healthy from top to bottom.

In the ſpring, when the fruit ſhrivels and becomes dry, the ſeeds will be ripe, and may then be rubbed out, and ſown upon the ſurface of the earth in ſmall pots, which ſhould be plunged into a hot-bed of tanners bark to bring up the plants.

In the childing variety the young offsets may be taken off, and after laying them to dry for two or three days, may be planted, and will ſucceed very well.

2. The great ſort may be propagated by ſeeds, but as the plants which are raiſed from ſeeds in England, will be ſome years in arriving to any conſiderable ſize, it will be much the beſt way to procure ſome plants from the Weſt Indies; and if the plants arrive here in any of the ſummer months, ſo as that there may be time for them to get new root before the cold comes on in autumn, the plants will more certainly ſucceed. When the plants come over, it will be proper to take them out of the earth as ſoon as poſſible, and lay them in the ſtove upon the ſhelves, to dry for a fortnight or three weeks; and when they are planted, they ſhould be plunged into a good warm bed of tanners bark, to promote their making new roots. In this bed they may remain till the beginning of october, when they muſt be removed into the ſtove, and treated in the manner before directed.

It has been occaſionally brought to England in great plenty; but the greateſt part of the plants has been often deſtroyed by giving them too much water ſo as to rot them. Whoever propoſes to bring them from abroad, ſhould be very careful to take up their roots as entire as poſſible, and to plant them in tubs filled with ſtones and rubbiſh, mixing very little earth. There ſhould be ſeveral pretty large holes bored through the bottom of the tubs, to let the moiſture paſs off; and if the plants be ſet in the tubs a month before they are put on board the ſhip, they will in that time have made new roots. This will be the moſt ſecure method to have them ſucceed; but, during their continuance in the country, they ſhould have no water given them; and after they are on board the ſhip, they muſt not have any moiſture whatever: it will be a good method to cover the plants with tarpaulins, to keep off the ſpray of the ſea in bad weather; and to expoſe them at all times to the open air when the ſea is calm. By obſerving theſe directions, the plants may be brought to England in good health, during the ſummer ſeaſon.

The plants require a very good ſtove to preſerve them through the winter in England, nor ſhould they be expoſed to the open air in ſummer; for although they may continue fair to outward appearance, when they have been ſome time expoſed abroad, yet they will imbibe moiſture, which will cauſe them to rot ſoon after they are removed into the ſtove. And this is frequently the caſe of thoſe plants which are brought from abroad, which have a fair healthy appearance many times at their firſt arrival, but ſoon after decay, and this will happen very ſuddenly. Scarce any appearance of diſorder will be ſeen, till the whole plant is killed; which, in a few hours time, has often been the fate of thoſe plants, when they have been placed in the ſtove.

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[f] Hort. kew.
[g] Ibid.
[h] Sloane.
[i] Hort. kew.
[k] Plumier.

If theſe plants are plunged into a hot-bed of tanners bark in ſummer, it will greatly forward them in their growth; but when this is practiſed, there ſhould be ſcarce any water given to the plants, for the moiſture which they will imbibe from the fermentation of the tan, will be ſufficient for them, and more would cauſe them to rot. The beſt method to preſerve the large kind is, in winter, to place the pots, either upon the tops of the flues, or, at leaſt, very near them, that they may have the warmeſt place of the ſtove; and during that ſeaſon, never to give them any water; but when the ſeaſon comes for leaving out the fire in the ſtove, to remove them into a bed of tanners bark, which will ſoon ſet them in a growing ſtate, and recover their verdure. The ſoil in which theſe ſhould be planted, muſt be of a ſandy nature, and if mixed with ſome dry lime rubbiſh, it will be ſtill better. In the bottom of the pots ſhould be placed ſome ſtones, in order to drain off any moiſture which may be in the earth; for as theſe plants naturally grow upon the hot dry burning rocks which have no earth, and, were it not for theſe plants, would be abſolutely barren, we muſt imitate their natural ſoil as near as poſſible, making ſome allowance for the difference of climates.

II. *Cereus*, or *Torch Thiſtle*.

Theſe plants are all propagated by cuttings, ſo that if you intend to increaſe the number of them, you muſt cut off the ſtems of the upright ſorts at what length you pleaſe; theſe ſhould be laid in a dry place to heal the part cut, at leaſt a fortnight or three weeks before they are planted; but if they lie a month it is much the better, and they will be in leſs danger of rotting, eſpecially thoſe ſorts which are the moſt ſucculent.

Theſe cuttings ſhould be planted in pots filled with the mixture of earth before directed, laying ſome ſtones in the bottom of the pots to drain off the moiſture; then place the pots into a gentle hot-bed of tanners bark, to facilitate their rooting, giving them once a week a gentle watering.

The beſt ſeaſon for this work is in june, or the beginning of july, that they may have time to root before winter; towards the middle of auguſt you muſt begin to give them air by degrees, to harden them againſt winter, but they ſhould not be wholly expoſed to the open air or ſun; at the end of ſeptember they muſt be removed into the ſtove, or green-houſe, where they are to abide the winter, during which ſeaſon you muſt be very careful not to let them have much water; and always obſerve to place the young plants, for the firſt winter, in a little warmer ſituation than the older plants, as being ſomewhat tenderer.

Theſe plants ſhould always have a dry ſituation in winter, for as they imbibe the greateſt part of their nouriſhment from the circumambient air, ſo if this be too replete with moiſt particles, it will occaſion their rotting; therefore they ſhould not be expoſed abroad, not even in the midſt of ſummer, unleſs they are under ſhelter; for great rains, which often happen at that ſeaſon, are very injurious to them; the upright ſorts ſhould be therefore placed ſo as to enjoy a free air in the ſummer, but at the ſame time, ſcreened from rains and great dews; it will therefore be much the better method to ſet them in an open glaſs ſtove, where the windows may be ſet open in good weather, and ſhut in cold or wet. The creeping ſorts muſt not be expoſed too much to the open air, even in the hotteſt ſeaſon, eſpecially if you deſign to have them flower, and in winter they ſhould be kept very warm, and have no water given them.

When you have once cut off the tops of any of theſe plants, in order to increaſe them, the lower parts will put forth freſh roots from their angles, which, when grown to be eight or nine inches long, may alſo be taken off to make freſh plants; and, by this means, the old plants will continually afford a ſupply, ſo that you never need cut off above one plant of a ſort, which you ſhould preſerve for a breeder.

Theſe plants being ſucculent, they will bear to be a long time out of the ground; therefore whoever has a mind to get any of them from the Weſt Indies, need give no other inſtructions to their friends, but to cut them off, and let them lie two or three days to dry; then put them up in a box with dry hay, or ſtraw, to keep them from wounding each other with their ſpines, and if they are two or three months on their paſſage, they will keep very well, provided no wet get to them.

The third ſort may be placed againſt the walls of the ſtove, into which it will inſinuate its roots, and extend itſelf to a great length; and by faſtening it to the wall in a few places, it may be led to the cieling of the houſe.

The ſixth ſort, not being ſo tender as the other upright Cereuſes, may be preſerved in a warm green-houſe, without any artificial heat; but the plants ſhould not have any water given them in winter in this ſituation; for unleſs they are placed in a ſtove, where the moiſture is ſoon evaporated, the wet will occaſion them to rot.

The great-flowering Creeping Cereus is tender, and requires a warm ſtove to protect it, where it may be trained againſt the wall or upon ſticks.

The ſmall ſort, with pink-coloured flowers, is not ſo tender, and may be preſerved in a good green-houſe, or placed under a hot-bed frame in winter: in ſummer it ſhould be expoſed to the open air, to prevent the ſhoots from drawing weak, and to occaſion a number of flowers to be produced: during this time it ſhould have little water, and if the ſeaſon ſhould prove wet, the plants ſhould be ſcreened from it, that they may not run the hazard of rotting during the winter.

All theſe plants growing in dry rocky places, where their roots are confined, muſt not be planted in large pots, or in a rich ſoil. The beſt compoſt for them is one-third light earth from a common, one-third ſea ſand, and one-third ſifted lime rubbiſh: if theſe be well mixed together, and often turned over before the plants are put into it, they will thrive the better.

III. *Opuntias* or *Indian Figs*.

All theſe ſorts (except the eighteenth) are too tender to thrive in the open air in England; nor can many of them be preſerved through the winter here, unleſs they have artificial heat; for when they are placed in a green-houſe, they turn to a pale yellow colour, their branches ſhrink, and frequently rot on the firſt approach of warm weather in the ſpring.

Theſe plants may be all propagated by cutting off their branches at the joints, during any of the ſummer months; theſe ſhould be laid in a warm dry place for a fortnight, that the wounded part may be healed over, otherwiſe they will rot with the moiſture which they imbibe at that part, as is the caſe with moſt other ſucculent plants. The ſoil in which theſe plants muſt be planted, ſhould be compoſed after the following manner, *viz.* one-third of light freſh earth from a paſture, a third part ſea ſand, and the other part ſhould be one-half rotten tan, and the other half lime rubbiſh; theſe ſhould be well mixed, and laid in a heap three or four months before it is uſed, obſerving to turn it over at leaſt once a month, that the ſeveral parts may be well united;

then you ſhould paſs it through a rough ſcreen, in order to ſeparate the largeſt ſtones and clods, but by no means ſift it too fine, which is a very common fault; then you ſhould reſerve ſome of the ſmaller ſtones and rubbiſh to lay at the bottom of the pots, in order to keep an open paſſage for the moiſture to drain off; which is what muſt be obſerved for all ſucculent plants, for if the moiſture be detained in the pots, it will rot their roots and deſtroy the plants.

When you plant any of the branches of theſe plants (except the eighteenth ſort) you ſhould plunge the pots into a moderate hot-bed, which will greatly facilitate their taking root; you ſhould alſo refreſh them now and then with a little water, but be very careful not to let them have too much, or be too often watered, eſpecially before they are rooted. When the plants begin to ſhoot, you muſt give them a large ſhare of air, by raiſing the glaſſes, otherwiſe their ſhoots will draw up ſo weak, as not to be able to ſupport themſelves; and after they have taken ſtrong root, you ſhould inure them to the air by degrees, and then remove them into the ſtove where they ſhould remain, placing them near the glaſſes, which ſhould always be opened in warm weather; ſo that they may have the advantage of a free air, and yet be protected from wet and cold.

During the ſummer ſeaſon theſe plants will require to be often refreſhed with water, but it muſt not be given to them in large quantities leſt it rot them, and in winter this ſhould be proportioned to the warmth of the ſtove; for if the air be kept very warm they will require to be often refreſhed, otherwiſe their branches will ſhrink; but if the houſe be kept in a moderate degree of warmth, they ſhould have but little, for moiſture at that ſeaſon will rot them very ſoon. The heat in which theſe plants thrive beſt, is the temperate point, as marked on botanical thermometers, for if they are kept too warm in winter, it cauſes their ſhoots to be very tender, weak, and unſightly. Thoſe ſorts which are inclinable to grow upright, ſhould have their branches ſupported with ſtakes, otherwiſe their weight is ſo great, that it will break them down.

Theſe plants are by moſt people expoſed to the open air in the ſummer ſeaſon, but they thrive much better if they are continued in the ſtoves, provided the glaſſes be kept open, ſo that they may have free air; for when they are ſet abroad, the great rains which generally fall in ſummer, together with the unſettled temperature of the air in our climate, greatly diminiſh their beauty, by retarding their growth; and ſometimes in wet ſummers they are ſo replete with moiſture, as to rot in the ſucceeding winter; nor will thoſe plants which are ſet abroad (I mean the tender ſorts) produce their flowers and fruit in ſuch plenty, as thoſe which are conſtantly preſerved in the houſe.

26. The Pereſkia, or Barbados Gooſeberry, may alſo be propagated by cuttings, planted during any of the ſummer months, in pots filled with freſh light earth, and plunged into a moderate hot-bed of tanners bark, obſerving to ſhade them from the ſun in the heat of the day, and to refreſh them every third or fourth day with water. In about two months the cuttings will have made good roots, when they ſhould be carefully taken out of the pots, and each planted into a ſeparate pot filled with freſh earth, and then plunged into the hot-bed again, where they may remain during the ſummer ſeaſon; but at michaelmas, when the nights begin to be cold, they ſhould be removed into the ſtove, and plunged into the bark-bed. During the winter ſeaſon the plants muſt be kept warm, and watered twice a week; but in cold weather it ſhould not be given in large quantities. In ſummer they muſt have a great ſhare of air, and muſt be more plentifully watered, but they ſhould remain conſtantly in the ſtove; for though they will bear the open air in ſummer in a warm ſituation, yet they will make no progreſs if they are placed abroad; nor do they thrive ſo well in the dry ſtove, as when they are plunged in the tan; ſo that the beſt way is to ſet them next a trellis, at the back of the tan-bed, to which their branches may be faſtened, to prevent their trailing on other plants.

[Cadeli. See *Achyranthes.*

Cadelium. See *Phaſeolus.*

Cadel-auanacu. See *Croton.*

CADIA. (*From the Arabic Kadi.*)

Forſk. Ægypt. arab. 90. *Picciu.* 9. *Hort. kew.* 3. 492.

Claſſ. 10. 1. Decandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cornered, five-cleft.

Cor. *Petals* five, equal, obcordate.

Stam. *Filaments* ten, filiform, equal, the length of the petals or nearly ſo, protuberant at the baſe. *Anthers* oblong, rather ſharp at the top, placed obliquely at the ends of the filaments.

Pist. *Germ* linear. *Style* bowed. *Stigma* acute.

Per. *Legume* linear, compreſſed, bent at the end, membranaceous, many-ſeeded.

Seeds oblong, ſmooth.

ESSENTIAL CHARACTER.

Cal. five-cleft. *Pet.* five, equal, obcordate. *Legume* many-ſeeded.

SPECIES.

1. Cadia purpurea. *Purple-flowered Cadia.*
Ait. hort. kew. 3. 492. *Forſk. fl. ægypt.* 90.
Panciatica purpurea. *Picciuoli hort. panciat.* 9. with a coloured figure.

DESCRIPTION, *&c.*

This is a ſhrub riſing to the height of near three feet. The branches and petioles are pubeſcent. The leaves are pinnate, coming out alternately and frequently in pairs; leaflets from fifteen to thirty pairs, linear, retuſe, the nerve commonly ending in a little point. The corolla is roſe-coloured, or rather the colour of a peach bloſſom. Legume ſomewhat leſs than a ſpan in length, containing eight or ten feeds[a].

Forſkal obſerves, that the flowers hang down; that the corolla has ſometimes ſix or ſeven petals, and that in ſuch caſes there are more ſtamens, frequently twelve or fourteen; and that there is no gland to the anthers.

It is a native of Arabia. James Bruce, Eſq. left ſome of the ſeeds at Florence in 1773, and there it was raiſed and flowered in the neighbouring garden of Marcheſe Niccolo Panciatichi. The gardener named it *Panciatica* from Cardinal Bandino Panciatichi; probably not knowing that it had the name of *Cadia* before in Forſkal's work. It was introduced here two years after by Mr. Bruce; but has not yet flowered in England.

CÆNOPTĚRIS. (*From* καινος, *new, and* πτερις, *fern.*)

Berg. in act. petrop. 1782. *p.* 248. *Smith, ic. ined.* 2. 50. *Lin. gen. Schreb. n.* 1634. Darea. *Juſſ.* 15.

Claſſ. 24. 1. Cryptogamia Filices.

GENERIC CHARACTER.

Fructifications in ſubmarginal lateral lines, covered with a membrane gaping on the outſide.

SPECIES.

1. Cænopteris rhizophylla.
Smith ic. ined. 2. 50.
Frond bipinnate rooting at the tip; pinnules obovate, ſomewhat ſickle-ſhaped petioled; primordial leaves lobed.

DESCRIPTION, *&c.*

Stipe round, brown. Common peduncle or rachis round, brown, ſmooth; elongated at the tip, leafleſs, bulbiferous, rooting; partial peduncles green, flatted, ſometimes winged: pinnules alternate, on ſhort petioles, obovate, one-nerved; fructifying ſlightly ſickle-ſhaped, often toothed at the tip, even; the upper ones uſually confluent; all duſky green. Fructifications in ſhort, ſolitary, lateral lines, beginning at the nerve towards the baſe of the pinnules, and covered with an entire, ſcarioſe, brown membrane, opening always on the outſide, at length turned back and permanent. When the capſules have emerged from the fructifying chink, numerous forked brown gloſſy threads ſtand out, which are the expanded rings of the capſules.

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[a] Picciuoli.

Native of the iſland of Dominica, where it was found by Thierry.

Aſplenium cicutarium *Swartz prodr.* is of this genus[b]. As is alſo Trichomanes japonicum *Thunb. jap.* 340.[c]

CÆSALPINIA. (*So named by Plumier, in honour of Andreas Cæſalpinus, chief phyſician to Pope Clement VIII.; the father of ſyſtematic arrangement in plants, in his now very ſcarce work, entitled,* De Plantis, libri ſedecim. Flor. 1583. qu. *He died at Rome in* 1602.)

Lin. gen. n. 516. *Reich.* 559. *Schreb.* 703. *Swartz obſ.* 165. *Plum. gen.* 28. *t.* 9. *Juſſ.* 349. *Gærtn. t.* 144. Poinciana edit. *Lin. Reich. Schreb. Tournef.* 391. *Mill. dict. &c.*

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Lomentaceæ. Leguminoſæ* Juſſ. *&c.*

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted. *Tube* ſhort. *Segments* oblong, deciduous, the loweſt longer than the reſt, ſlightly arched.

COR. *Petals* five, inſerted into the throat of the calycine tube, unequal. *Lamina* roundiſh.

STAM. *Filaments* ten, inſerted into the throat of the calyx, filiform, woolly at the baſe, declining. *Anthers* oblong, decumbent.

PIST. *Germ* ſuperior, linear-oblong, compreſſed, attenuated at the baſe. *Style* filiform, the length of the ſtamens. *Stigma* blunt.

PER. *Legume* oblong, compreſſed, one-celled.

SEEDS few, ſubovate, compreſſed, flat.

OBS. Poinciana *is ſo nearly allied to* Cæſalpinia, *that they may very reaſonably be united under one genus.* Swartz.

ESSENTIAL CHARACTER.

Cal. five-parted; the loweſt ſegment longer and ſlightly arched. *Stam.* woolly at the baſe. *Pet.* five. *Legume* compreſſed.

SPECIES.

1. Cæſalpinia elata.
Swartz obſ. 166.
Poinciana elata. *Lin. ſpec.* 544. *Reich.* 2. 258. *Forſk. ægypt.* 86.
Unarmed; leaflets linear, blunt with a point; corymbs compound; calyxes coriaceous tomentoſe; petals fringed; ſtamens very long.

2. Cæſalpinia pulcherrima.
Swartz obſ. 166.]
Poinciana pulcherrima. *Lin. ſpec.* 544. *Reich.* 2. 258. *hort. cliff.* 158. 2. *upſ.* 101. *fl. zeyl. n.* 159. *Mill. dict.* [*Jacqu. amer.* 122. *pict.* 62. *t.* 120. *Gærtn. fruct.* 2. 322. *Brown. jam.* 225. *Sloan. jam.* 2. 49. *n.* 24. (Sena). *Burm. zeyl.* 79. *Breyn. cent.* 61. *t.* 22. *Raii hiſt.* 981. *Merian ſur. t.* 45. *Rheed. mal.* 6. *t.* 1. *Rumph. amb.* 4. *t.* 20. (Criſta pavonis).
Prickly; leaflets oblong-oval emarginate, they and the calyxes ſmooth; corymbs ſimple; petals fringed; ſtamens very long.

3. Cæſalpinia Sappan. *Narrow-leaved prickly Braſiletto.*
Lin. ſpec. 545. *Reich.* 2. 259. *fl. zeyl. n.* 158. *Gærtn. fruct.* 2. 301. *Lour. cochinch.* 262.
Ligno braſiliano ſimile. *Bauh. pin.* 393. *Raii hiſt.* 1737.
Lignum Sappan. *Rumph. amb.* 4. 56. *t.* 21.
Tſiapangam. *Rheed. mal.* 6. 3. *t.* 2.
Prickly; leaflets oblong-oval unequal-ſided blunt, they and the calyxes ſmooth; ſtamens longer than the corolla; uppermoſt petal ſmaller.

4. Cæſalpinia pyramidata.]
Robinia pyramidata. *Mill. dict. n.* 7.
[*Unarmed; leaflets oval quite entire equilateral, they and the calyxes ſmooth; petals with claws roundiſh flat equalling the ſtamens.*]

5. Cæſalpinia Criſta. *Broad-leaved prickly Braſiletto.*
Lin. ſpec. 544. *Reich.* 2. 260. *Swartz obſ.* 167. *Plum. gen.* 28. *ic. t.* 68. *Cateſb. car.* 2. *t.* 51.
Prickly; leaflets oval, racemes ſimple, petals ovate ſhorter than the ſmooth calyx, ſtamens longer than the calyx.

6. Cæſalpinia braſilienſis. *Smooth Braſiletto.*
Lin. ſpec. 544. *Reich.* 2. 259. *ſyſt. ed.* 12. 259. 1. *mat. med.* 205. 112. *Swartz obſ.* 166. *Brown. jam.* 227. 1. *Sloan. jam.* 2. 184. *Raii dendr.* 132.
Unarmed, leaflets ovate-oblong, midrib pubeſcent, calyxes tomentoſe, ſtamens ſhorter than the corolla.

[7. Cæſalpinia bijuga. *Broad-leaved prickly Braſiletto.*
Swartz obſ. 166.
C. veſicaria. *Lin. ſpec.* 545. *Reich.* 2. 259. *Gærtn. fruct.* 2. 302. *Brown. jam.* 227. 2.
Poinciana bijuga. *Lin. ſpec.* 544. *Reich.* 2. 258. *ſyſt. ed.* 14. 395. *Jacqu. amer.* 123. *n.* 2.
Senna ſpuria, &c. *Sloan. jam.* 2. 50. *t.* 181, *f.* 2, 3. *good. Raii dendr.* 111.
Prickly; leaves doubly pinnate with two pairs of obcordate leaflets, they and the calyxes ſmooth; ſtamens equalling the corolla.

8. Cæſalpinia coriaria.
Poinciana coriaria. *Jacqu. amer.* 123. *t.* 175. *f.* 36. *Breyn. cent.* 56. *f.* 5.
Unarmed; leaflets linear, racemes in form of ſpikes, calyxes ſmooth equalling the corolla, ſtamens longer than the corolla, legumes curved inwards.

DESCRIPTIONS, *&c.*

1. This is a tree with bipinnate leaves of ſeven pairs; the leaflets fifteen pairs, quite entire, minute. Flowers large, yellow. Filaments very dark purple, villoſe at the baſe[d]. Native of India. Introduced in 1788, by Sir Joſeph Banks, Bart.[e]]

2. The Barbadoes Flower-fence riſes with a ſtraight ſtalk ten or twelve feet high; it is covered with a ſmooth gray bark, and is ſometimes as thick as the ſmall of a man's leg; it divides into ſeveral ſpreading branches at the top, armed at each joint with two ſhort ſtrong crooked ſpines. Leaves doubly pinnate; leaflets from four to eight pairs, moſt in the middle, decreaſing in number both at top and bottom, three quarters of an inch long, almoſt half an inch broad at the end, leſſening gradually to the baſe, light green, when bruiſed emitting a ſtrong odour like Savin. The branches are terminated by looſe ſpikes of flowers, which are ſometimes formed into a kind of pyramid, and at others they are diſpoſed more in form of an umbel. The peduncle of each flower is near three inches long. The petals are roundiſh at the top, but are contracted to narrow tails or claws at their baſe; they ſpread open and are beautifully variegated with a deep red or orange colour, yellow, and ſome ſpots of green; they have a very agreeable odour. The ſtyle and ſtamens are above three inches long. The legume is about the ſame length, broad and flat, divided into three or four or more cells by tranſverſe partitions, in each of which is one flattiſh irregular ſeed. [Linneus obſerves, that the common petiole of the leaf has one gland at the baſe, and another at the upper pair; and that the partial petiole has two dagger points above the baſe.]

This beautiful plant is a native of both Indies. It is planted in hedges to divide the lands in Barbadoes, whence it has the name of Flower-fence; it is alſo called Spaniſh Carnations in ſome of our iſlands in the Weſt Indies. [Sir Hans Sloane calls it alſo Wild Sena, and Dr. Patrick Brown Barbadoes Pride: the French name it Poinciade or Fleurs de Paradis.]

Ligon ſays, the ſeeds were firſt carried to Barbadoes from the Cape de Verd iſlands. It is certain however, ſays Mr. Miller, that Dr. Houſtoun found it at Jamaica, in woods at a great diſtance from any ſettlements: he alſo found it at La Vera Cruz and Campeachy. [Jacquin informs us that it is common in the Caribbee iſlands. Browne is of opinion

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[b] Smith.

[c] Tranſ. Linn. 2. 341.

[d] Linn. and Forſk.

[e] Hort. kew.

Of the ſtem cut into thongs the largeſt cables are made in India; beſides all ſorts of ropes for faſtening the planks of the country veſſels and the boarding of houſes, in which no nails are uſed; and alſo for tying a variety of utenſils both domeſtic and rural.

5. Calamus amarus. *Bitter Rattan.*
Spines crowded, ſhort; leaflets linear; ſpadixes remote; ſpathes partial.

Stem ſixty feet long, the thickneſs of a finger, hardiſh, even, pale-coloured; with long, nearly equal, round internodes; fronds long; ſpadixes almoſt terminating, in ſpikes, many. This has a ſix-parted calyx, and no corolla. It is uſed for the ſame purpoſes as the former; but is harder and more durable.

6. Calamus dioicus. *Dioecous Rattan.*
With a very ſlender ſtem, ſhorter fronds and ſpines, and a dioecous flower.

Stem the thickneſs of a gooſe-quill, twenty feet long, very regular and flexile, pale and gloſſy; internodes a foot long; male and female flowers on ſeparate plants; calyx three-toothed very ſmall; corolla three-petalled, petals ovate-lanceolate, ſtreaked, white. *Palmijuncus equeſtris* and *viminalis* of Rumphius agree in ſome meaſure, but not entirely with this; which is uſed for weaving and faſtening ſmaller and nicer utenſils.

All theſe are ſpecifically different, for they grow wild in places very remote from each other, where they regularly preſerve their peculiar habit and differences. Many others grow in Cochinchina, the ſtraits of Malacca, and other places, which on a more accurate examination may be found to be different both from theſe and each other. They were named *Palmijunci* by Rumphius, from their ſimilitude to the Palms in the fructification, and their flexibility, like the *Junci* or Ruſhes[c].

Gærtner deſcribes the Zalacca as having all the flowers hermaphrodite; no common ſpathe, but wandering partial ſpathes; a branched ſpadix; and the pericarp a largiſh turbinate berry, irregularly angular from the preſſure of the neighbouring berries, of a bay-rufeſcent colour; rind thin, papery, covered with cartilaginous ſcales, the uppermoſt upright and linear, but all the reſt preſſed cloſe, imbricate downwards, ſubcordate, with a raiſed line along the middle, and a little reflex at the tip, ſo that the berry is rough to the touch; the inſide is pulpy, but the pulp gradually dries up. Seeds three, fixed without any receptacle to the bottom of the berry; two of them are commonly abortive; they are almoſt globular, convex on one ſide and angular on the other, with a ſmall, umbilical, fungous, thick, ſubcordate lobe appended to them below; they have three coverings, the outer pulpy but drying up, the middle cruſtaceous, very thin, putting forth a ſubulate, horny proceſs within the vertical canal of the albumen, the inner membranaceous, yellow-rufeſcent, cloſely adhering; albumen coriaceous-cartilaginous, perforated at top with a funnel-ſhaped canal from the vertex to the middle, and having an oblong conical cavity below for the reception of the embryo, which is one-lobed, ſubulate, milky, and placed at the baſe of the ſeed[d].

The Rattan grows abundantly in the Eaſt Indies, by the ſides of rivers. Its extreme toughneſs and pliability render it of conſiderable uſe to the inhabitants, for withs and almoſt all the purpoſes to which we apply ropes, than which it is ſaid to be more durable in ſalt water: they alſo wattle their houſes with it, and make baſkets and all kinds of wicker work. It is imported into Europe, where it is uſed for a variety of ſmall uſes; ſuch as the bottoms of chairs, riding and walking canes, women's hoop-petticoats, &c. &c.

The Zalacca or Salxck is cultivated for the fruit, which is about the ſize of a walnut, and covered wirh ſcales, like thoſe of a lizard; below the ſcales, are two or three yellow kernels, in flavour ſomewhat reſembling a ſtrawberry.

The laſt variety is ſuppoſed to yield the Dragon's-blood.

Calamus aromaticus. See *Acorus*.

Calamus odoratus. See *Andropogon*.

Calappa. See *Cocos*.

Calathian Violet. See *Gentiana Pneumonanthe*.]

[CALCEOLARIA. (*From Calceolus, a little ſlipper.*) *Lin. gen. Reich.* 32. *Schreb.* 39. *Juſſ.* 120. *Gærtn. t.* 62. *Feuill. peruv.* 3. *p.* 13.

Claſſ. 2. 1. Diandria Monogynia.

Nat. order of *Corydales*. *Scrophulariæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, four-parted, ſpreading, equal: diviſions ovate: permanent.

Cor. monopetalous, bilabiate: lower lip reſupine; *upper* very ſmall, contracted-globular, bifid anteriorly — *lower* very large, ſlipper-form, inflated, gaping anteriorly.

Stam. *Filaments* two, very ſhort, within the upper lip. *Anthers* incumbent, club-form, with the handle prominent through the chink.

Pist. *Germ* roundiſh. *Style* very ſhort. *Stigma* bluntiſh.

Per. *Capſule* ſubconic, acuminate, two-furrowed, two-celled, two-valved.

Seeds numerous, ovate.

ESSENTIAL CHARACTER.

Cor. ringent, inflated. *Capſ.* two-celled, two-valved. *Cal.* four-parted, equal.

SPECIES.

1. Calceolaria pinnata. *Pinnated Slipperwort.*
Lin. ſyſt. 65. *Reich.* 49. *mant.* 171. *Act. ſtockh.* 1770. 286. *t.* 8. *Feuill. peruv.* 3. 12. *t.* 7. *Curt. mag. t.* 41. *Gærtn. fruct.* 1. 296.
Leaves pinnate.

2. Calceolaria integrifolia. *Whole-leaved Slipper-wort.*
Lin. ſyſt. ed. 13. *p.* 61. *Reich.* 49. *Feuill. peruv.* 13. *t.* 7. *Smith, ic.* 1. *p.* 3.
Leaves lanceolate wrinkled ſerrate, flowers panicled terminating.

3. Calceolaria perfoliata. *Perfoliate Slipper-wort.*
Lin. ſyſt. 65. *ſuppl.* 86. *Mutiſ. amer.* 1. *t.* 3. *Smith, ic. ined. t.* 4.
Leaves perfoliate, ſagittate, villoſe on both ſides.

4. Calceolaria nana. *Dwarf Slipper-wort.*
Smith, ic. ined. t. 1.
C. uniflora. *Lamarck. encycl.*
Scapes one-flowered, leaves ovate quite entire.

5. Calceolaria plantaginea. *Plantain-leaved Slipper-wort.*
Smith, ic. ined. t. 2.
C. biflora. *Lamarck. encycl.*
Scapes few-flowered, leaves rhombed ſerrate.

6. Calceolaria ovata.
Smith, ic. ined. t. 3.
C. dichotoma. *Lamarck. encycl.*
Stem branching, leaves ovate crenate.

7. Calceolaria Fothergillii. *Spatula-leaved Slipper-wort.*
Ait. hort. kew. 1. 30. *t.* 1.
Leaves ſpatulate quite entire, peduncles ſcape-form one-flowered.

DESCRIPTIONS, &c.

1. *Root* annual. *Stem* erect, two feet high, round, brachiate, brittle, with a very thick down, and from ſixteen to twenty joints. Baſe of the ſtem muricated with rooting tubercles. Branches axillary, oppoſite, brachiate like the ſtem, and ſhorter than it. *Leaves* oppoſite, without ſtipules, brittle, ſoft, ſpreading, longer than the internodes; the upper ſurface pubeſcent with a ſetaceous, pellucid, dewy down, the lower naked with ſubviſcid atoms: leaflets ſeven to eleven, ſubalternate or oppoſite, ſerrate, pinnatifid, (the upper ones bipinnate) bluntiſh, ſeſſile, ſeparated by a broader purple ſinus. *Petioles* round, flat at top; at the baſe uniting on both ſides, and more pubeſcent. *Flowers* from each top and ſtalk double; the proper peduncles filiform. Corollas yellow: upper lip ſubglobular, inflated, emar-

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[c] Fl. cochinch. p. 209—211.

[d] De fruct. & ſemin. vol. 2. p. 267.

ginate in front with a cleft for the prominent anthers; lower alſo ſubglobular, the edge contracted in front, wholly inflected, ſubemarginate at top[a]. Capſule thin, from a ſwelling baſe, diminiſhing to a pyramidal top, deeply two-furrowed, two-celled, two valved, the valves when ripe bifid at the top: partition contrary to the valves. Receptacle fungous, tranſverſely oblong, with the extremities bent down, faſtened on both ſides to the partition by its proper peduncle, but looſe in other parts. Seeds very ſmall, almoſt cylindric, marked with from five to ſeven crenulate ſtreaks[b].

Native of Peru, in moiſt places. Introduced in 1773, by Sir Joſeph Banks, Bart. It flowers from july to october[c].

2. This is not C. integrifolia of the Supplement; but reſts entirely on the authority of Feuillée, by whom it was obſerved in Chili[d].

3. This is a very ſingular plant and very handſome, the whole of it is villoſe except the corolla. *Stem* round, from a foot to two feet in height, leafy, terminated by a many-flowered leafy corymb. *Leaves* connate-perfoliate, with netted veins, very thickly woolly beneath, very broad at the baſe, contracted towards the middle, then widening into a very large deltoid lobe, irregularly toothletted, a little revolute. *Flowers* in bundles at the tops of of the branches. *Bractes* very like the leaves, but ovate, ſeſſile, and not perfoliate. *Peduncles* filiform, ſimple or branched. Segments of the *calyx* almoſt equal, ſharp. *Corolla* yellow, large. *Anthers* two-lobed, large, the lobes bent down. *Germ* ſubconical: *ſtyle* filiform: *ſtigma* acute. Found in New Granada, by Mutis[e].

4. *Stem* none. *Leaves* radical, many, bluntiſh, almoſt without veins, viewed with a glaſs ſlightly pubeſcent, on ſhort petioles. *Scapes* ſeveral, two inches high, upright, round, rugged-papilloſe. *Flowers* large, ſpecious, yellow ſpotted with red. *Calyx* pubeſcent, with equal diviſions bent in at the edge. *Corolla* upper lip very ſhort, vaulted; lower elongated pendulous ſwelling, edge membranous folded back angular. It reſembles *C. Fothergillii*; but differs in having the leaves ovate, nerveleſs and almoſt naked, not ſpatulate many-nerved and villoſe at the tip as that is.

Straits of Magellan; found there by Commerſon.

5. *Root* perennial fibrous. *Stem* none. *Leaves* many nervous ſmooth, the edges hairy, the hairs jointed like thoſe of *Conferva*; petioles dilated with membranes. *Scapes* a few elongated erect, two-flowered, more pubeſcent towards the top. *Calyx* pubeſcent viſcid. *Corolla* yellow.—Found by Commerſon in the Straits of Magellan.

6. *Root* annual fibrous. *Stem* erect round hairy. *Leaves* oppoſite on ſhort petioles, with white pellucid hairs and underneath paler. *Peduncles* axillary twin filiform pubeſcent one-flowered. *Corolla* like that of the firſt ſpecies, ſmall and yellow: diviſions of the calyx thinner rhombed veined hairy. *Capſule* bluntiſh two-valved, opening at the top with bifid valves. Found in Peru by Dombey. It flowered in the royal garden at Paris in 1781. It may perhaps be the ſame with the *integrifolia* of the Supplement: but the *integrifolia. Syſt. edit.* 13. is certainly a different plant from both[f].

7. Stem ſcarcely an inch high, ſubdivided near the root. Leaves oppoſite, petioled, obtuſe, hairy above, ſcarcely an inch long. Peduncles terminating, ſolitary or in pairs, round, twice as long as the leaves. Segments of the calyx acute, bent in at the end, hairy on the outſide, three lines in length. Upper lip of the corolla roundiſh-kidney-form, erect, vaulted, yellow, a little ſhorter than the calyx; lower lip deſcending, four times as long as the upper, dilated in front, inflated, underneath pale yellow, above at the ſides red, in front yellow with red ſpots, near the palate yellow: aperture large, open, four-cornered-ovate. Filaments inſerted into the ſides of the corolla at the baſe of the aperture, ſubulate. Anthers roundiſh, large. Style thick, the length of the ſtamens. Stigma thickened, flat.—Biennial. Flowering from may to auguſt. Native of Falkland iſlands. Introduced in 1777, by John Fothergill, M. D.[g]

PROPAGATION AND CULTURE.

The firſt, which is the only ſpecies, except the laſt, yet cultivated among us, may eaſily be raiſed from ſeed, ſown on a gentle hot-bed in the ſpring. The ſeedlings, when of a proper ſize, are to be tranſplanted into the borders of the flower-garden, where they will flower, ripen and ſcatter their ſeeds; but being a ſmall delicate plant, the beauties of which require a cloſe inſpection, it appears to moſt advantage in a tan-ſtove, where, as it will grow from cuttings, it may be had in flower all the year through, by planting them in ſucceſſion[h].]

CALCEOLARIA. See *Viola.*

CALCEOLUS. See *Aconitum*, *Cypripedium*, and *Kæmpferia.*

CALCITRAPA. See *Centaurea*, and *Valeriana.*

CALCITRAPOIDES. See *Centaurea.*

CALEA.

Lin. gen. n. 941. *Reich.* 1021. *Schreb.* 1277. *Gærtn. t.* 174. *Juſſ.* 185.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Oppoſitifoliæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* imbricate: *ſcales* oblong, looſiſh.

COR. *Compound* uniform. *Corollules* hermaphrodite, very many, equal. *Proper* funnel-form, with a five-cleft border.

STAM. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

PIST. *Germ* oblongiſh. *Style* filiform, the length of the corollule. *Stigmas* two, recurved, acute.

PER. none. *Calyx* unchanged.

SEEDS ſolitary, oblong. *Down* hairy, the length of the calyx.

REC. chaffy: *chaffs* a little longer than the calyx, eminent between the floſcules.

ESSENTIAL CHARACTER.

Cal. imbricate. *Down* hairy or none. *Receptacle* chaffy.

SPECIES.

[1. Calea jamaicenſis.
Lin. ſpec. 1179. *Reich.* 3. 728. *amæn.* 5. 404. *Swartz obſ.* 302.
Santolina ſubhirſuta, &c. *Brown. jam.* 315. 3.
Conyza fruticoſa, &c. *Sloan. jam.* 1. 257. *t.* 151. *f.* 3.
Flowers ſubtern peduncled, leaves ovate-oblong, ſubſerrate petioled.]

2. Calea oppoſitifolia.
Lin. ſpec. 1179. *Reich.* 3. 728. *amæn.* 5. 404. *Swartz obſ.* 302.
Santolina Houſt. M. S. S. *Brown. jam.* 315. 4.
Acmella jam. hyſſopifolia. *Petiv. Sloan. jam.* 1. 256.
Corymbs heaped, peduncles very long, leaves lanceolate, ſtem herbaceous.

3. Calea Amellus.
Lin. ſpec. 1179. *Reich.* 3. 728. *amæn.* 5. 404.
Amellus ramoſus, &c. *Brown. jam.* 317.
Santolina ſcandens amer. lauri foliis, floribus racemoſis. *Houſt. M. S. S.*
Flowers ſubpanicled, calyxes ſhort, ſeeds naked, leaves ovate-lanceolate petioled.

4. Calea lobata.
Swartz prodr. 113. *Hort. kew.* 3. 164. *Gærtn. fruct.* 2. 408.
Conyza lobata. *Lin. ſpec.* 1207. *Reich.* 3. 773. *hort. cliff.* 405. *Mill. dict. n.* 4. *Plum. ſpec.* 9. *ic.* 96. *Sloan. jam.* 1. 260. *t.* 152. *f.* 4. (Virga aurea).
Santolina. *Brown. jam.* 315. 2.
Corymbs heaped; leaves alternate, the upper ones ovate-lanceolate, the lower ones tooth-haſtate ſinuate-ſerrate.

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[a] Linn. mant.

[b] Gærtn.

[c] Hort. kew.

[d] Smith, ic.

[e] Ibid.

[f] Ibid.

[g] Hort. kew.

[h] Curtis.

[5. Calea ſcoparia.
Lin. ſyſt. 740. *Reich.* 3. 729. *Swartz obſ.* 302.
Sergilus ſcoparius. *Gærtn. fruct.* 2. 409. *t.* 174.
Chryſocoma ſcoparia. *Lin. amæn.* 5. 404. *Brown. jam.* 316. *t.* 34. *f.* 4.
Stem ſuffruticoſe, branches almoſt oppoſite angular.

6. Calea leptophylla.
Forſt. fl. auſtral. n. 287.
Flowers terminating in threes and fives heaped, leaves oblong imbricate quite entire ſeſſile, ſtem ſhrubby.

7. Calea pinifolia.
Forſt. fl. auſtral. n. 288.
Peduncles terminating heaped, leaves linear aceroſe, ſtem ſhrubby.

DESCRIPTIONS, *&c.*

1. Height ſix or ſeven feet and more[a]. Stems ſhrubby, narrow, round, obſcurely tomentoſe. Leaves hairy, rugged, three-nerved. Flowers terminating, frequently three together; the pedicels of the ſame length with the flowers. Calyx coloured. It is of the ſtature of *Chryſocoma,* but has coloured chaffs the length of the calyx[b]. The pappus or down is rugged and as long as the flower[c]. Native of Jamaica, chiefly in the woods and inland parts of the iſland[d].

2. Stem herbaceous, two feet high, branched, upright, round, pubeſcent. Branches oppoſite, long, ſpreading, ſtiff, hoary with down. Leaves ſubſeſſile, oppoſite, ſlightly toothed; the upper ones entire, ſharp, nerved, pubeſcent, ſoft. Petioles broadiſh, very ſhort, or none. The ſtem at top is, as it were, trichotomous, with three long, terminating peduncles, at the end of which are three ſubſeſſile, conical, white flowers. The corollules are very ſmall. Seeds oblong compreſſed, with three or four very minute awns. Chaffs lanceolate, the inner ones longer than the outer. Native of Jamaica, in the hedges on the mountains[e]. Cultivated by Mr. Miller, in 1768.]

3. This has woody branches, which ſpread over the neighbouring plants, and riſe eight or ten feet high. [Browne ſays, that it riſes generally to the height of two or three feet only; and, according to Linneus, it has the ſtature of *Eupatorium.*] The leaves are thick and oppoſite. There are many ſide branches on which are ſmaller leaves, oppoſite like the others, and terminated by panicles of yellow flowers. [Calyx only half the length of the corolla, and ſomewhat imbricate. Chaffs the length of the flower. Seeds four-cornered, without down[f]. Native of Jamaica. Cultivated by Mr. Miller, in 1768.

4. This plant generally riſes to the height of four or five feet, according to Browne. Sir Hans Sloane ſays, that it has a very ſtrong, ſtriated, green ſtalk, an inch thick, as high, or higher than a man; having along the ſtalk ſeveral leaves, larger than thoſe on its branches, which are four inches long, and one inch broad in the middle where broadeſt, rough, ſinuated about the edges, and of a dark green colour. Towards the top of the ſtalk are many branches and twigs, every one of which ſuſtains many naked yellow flowers. Native of Jamaica.

From the ſhape of the leaves Browne calls it *Halbert-weed.* He affirms, that it is an excellent bitter, and much uſed in America; where a ſpirituous infuſion of the tops is generally kept in moſt plantations, and is often adminiſtered as an active warm ſtomachic.

Introduced before 1733, by William Houſtoun, M. D.

5. This is a ſhrub or ſmall tree. Stem the height of a man or more, branched towards the top, even, ſtreaked, wrinkled, with an aſh-coloured bark. Twigs abundant, four-ſided, ſubdivided, ſtiff, almoſt naked, ſtreaked, ſmooth, ſilvery aſh-coloured. Leaves ſeſſile, minute, alternate, oblong, ſmooth. The branches are ſometimes terminating and leafleſs. Flowers ſolitary, leafleſs, ſeſſile, ſmall, white: ſcales of the calyx very many, minute, whitiſh. Corollules twenty to thirty. Stamens above the corolla. Style undivided: ſtigma blunt. Receptacle naked. The outer ſtamens ſeem to be barren[g].

It is a native of Jamaica; and there found only in the coldeſt parts of the mountains. It reſembles our European Broom, and is thence called *Mountain Broom Tree.* It is the only tree of the ſame appearance in that country[h].

Gærtner, who has made a diſtinct genus for this plant, obſerves, that it differs from *Calea* both in receptacle and down; from *Chryſocoma* in the latter only; and conſequently that it is allied more nearly to this than to the former. He adds, that the leaves ſeem ſometimes to be oppoſite; but that they are very minute and remote.

6, 7. Theſe are natives of New Zealand.

The five firſt ſpecies being all natives of Jamaica, the trivial name of the firſt muſt needs be a bad one.

Gærtner remarks, that the firſt and fourth ſpecies only correſpond with the Linnean generic character of *Calea,* and therefore the other ſpecies ought to be removed to other genera, unleſs we prefer the leaves and external appearance of plants to marks taken from the fructification[i].]

PROPAGATION AND CULTURE.

Theſe plants may be propagated by ſeeds, ſown upon a hot-bed the beginning of april. When they come up, they ſhould be tenderly treated whilſt young; admitting however freſh air to them daily in proportion to the warmth of the ſeaſon; giving them water frequently, but ſparingly. When they have ſtrength enough to be removed, they muſt be each tranſplanted into a ſeparate ſmall pot, filled with light ſandy earth, and plunged into a hot-bed; obſerving to ſhade them until they have taken new root; giving them air, and watering them frequently but gently, as before. When the plants are grown ſtrong, they muſt be removed into larger pots, and placed in the ſtove or glaſs-caſe, giving them plenty of freſh air in warm weather. With which management, they will ſometimes ripen their ſeeds in favourable ſeaſons.

CALENDŬLA. (*Dimin. from Caltha, whence Calthula, Caldula, Caledula, and Calendula. See Caltha.*)
Lin. gen. n. 990. *Reich.* 1073. *Schreb.* 1339. *Raii meth.* 36. *Gærtn. t.* 168. *Juſſ.* 183.
Caltha. *Tournef.* 284. *Vaill. act. gall.* 1720. 27.
Dimorphothēca. *ejuſd. f.* 22, 21. Cardiſpermum. *Trant. act. gall.* 1724. *f.* 2.
Eng. *Marigold.* Fr. *Souci.*

Claſſ. 19. 4. Syngeneſia Polygamia Neceſſaria.
Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* ſimple, many-leaved, almoſt upright; *ſegments* linear-lanceolate, (fourteen to twenty) nearly equal.

COR. *Compound* radiate: *corollules* hermaphrodite, very many, in the diſk. *Females* the number of rays in the calyx, very long, in the ray.

Proper, of the hermaphrodite tubular, ſemiquinquefid, the length of the calyx—of the female, ligulate, very long, three-toothed, villoſe at the baſe, nerveleſs.

STAM. (Hermaphrodite.) *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular, the length of the corollule.

PIST. Hermaphrodite. *Germ* oblong: *ſtyle* filiform, ſcarcely the length of the ſtamens: *ſtigma* obtuſe, bifid, ſtraight.—Females. *Germ* oblong, three-cornered: *ſtyle* filiform, the length of the ſtamens: *ſtigmas* two, oblong, acuminate, reflex.

PER. none. *Calyx* converging, roundiſh, depreſſed.

SEEDS Hermaphrodite central of the diſk none: of the circumference ſeldom ſolitary, membranous, obcordate, compreſſed.—Females ſolitary, larger, oblong, incurved, triangular, with membranous angles, marked on the outſide longitudinally with the figure of a vegetable. *Down* none.

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[a] Browne. [b] Linn. amoen. [c] Linn. ſpec. [d] Browne. [e] Swartz. [f] Linn. amoen.

[g] Swartz. [h] Browne. [i] Vol. 2. p. 409.

Rec. naked, flat.

Obs. *In the* Caltha *of Vaill. the ſeeds of the females are furniſhed with a membranous inflected wing on each ſide.*

In the Dimorphotheca *V. the ſeeds of the females have not theſe wings.*

SPECIES.

1. Calendula arvenſis. *Field Marigold.*
Lin. ſpec. 1303. *Reich.* 3. 923. *ſuec.* 777. *Pollich pal. n.* 829. *Hall. helv. n.* 94. *Berg. phyt.* 2. 137. *Gærtn. fruct.* 2. 421. *Krock. ſileſ. n.* 1469. *Villars dauph.* 3. 197.
Caltha officinalis. *Scop. carn. n.* 1040.
C. arvenſis. *Bauh. pin.* 276. *Raii hiſt.* 338. *Ger.* 603. *f.* 10. *Mor. hiſt.* 3. *ſ.* 6. *t.* 4. *f.* 6. *Tabern.* 335.
C. minima. *Bauh. hiſt.* 3. 103.
Seeds boat-form muricated bent-in; the outmoſt erect, protended.

2. Calendula ſancta. *Palæſtine Marigold.*
Lin. ſpec. 1304. *Reich.* 3. 924.
Seeds pitcher-form obovate even, calyxes ſubmuricated.

3. Calendula officinalis. *Garden Marigold.*
Lin. ſpec. 1304. *Reich.* 3. 924. *mat. med.* 193. *hort. cliff.* 425. 1. *upſ.* 274. 1. *Gærtn. fruct.* 2. 422. *Blackw. t.* 106. *Mill. illuſtr. fig. Berg. phyt.* 2. 139. *Krock. ſileſ. n.* 1470.
C. ſativa. *Raii hiſt.* 337. *Ger.* 599. *f.* 1–8. *emac.* 739. *Park. theat.* 1369. *par.* 296.
Caltha vulgaris. *Bauh. pin.* 275. *Mor. f.* 1–5. *Bauh. hiſt.* 3. 101. *f.* 1, 2, & 102. *f.* 1.
β. C. polyanthos major. *Bauh. pin.* 275.
γ. C. flor. reflexis. *Bauh. pin.* 276.
δ. C. prolifera, majoribus floribus. *Bauh. pin.* 276.
Seeds all boat-form muricated bent in.

4. Calendula pluvialis. *Small Cape Marigold.*
Lin. ſpec. 1304. *Reich.* 3. 924. *hort. cliff.* 425. 2. *upſ.* 274. 2. *Mill. fig. t.* 75. *f.* 1. *Gærtn. fruct.* 2. 422.
C. ſcabra. *Berg. cap.* 310.
C. humilis africana, fl. intus albo, foris violaceo ſimplici. *Herm. lugdb.* 104. *t.* 105. *Breyn. ic.* 26. *t.* 14. *f.* 1.
Caltha afric. fl. intus albo, foris violaceo. *Tourn. inſt.* 499.
C. afr. fl. intus albo extus ferrugineo. *Mor. hiſt.* 3. 14. *ſ.* 6. *t.* 3. *f.* 8.
Leaves lanceolate ſinuate-toothletted, ſtem leafy, peduncles filiform.

5. Calendula hybrida. *Hybridous* or *great Cape Marigold.*
Lin. ſpec. 1304. *Reich.* 3. 925. *hort. upſ.* 274. 3. *Mill. fig. t.* 75. *f.* 2. *Gærtn. fruct.* 2. 422.
Caltha africana, fl. intus albo, foris violaceo, ſem. majore oblongo. *Breyn. ic.* 26. *t.* 14. *f.* 2.
Cardiſpermum afr. pubeſcens, fol. inciſis, parvo flore. *Act. par.* 1724. 39. *t.* 2.
Leaves lanceolate toothed, ſtem leafy, peduncles thickened at top.

6. Calendula nudicaulis. *Naked-ſtalked Cape Marigold.*
Lin. ſpec. 1305. *ſyſt.* 791. *Reich.* 3. 925. *mant.* 479. *Berg. cap.* 312. *Herm. afr.* 5.
Bellis afr. florum pediculis pene aphyllis, fol. inciſis. *Comm. hort.* 2. 66. *t.* 33.
Caltha afr., fl. intus albo extus leviter violaceo, ſem. plano cordato. *Boerh. lugdb.* 1. 113.
Leaves lanceolate ſinuate-toothed, ſtem almoſt naked.

7. Calendula graminifolia. *Graſs-leaved Marigold.*
Lin. ſpec. 1305. *Reich.* 3. 925. *Berg. cap.* 311. *Herm. afr.* 5. *Mill. fig. t.* 76. *f.* 1. *Pluk. mant.* 35. *t.* 376. *f.* 7. & 383. *f.* 4.
Caltha afr., fol. croci anguſtis, florum petalis externe purpuraſcentibus interne albis. *Boerh. lugdb.* 1. 113.
Dimorphotheca ſtatices fol. *Act. par.* 1720. *p.* 280.
Bellis afr., fl. pediculis folioſis, fol. anguſtis & integris. *Comm. hort.* 2. 67. *t.* 34.
Leaves linear almoſt entire; ſtems almoſt naked one-flowered: ſeeds obcordate-orbiculate even.

8. Calendula fruticoſa. *Shrubby Marigold.*
Lin. ſpec. 1305. *Reich.* 3. 926. *amæn.* 6. *afr. n.* 83. *Berg. cap.* 314. *Mill. fig. t.* 283.
Leaves obovate a little toothed, ſtem ſhrubby decumbent.

[9. Calendula tomentoſa. *Tomentoſe Marigold.*
Lin. ſyſt. 791. *ſuppl.* 384.
Leaves obovate entire tomentoſe; ſcape naked, one-flowered.

10. Calendula pumila. *Pigmy Marigold.*
Forſt. florul. auſtr. n. 305.
Seeds oblong incurvated; leaves orbiculate, crenate-ſerrated, ſerratures mucronated, ſcape naked, one-flowered.

11. Calendula ſtellata. *Starry Marigold.*
Cavanilles ic. hiſp. n. 5. *t.* 5.
Five outer ſeeds boat-ſhaped ſmooth, five alternate horned patulous muricate, the reſt ſcrew-ſhaped.

12. Calendula Tragus. *Bending-ſtalked Marigold.*
Ait. hort. kew. 3. 271.
Caulеſcent; leaves alternate linear almoſt quite entire ſomewhat hairy; ſeeds ſuborbiculate.

13. Calendula rigida. *Rough-leaved Marigold.*
Ait. hort. kew. 3. 271.
Leaves elliptic toothed roughiſh; wings of the ſeeds ſemiorbiculate.

14. Calendula oppoſitifolia. *Glaucous Marigold.*
Ait. hort. kew 3. 272.
Leaves oppoſite linear quite entire ſomewhat fleſhy ſmooth.

DESCRIPTION, *&c.*

The flowers are commonly ſolitary and terminating. Many of the ſpecies are herbaceous and natives of the Cape of Good Hope. The ſeventh, eighth, twelfth, thirteenth, and fourteenth ſorts are ſhrubby. The firſt and third grow wild in the ſouthern countries of Europe; the ſecond is from Paleſtine; the tenth from New Zealand.]

1. Root annual. Stalk ſlender, branching, ſpreading near the ground. Leaves narrow, ſpear-ſhaped, hairy, half ſurrounding the ſtalk at their baſe. Flowers produced at the extremity of the branches upon long naked peduncles; they are very ſmall, and of a pale yellow colour; the florets of the ray are very narrow, as are alſo the leaves of the calyx. [Seeds of different ſhapes: thoſe of the diſk ſemicircularly curved inwards, by no means boat-ſhaped or margined, but inclined to cylindric, on the belly part compreſſed into an edge, but on the back convex and muricated with little ſhort innocuous prickles: thoſe of the ray are longer, upright, crooked, attenuated upwards and lengthened out into a beak which is bilamellate and two-lobed at the end, with little prickles on the outſide, but ſmooth within, and near the baſe augmented with a lamellated proceſs[a].

Haller is of opinion that this is not ſpecifically diſtinct from the Garden Marigold; and Ray ſays, that it differs in little elſe beſides the ſmallneſs of the parts.

Native of Sweden, Germany, Switzerland, France, Carniola, Italy, and Spain. It flowers moſt part of the ſummer, and was cultivated in 1683, by Mr. James Sutherland[b].

2. This is very like the foregoing ſpecies, but the calyx is muricated on the outſide. The ſeeds are more ventricoſe, not at all muricated; without the aculeated ſeeds in the ray. The whole plant is naked without any ſhaggineſs. The leaves are rugged at the edge[c].] Mr. Miller adds, that they are much larger than thoſe of the former ſort, but yet not ſo large as thoſe of the Garden Marigold; and that the flowers are of a middle ſize between the two others, and of a very pale yellow colour. He ſays, that he gathered it in the garden at Leyden, [and therefore he probably cultivated it ſoon after the year 1727, when he was in Holland.

3. This differs from the Field Marigold not only in the ſeeds, but in having a loftier ſtem, more divaricated, pubeſcent and pale green, as are alſo the leaves; theſe are longer leſs ſinuated, the lower and middle leaves ovate and blunt, the upper ones lanceolate[d].

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[a] Gærtner. [b] Hort. kew. [c] Linn. ſpec. [d] Krocker.

Native of France, in the vineyards, of Italy in the corn fields, of Sileſia in orchards, gardens and fields; flowering moſt part of the ſummer. Parkinſon informs us that he received the ſeed of the ſingle Marigold from Spain, where it grows wild, "by Guillaume Boel, in his time a very curious, and cunning ſearcher of ſimples[e]." It was however cultivated by Gerarde in 1597[f], and probably much earlier.

The golden ſplendour of the flowers, ſays John Bauhin, the *flaventia lumina Calthæ*, as Columella expreſſes it, ennobled this plant, before it was known to be of any uſe. It has however been cultivated time out of mind in kitchen gardens for the flowers, which were dried in order to be boiled in broth: from a fancy that they are comforters of the heart and ſpirits. Linneus accordingly ſays, that they may be uſed in a double doſe as a ſuccedaneum to Saffron; but modern practice has little confidence in theſe ſuppoſed cordials.

The common or officinal Marigold is a plant which is now much out of uſe in the Materia Medica, and has perhaps been commended beyond its merit as an aperient and detergent in viſceral obſtructions, jaundice, and menſtrual ſuppreſſions. It has alſo been conſidered as uſeful in the ſcrophula of children, eaten in the manner of a ſalad. There is a certain acrimony in the plant; inſomuch that it has even been commended as an extirpator of warts. Formerly the flowers were much eſteemed as preſervatives againſt peſtilential diſorders, either chewed or infuſed in vinegar; or the juice itſelf drank to the quantity of ſome ounces. In the plague itſelf it has been highly commended by ſome writers; and is eſteemed a powerful ſudorific. The leaves are ſuppoſed to be more efficacious than the flowers. It has been aſſerted, that a Marigold flower ſtrongly rubbed on the affected part, is an admirable remedy for the pain and ſwelling cauſed by the ſting of a waſp or bee.

According to the obſervation of Linneus, the flowers are open from nine in the morning to three in the afternoon. This regular expanſion and cloſing of the flowers attracted early notice, and hence this plant acquired the name of *Solſequia* and *Solis ſponſa*. There is an alluſion to this property in the poems aſcribed to Rowley:

> "The Mary-budde that ſhootethe (ſhutteth) with the lighte."

But more fully thus by Shakſpeare—

> "The Marigold, that goes to bed wi' th' ſun
> "And with him riſes weeping,"

This plant is called in German, *gewohnliche Ringelblume, Goldblume, Dotterblume, Gilkenbutterblume, gemeine Sonnenwende, Hauſſonnenwirbel, Weckbroſelchen, Todtenblume.* In Dutch *Tamme Goudbloem.* In Swediſh, *Ringblomma.* In Daniſh, *almindelige Koeblomme, Solſikke, Soelſik.* In Engliſh, *common* or *garden Marigold* or *Mary-gold,* by old authors *Golds* or *Ruddes.* *Golds* or *Gouldes* is a name among the country people not only for this, but for *Chryſanthemum ſegetum,* any ſort of Hawkweed, and in ſhort for moſt yellow flowers of the ſyngeneſia claſs. The fondneſs of the Engliſh people for tacking Chriſtian names to animals and plants is well known: the Virgin Mary in particular has ſanctified many of the latter. In French, *Souci du jardin.* In Italian, *Calendula ortenſe, fiorrancio, fiore d'ogni meſe.* This latter name gives countenance to the derivation of *Calendula* from the *Calends.* In Spaniſh and Portugueze, *Calendula ortenſe*; in the latter alſo *Maravilha baſtarda.* In Ruſſian, *Nogotki.*]

Of the garden Marigold there are the following varieties: 1. The Single. 2. The common double-flowering. 3. The largeſt very double-flowering. 4. The double lemon-coloured. 5. The greater and ſmaller childing Marigold, [called by Gerarde fruitful or much-bearing Marigold, and by the vulgar ſort of women, as he ſays, Jack-an-apes on horſeback. There are other trifling varieties ſcarcely worthy of obſervation.]

4. Root annual. Lower leaves deeply indented on their edges, fleſhy and of a pale green colour. Stems declining, from ſix to eight inches long, leafy to within two inches of the top. Stem leaves much narrower and more indented than thoſe at the root. Upper part of the ſtem very ſlender, upon which ſtands one flower, ſhaped like thoſe of the common Marigold, having a purple bottom, with the ray of a violet colour on the outſide, and of a pure white within: it opens when the ſun ſhines, but ſhuts up in the evening, and remains ſo in cloudy weather. When the flower decays, it hangs down during the growth of the ſeeds; but when they are full ripe, the peduncle is raiſed again, ſo that the heads of the ſeeds ſtand upright. [The ſeeds of the diſk are rounded cordate, flatted, ſurrounded with a ſwelling rim, and of a whitiſh ſtraw-colour. The ſeeds of the ray are oblong, inverſely pyramidal, three or four-cornered, with the ſides and angles tubercled and muricate[g].

It is a native of the Cape of Good Hope, flowers from june to auguſt; and was cultivated by Mr. Miller in 1726.

Calendula ſcabra of Bergius is ſuppoſed to be the ſame with this: he however affirms that it is different both from the *pluvialis* and *hybrida* of Linneus; for the leaves in them are rather blunt, narrowing towards the baſe, not linear and narrowing to the point, as in this; nor are the calyxes ſo evidently ciliate.]

5. Root annual. Leaves much longer than in the foregoing, and broader at the end; thoſe near the root are regularly indented, but the ſtem-leaves have only a few ſhallow indentures. The ſtalks are much longer and thicker than thoſe of the enſuing ſort; and at the top, juſt below the flower, ſwell larger than at the bottom. The flowers are ſmaller than in the fourth, but of the ſame colour. [The ſeeds of the diſk are very like thoſe of the *pluvialis,* but a little larger, elliptic-cordate, not ſwelling at the rim. The ſeeds of the ray are inverſely pyramidal, three-ſided, the ſides a little convex and ſmooth, but the angles compreſſed and ſerrate-toothed[i].

The ſeeds of this ſort were brought from the Cape to Holland about ſixty years ago (1711), and thence all the curious gardens in Europe have been furniſhed with them[k]. Cultivated by Mr. Miller in 1756[l]; probably much ſooner.]

6. This is alſo an annual plant, and has much the appearance of the fourth, but the leaves are more deeply indented on their edges. The ſtalks grow about the ſame length as that; the flower is a little ſmaller, and the rays on the outſide are of a fainter purple colour. The ſeeds of this are flat and heart-ſhaped, whereas thoſe of the fourth are long and narrow.

[The ſtem is extremely ſimple, erect, leafy at bottom. The leaves are ſpatulate, rugged, entire except that they are now and then angulated with a tooth. Seeds orbiculate[m].

Native of the Cape; flowers from june to auguſt; cultivated by Mr. Miller in 1731[n].]

7. This is a perennial plant, which divides near the root into ſeveral tufted heads, cloſely covered with long graſſy leaves coming out on every ſide without order; ſome of theſe have one or two indentures on their edges, but the moſt part are entire. From between the leaves ariſe naked peduncles about nine inches long, ſuſtaining one flower at the top, which is about the ſize of the common Marigold, having a purple bottom; the rays are alſo purple without, but of a pure white within. Theſe expand when the ſun ſhines, but always cloſe in the evening, and in cloudy weather. The general ſeaſon of their beauty is in april and may, when they have the greateſt number of flowers upon them; but

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[e] Parad. p. 298.
[f] Hort. kew.

[g] Gærtner.
[h] Hort. kew.
[i] Gærtner.
[k] Mill. fig.
[l] Hort. kew.
[m] Linn. mant.
[n] Hort. kew.

there is commonly a ſucceſſion of flowers late in the autumn, though not in ſo great plenty. The ſeeds are heart-ſhaped like thoſe of the foregoing.

[They were brought from the Cape to Holland in 1698. Though it has been long in the Engliſh gardens, yet it is not ſo commonly ſeen there as it deſerves, there being few plants which continue ſo long in flower as this [o].]

8. This has a ſlender, ſhrubby ſtalk, riſing to the height of ſeven or eight feet, but requiring ſupport; it ſends out a great number of weak branches from the bottom to the top, hanging downwards: the leaves are on ſhort foot-ſtalks; moſt of them are ſlightly indented towards the top, but ſome are entire; they are of a ſhining green colour on their upper ſurface, but paler underneath: the flowers come out at the ends of the branches on ſhort naked peduncles, and are in ſize and colour like thoſe of the fifth ſort: they are ſometimes ſucceeded by flat heart-ſhaped ſeeds.

It was introduced into the Dutch gardens from the Cape of Good Hope; and was ſent to Mr. Miller by Dr. Adrian van Royen about the year 1759. It flowers during the ſummer months.

[9. Found at the Cape by Thunberg [p].

10. Native of New Zealand [q].

11. Root annual. Stem herbaceous, ſtreaked, much branched, rugged as is the whole plant, three feet high. Leaves ſeſſile, ovate-oblong, tooth-ſinuate, ſubciliate, thick, bright green. Flowers terminating, ſolitary, on elongated peduncles. Common calyx deeply multifid, the ſegments ovate-lanceolate, permanent, nearly equal. Flowers yellow; as many florets in the ray as there are ſegments in the calyx, that is about ſixteen. Germ, in the ray, boat-ſhaped, rugged. Florets in the diſk few, barren: ſtigma globular, with two very ſhort diverging cuſps. Fruit, when ripe, of a ruſty red colour, conſiſting of one ſeed covered with an aril, of three different ſhapes. Seeds oblong, aſh-coloured.

Cultivated by Cavanilles in the garden of the Duke del Infantado near Madrid before 1791, and raiſed from ſeeds ſent by Lemonier. It flowers and perfects ſeeds there from june to auguſt [r].

12, 13, 14. Theſe are natives of the Cape of Good Hope; and were introduced by Mr. Francis Maſſon, in 1774 [s].

Mr. Miller has two other ſorts: Calendula decumbens, n. 9. which is Melampodium americanum; and Calendula americana, n. 10. which is alſo probably a Melampodium.]

PROPAGATION AND CULTURE.

1. If the ſeeds of the Field Marigold are permitted to ſcatter, there will be a freſh ſupply of young plants; ſo that from may, when the flowers firſt appear, till the froſt puts a ſtop to them, there will be a ſucceſſion of plants in flower.

2. The ſeeds of ſingle Garden Marigolds will come up of themſelves if they are permitted to ſcatter.

3. The varieties are ſuppoſed to have been originally obtained from the ſeeds of the ſingle ſort, but moſt of theſe differences continue, if the ſeeds are properly ſaved; but the two childing Marigolds, and the largeſt double, are ſubject to degenerate, where care is not taken in ſaving their ſeeds. The beſt way to preſerve the varieties, is to pull up all thoſe plants, whoſe flowers are leſs double, as ſoon as they appear, and to ſave the ſeeds from the largeſt and moſt double flowers; the childing ſort ſhould be ſown by itſelf in a ſeparate part of the garden, and the ſeeds ſaved from the large centre flowers only, not from the ſmall ones which come from the calyx of the other, for the ſeeds of theſe are apt to change.

The ſeeds may be ſown in march or april, where the plants are to remain, and will require no other culture but to keep them clean from weeds, and to thin the plants where they are too cloſe, leaving them ten inches aſunder, that their branches may have room to ſpread. Theſe plants will begin to flower in june, and continue in flower until the froſt kills them. The ſeeds ripen in auguſt and ſeptember, which, if permitted to ſcatter, will furniſh a ſupply of young plants in the ſpring; but as theſe will be a mixture of bad and good, the beſt method is to ſave the beſt ſeeds, and ſow each of the varieties diſtinct, which is the ſure way to have them in perfection.

4, 5, 6. The ſeeds of theſe plants ſhould be ſown in the ſpring in the borders of the garden where the plants are deſigned to remain, for they do not bear tranſplanting well; therefore they may be treated in the ſame manner, and ſown at the ſame time, with Candy Tuft, Venus Looking Glaſs, and other hardy annual plants putting four or five ſeeds in each patch; if they all grow, there ſhould not be more than two plants left in each patch: after this, they require no farther care but to keep them clean from weeds. If the ſeeds of theſe plants are permitted to ſcatter, the plants will come up the following ſpring without care, and theſe will flower earlier than thoſe which are ſown in the ſpring.

7. This ſort does not often produce good ſeeds in Europe, but it is eaſily propagated by ſlips taken off from the heads, in the ſame manner as is practiſed for Thrift. They may be planted any time in ſummer, in pots filled with light freſh earth, which may be plunged into a very moderate hot-bed, to forward their putting out roots; or otherwiſe the pots may be ſunk in the ground up to their rims, and covered with a Melon-glaſs, which, in the middle of ſummer, will anſwer full as well, but in the ſpring or autumn, the former method is to be preferred: when theſe are planted, the glaſſes muſt be ſhaded in the heat of the day, and the ſlips muſt be frequently refreſhed with water, but it muſt not be given them too liberally, for much wet will rot them: after they have got ſtrong roots, they ſhould be each planted into ſeveral ſmall pots, filled with freſh light earth, and placed in a ſhady ſituation, till they have taken freſh root, when they may be placed in the open air, in a ſheltered ſituation, where they may remain till autumn, and then ſhould be placed in a dry, airy, glaſs-caſe, for the winter ſeaſon, or under a common hot-bed frame; for theſe plants do not thrive in artificial heat, they only require protection from froſt and wet, and ſhould enjoy the air at all times when the weather is mild. I have ſometimes had one or two heads of them ripen in a ſeaſon, but this is very rare; and if the ſeeds are not ſown in autum, they ſeldom grow.

8. This is eaſily propagated by cuttings, which may be planted any time in ſummer in a ſhady border, or otherwiſe ſhaded with mats in the heat of the day: in five or ſix weeks, theſe will have taken root, when they ſhould be carefully taken up, and each put into a ſeparate pot, filled with light ſandy earth, but not dunged, and placed in the ſhade till they have taken freſh root; then they may be placed with other hardy exotic plants in a ſheltered ſituation, where they may remain till the froſt begins, when they muſt be removed into the green-houſe, placing them near the windows that they may enjoy the free air, for this plant only requires protection from froſt. The earth in which theſe are planted, ſhould be light, but very poor, for in rich earth they grow too luxuriant, and ſeldom flower.

Calf's-snout. See *Antirrhinum.*

Calinea. See *Doliocarpus.*

CALLA. (Κάλλαιον, *palearia galli, the wattles of a cock.)*

Lin. gen. n. 1030. *Reich.* 1121. *Schreb.* 1388. *Gærtn. t.* 84. *Juſſ.* 24. Provenzalia. *Petit. gen.* 45. Anguina. *Trew.*

Claſſ. 20. 8. Gynandria Polyandria.

Nat. order of *Piperitæ.* *Aroideæ* Juſſ.

GENERIC CHARACTER.

Cal. *Spathe* one-leafed, ovate-cordate, acuminate, coloured at top, very large, ſpreading, permanent. *Spadix* finger-ſhaped, quite ſimple, erect, covered with fructifications.

Cor. none.

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[o] Mill. fig.

[p] Linn. ſuppl.

[q] Forſter.

[r] Cavanilles.

[s] Hort. kew.

Stam. *Filaments* ſome, intermixt with the germs, the length of the piſtils, permanent, compreſſed, truncate. *Anthers* ſimple, truncate, ſeſſile.

Pist. to each a roundiſh, obtuſe *Germ.* *Style* ſimple, very ſhort. *Stigma* acute.

Per. *Berries* as many as there are piſtils, four-cornered-globular, pulpy, one-celled, (ſeveral-celled. *G.*)

Seeds many (ſix to twelve)—(ſolitary. *G.*) oblong, cylindric, obtuſe at both ends.

Obs. *Since in each berry there are ſeveral ſeeds, it follows that each piſtil belongs to as many floſcules, and are not parts of one and the ſame flower; ſince however a perianth and corolla are wanting to ſeparate the ſtamens, it is difficult to aſſign the exact number of theſe to each floſcule. If I were to conjecture from the analogy of the Palms, I ſhould ſuppoſe that ſix ſtamens were the appropriate number in each floſcule.*

In C. paluſtris *the Spadix is wholly covered with ſtamens and piſtils mixt: but in* C. æthiopica *at the bottom only, the upper part being covered with ſtamens only.*

ESSENTIAL CHARACTER.

Spathe flat. *Spadix* covered with floſcules. *Cal.* and *Pet.* none. *Berries* many-ſeeded.

SPECIES.

1. Calla æthiopica. *Æthiopian Calla.*
Lin. ſpec. 1373. *Reich.* 4. 75. *hort. cliff.* 435. *Lederm. microſc. t.* 18, 19. *Gærtn. fruct.* 2. 20.
Arum æthiop., fl. albo odorato. *Comm. hort.* 1. 95. *t.* 50.
A. amer., ari vulg. facie, fol. carnoſis. *Mich. flor.* 9. *t.* 2.
Leaves ſagittate-cordate, ſpathe cowled, ſpadix male at top.

2. Calla paluſtris. *Marſh Calla.*
Lin. ſpec. 1373. *Reich.* 4. 75. *hort. cliff.* 436. *ſuec. n.* 822. *lapp. n.* 320. *Gmel. ſib.* 1. *p.* 1. *Pollich pal. n.* 865. *Fl. dan. t.* 422. *Barr. ic.* 574.
Dracunculus paluſtris, ſ. rad. arundinacea. *Bauh. pin.* 195.
D. aquatilis. *Dod. pempt.* 331. *Raii hiſt.* 1210. *Ger.* 683. *f.* 3. *emac.* 832. *f.* 3. *Park.* 1244. *f.* 1. *Beſl. eyſt. vern.* 2. 17.
Provenzalia paluſtris. *Petit. gen.* 45.
Leaves cordate, ſpathe flat, ſpadix hermaphrodite all over.

3. Calla orientalis. *Oriental Calla.*
Lin. ſpec. 1373. *Reich.* 4. 75. *Gron. orient. n.* 282.
Arum minus orientale, rotundioribus foliis. *Mor. hiſt.* 3. 544. *Raii ſuppl.* 580.
A. Carſaami. *Rauw. itin.* 115.
Leaves ovate.

[4. Calla occulta.
Lour. cochinch. 532. *Rumph. amb. l.* 8. *c.* 8. *t.* 111. *f.* 2?
Leaves cordate-ovate; ſpathe ſpiral; ſpadix male at top.]

DESCRIPTIONS, *&c.*

1. This plant has thick, fleſhy, tuberous roots, which are covered with a thin brown ſkin, and ſtrike down many ſtrong fleſhy fibres into the ground. The leaves ariſe in cluſters; having foot-ſtalks more than a foot long, which are green and ſucculent. The leaves are eight or nine inches in length, and of a ſhining green, ending in a ſharp point, which turns backward; between the leaves comes out the ſcape, which is thick, ſmooth, of the ſame colour as the leaves, riſes above them, and is terminated by a ſingle flower, ſhaped like thoſe of the Arum; the hood or ſpathe is twiſted at the bottom, but ſpreads open at the top, and is of a pure white colour. In the center of this is ſituated the ſpadix or club, which is of an herbaceous yellow colour, upon which the ſmall herbaceous flowers are placed, ſo cloſely joined as that the ſtamens and piſtils are very difficult to diſtinguiſh, without the aſſiſtance of glaſſes; it is only about half the length of the ſpathe. When the flowers fade, ſome of thoſe which are at the top, are ſucceeded by roundiſh fleſhy berries, compreſſed on two ſides, each containing two or three ſeeds.

This plant grows naturally at the Cape of Good Hope, but has been long an inhabitant in the Engliſh gardens.

[Commelin ſays, that the living plant was ſent to him in 1687.—Mr. Miller cultivated it in 1731. It flowers from january to may[a].

2. Leaves erect, acuminate, ſtreaked, bright of yellowiſh green, ſmooth, four or five inches long, and three or four broad, alternately embracing the ſtem, with thick ſmooth ſucculent petioles five or ſix inches long. Scape round, thick, ſucculent, ſmooth, bright green. Two ovate bluntiſh ſtipules at the baſe of the petioles. Spathe roundiſh-ovate, rolled up at the end into a bluntiſh ſpine, yellowiſh green below, white and ſmooth above. Spadix ovate, obtuſe. Berries ſmall, many, ſeſſile on a conic bed, four or five-cornered or elſe round, wrinkled about the edge, firſt green then red, ſmooth, ſoft, flat at top, crowned with a ſhort ſtyle. Seeds ſix to nine, ſometimes only one to three, in a viſcid mucilage; ſometimes none[b].

The roots creep in the mud ſo as ſometimes to cover whole marſhes. They have a hot biting taſte, and yet bread is ſometimes made of them[c].

It flowers from june to auguſt, and is a native of Lapland, Sweden, Denmark, Ruſſia, Germany, and Holland. It was introduced in 1770, by Daniel Charles Solander, L. L. D.[d] but had been probably cultivated by Mr. Miller before.]

3. This alſo has a thick tuberous root, from which ſpring up ſeveral ovate leaves, ſtanding on pretty long foot-ſtalks: the ſcape riſes between the leaves, about ſix or eight inches high, ſupporting one white flower at the top.

Native of the mountains near Aleppo.

[This plant reſts on the authority of Rauwolf, and is omitted in all the editions of the Syſtema Vegetabilium.

4. Plant one foot high, perennial, with ſcarcely any ſtalk. Leaves many, ſmooth, diffuſed, with long channelled petioles, dilated at the baſe, embracing the inner ones. Spathe long, concealing the flowers even in their ſtate of maturity. Spadix oblong, wholly covered with flowers, below mixed, but male only at top. Filaments ſhort, ſcattered. Stigma concave, trifid, ſeſſile. Berry three-lobed, three-celled, yellow, containing many ſeeds.

Native of Cochinchina, in moiſt places[e].]

PROPAGATION AND CULTURE.

1. This propagates very faſt by offsets, which ſhould be taken off the latter end of auguſt, at which time the old leaves decay; but this plant is never deſtitute of leaves, for before the old ones decay, there are young leaves produced, which advance in height all the winter; but at this ſeaſon the roots are in their moſt inactive ſtate. Theſe roots have generally a great number of offsets about them, ſo that unleſs there is a want of them, the largeſt only ſhould be choſen; which ſhould be ſeparated from all the ſmaller, and each planted in a ſeparate pot, filled with kitchen-garden earth, and placed with other hardy exotic plants in the open air till autumn, when they muſt be removed into ſhelter for the winter ſeaſon, during which time, they muſt not have too much wet, for that will rot the roots. This plant is ſo hardy as to live in the open air in mild winters, without any cover, if it be planted in a warm border, and have a dry ſoil: but with a little ſhelter in hard froſt, it may be preſerved in the full ground very well. It flowers in may, and the ſeeds ripen in auguſt; but as the roots increaſe ſo plentifully, few perſons care to ſow the ſeeds, becauſe the young plants will not flower in leſs than three years.

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[a] Hort. kew.
[b] Pollich.
[c] Linn. ſuec. and lapp.
[d] Hort. kew.
[e] Loureiro.

2. Is rarely admitted into gardens, and muſt be planted in an artificial bog, or at leaſt in the mud of a pond, or in a pot or tub ſet in water.

3. The roots of this ſort ſhould be planted in pots filled with light earth, and in ſummer they may be placed with other exotic plants in the open air; but in winter they ſhould be placed under a common hot-bed frame, to ſcreen them from froſt, to which if they are expoſed the roots will be deſtroyed; there is little beauty in this plant, ſo it is only preſerved in botanic gardens for variety.

[CALLICARPA. (Καρπός *fructus, and* καλλός *pulchritudo: from the beauty of the fruit.)*

Lin. gen. n. 135. *Reich.* 141. *Schreb.* 175. *Gærtn. t.* 94. *Juſſ.* 107. Sphondylococcos, *Mitch.* 20. Burchardia, *Heiſteri.* Johnſonia, *Dale, Mill. dict.*

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Dumoſæ. Vitices* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-form: mouth four-cleft, erect.

Cor. monopetalous, tubular: *border* four-cleft, obtuſe, ſpreading.

Stam. *Filaments* four, filiform, twice the length of the corolla. *Anthers* ovate, incumbent.

Pist. *Germ* roundiſh. *Style* filiform, thicker at top. *Stigma* thickiſh, obtuſe.

Per. *Berry* globular, ſmooth.

Seeds four, oblong, ſhaped like a meniſcus, compreſſed, callous.

Obs. C. americana *has a cylindric calyx, ſcarcely four-toothed.*

ESSENTIAL CHARACTER.

Cal. four-cleft. *Cor.* four-cleft. *Berry* four-ſeeded.

SPECIES.

1. Callicarpa americana. *American Callicarpa.*
Lin. ſpec. 161. *Reich.* 313. *mant.* 2. 198. *Gærtn. fruct.* 2. 80. *Lour. cochinch.* 70.]
Johnſonia americana. *Mill. dict.*
Sphondylococcos. *Mitch. eph. nat. cur.* 8. 218.
Burchardia. *Duham. arb.* 1. 111. *t.* 44. *Pluk. alm. t.* 136. *f.* 3. *Cateſb. car.* 2. *t.* 47. *Gron. virg.* 138.
Leaves ſerrate, tomentoſe beneath.

[2. Callicarpa tomentoſa.
Lin. ſyſt. 153. *Reich.* 314. *Gærtn. fruct.* 2. 81.
Tomex tomentoſa. *Lin. ſpec.* 172. *fl. zeyl.* 59. *amæn.* 1. 115. *Burm. ind.* 36.
Arbor malabarica Illa dicta. *Burm. zeyl.* 26.
Leaves quite entire woolly.

3. Callicarpa japonica.
Lin. ſyſt. 153. *Thunb. jap.* 60.
Leaves ſerrate ſmooth.

4. Callicarpa ferruginea.
Swartz prodr. 31.
Leaves broad-lanceolate ſerrate ſomewhat rugged underneath, cymes terminating and axillary.

5. Callicarpa reticulata.
Swartz prodr. 31.
Leaves elliptic-lanceolate ſubſerrate wrinkled, tomentoſe-hoary underneath.

6. Callicarpa umbellata.
Lour. cochinch. 70.
Leaves turbinate-ovate ſmooth alternate, umbels ſeſſile.

7. Callicarpa triloba.
Lour. cochinch. 70.
Stem ſcandent, leaves three-lobed, peduncles dichotomous.

DESCRIPTIONS, &c.

1. A ſhrub from three or four to ſix feet in height. Branches rather compreſſed. The nerves of the upper ſurface of the leaves, and the whole under ſurface tomentoſe. The flowers in axillary, dichotomous, tomentoſe panicles, ſcarce the length of the leaves; with minute, ſubulate bractes, oppoſite at each fork. Calyx cylindric, ſcarcely four-toothed, very ſmooth. Corolla funnel-form, deep purple. Germ ſuperior. Style the ſtature of the filaments[a]. Berry the ſize of a ſmall pea, at firſt bright red, afterwards deep purple, one-celled. Seeds fixed to the bottom of the berry, bony, elliptic, convex on one ſide, ſlightly concave on the other[b].

Native of North America: alſo of Cochinchina, which ſhows the impropriety of the trivial name.]

The ſeeds were ſent to Mr. Miller by Mr. Cateſby from Carolina, in 1724; many of the plants were then raiſed, flouriſhed very well in the open air, and produced flowers; but in the ſevere froſt of 1740, moſt of them were deſtroyed, as were alſo the young plants raiſed from Dr. Dale's ſeeds the year before, which were only ſheltered under a frame; ſo that until he ſent a freſh ſupply of ſeeds in 1744, there were ſcarce any plants in the Engliſh gardens: ſince that time ſeeds have been brought to England in plenty.

This plant having been ſent over by Dr. Dale, with the generic characters, under the title of *Johnſonia*, in honour of the editor of Gerarde's herbal, in the year 1739, before it was mentioned by Linneus, Mr. Miller kept it under that name, in the laſt edition of his dictionary.

[2. A ſingular tree, and without its peer. A thick nap inveſts the branches, peduncles, petioles, like woollen cloth. Leaves ovate, the ſize of the hand, oppoſite, acuminate, coriaceous, wrinkled, naked, petioled. Peduncles axillary, ſolitary, dichotomous, the length of the petioles, divaricated. Corolla four-petalled. Filaments inſerted into the receptacle[c]. Berry the ſize of a pepper-corn, black, terminated by the ſtigma, which is pale-coloured, within the calyx, which is white with down, orbicular, ſcarcely toothed or very obſcurely four-toothed, ſpreading very wide; the berry is one-celled, and contains four bony ſeeds, convex on one ſide, on the other concave with an obſcurely elevated ridge[d].

The Indians chew the bark of this tree, when they have not the leaves of the *Betel*[e]. Native of the Eaſt-Indies.

3. Stem ſhrubby, erect, ſmooth. Branches oppoſite, round, ſmooth, purple, divaricated. Leaves oppoſite, on ſhort petioles, oblong, acuminate, entire at the baſe and point, green above, pale beneath, nerved, two inches long. Flowers above axillary, panicled, very ſmall. Panicle trichotomous, ſupradecompound, ſubfaſtigiate. Bractes linear. Peduncles half an inch long, with very ſhort pedicels. Perianth ſhorter than the corolla, which is four-parted and white. Filaments inſerted into the germ, very ſhort. Anthers oblong. Germ ſuperior. Style ſubulate, ſhorter than the corolla. Stigma ſimple, acute. Native of Japan[f].

4, 5. Natives of Jamaica[g].

6. This is a middle-ſized tree, with aſcending branches. Leaves quite entire, reflex at the edge. Flowers herbaceous, ſmall, in five-flowered umbels, almoſt at the ends of the branches: calyx bluntly four-cleft; corolla bell-ſhaped, with a ſhort tube: ſtamens and ſtigma ſeſſile. Berry fleſhy, roundiſh, ſmall, containing four ſeeds.

Native of Cochinchina, in woods.

7. This is a long branching ſhrub, climbing by bifid tendrils. Leaves cordate, ſerrate, ſmooth, on long petioles. Flowers axillary, pale. Berry roundiſh, four-ſeeded. Native both of China and Cochinchina[h].]

PROPAGATION AND CULTURE.

The firſt ſort, which is the only one yet cultivated here, riſes eaſily from ſeeds, on a moderate hot-bed. It is beſt to ſow the ſeeds in pots, and to plunge them into a tan-bed of a moderate warmth; when the plants come up, and have obtained ſome ſtrength, they ſhould be gradually inured to the open air, into which they ſhould be removed in june, and placed in a ſheltered ſituation, where they may remain till autumn; during this time they muſt be kept clear from weeds, and gently refreſhed with water in dry weather: but as theſe young plants are tender, they ſhould be placed under a frame before the early froſt comes on; for autumnal froſts will kill the tender part of their ſhoots, which often cauſes their ſtalks to decay moſt part of their length before the ſpring. During the winter ſeaſon they ſhould be ſcreened from froſt, but in mild weather they muſt enjoy the free air, otherwiſe their ſhoots will turn mouldy and decay. The following ſpring, juſt before the plants ſhoot, they ſhould be carefully turned out of the pots, ſo as not to break their roots, and part of them may be planted in ſmall pots filled with light earth, and the others in a nurſery-bed in a warm ſituation, at about four or five inches aſunder; thoſe in the pots ſhould be plunged into a moderate hot-bed, which will forward their taking root; but afterwards they muſt be hardened to bear the open air as before; theſe ſhould be ſheltered under a frame in winter for three or four years, till they have obtained ſtrength; then they may be turned out of the pots, and planted in a warm ſituation, where they will live in the open air through common winters; but in ſevere froſt they are in danger of being killed, if they are not ſheltered; therefore the ſurface of the ground about their roots ſhould be covered with old tan to keep out the froſt, and their tops protected with ſtraw, peas-haulm, or fern.

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[a] Linn. mant.

[b] Gærtner. [c] Linn. zeyl. [d] Gærtner. [e] Burman.
[f] Thunberg. [g] Swartz. [h] Loureiro.

The plants in the beds ſhould alſo be covered with mats or ſtraw, in froſty weather, and after they have obtained ſtrength, they may be tranſplanted into a warm ſituation, and treated every winter in the ſame manner as the others.

[Callicornia. See *Leyſera*.

CALLIGŎNUM. (*From* καλλος *or* καλος, *and* γονυ: *fine joints.*)

Lin. gen. n. 680. *Reich.* 735, *and p.* 570. *L'Herit. in tranſact. Linn.* 1. 179. *Juſſ.* 83. Pallaſia. *Lin. gen. Schreb. n.* 834. *Juſſ.* 83. Polygonoides. *Tournef.* 478. Pterococcus. *Pallas, it.* 2. 738. *t.* 5. & 3. 536.

Claſſ. 11. 4. Dodecandria Tetragynia.

Nat. order of *Holoraceæ*. *Polygoneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, turbinate at the baſe, with a five-parted border: *parts* nearly equal, roundiſh, ſpreading, finally obſcurely turned back, permanent, the two outer a little ſmaller than the reſt.

Cor. none, unleſs the calyx be taken for it.

Stam. *Filaments* about ſixteen (ten to fifteen. *S.*), diverging, capillary, at bottom thickened a little and pubeſcent, ſurrounding the germ like a nectary with their ſlightly coaleſcent baſe, withering. *Anthers* roundiſh, two-celled, peltate.

Pist. *Germ* ſuperior, ovate, four-ſided, acuminate. *Styles* three, or more frequently four, filiform, ſpreading, ſubcoaleſcent at the baſe or ending in an acumen of the germ, ſcarcely ſhorter than the filaments. *Stigmas* capitate.

Per. none, except the cruſt or ſhell of the nut.

Seed. *Nut* with a juiceleſs inſeparable cruſt or rind, oblong, four-ſided, four-winged, one-celled, valveleſs: the wings either membranaceous longitudinally two-parted toothed curled; or briſtly, the briſtles branched rigid but ſoft. Nucleus or kernel of the ſame form.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* none. *Filaments* about ſixteen, ſlightly united at the baſe. *Germ* ſuperior, four-ſided. *Nut* one-celled, with a cruſt that has ſeveral wings, or many briſtles.

SPECIES.

1. Calligonum Polygonoides.
Lin. ſpec. 748. *L'Herit. in Linn. tranſ.* 1. 179.
Polygonoides orientale Ephedræ facie. *Tourn. cor.* 47. *itin.* 2. 356.—3. 214. *fig.*
Fruit latticed, briſtles branched rigid.

2. Calligonum comoſum.
L'Herit. in Linn. tranſact. 1. 180.
Fruits latticed, briſtles branched ſoft.

3. Calligonum Pallaſia.
L'Herit. in Linn. tranſact. 1. 180. *ſtirp. nov. tom.* 2. *Ait. hort. kew.* 2. 242.
Pallaſia caſpica. *Linn. ſuppl.* 252.
Calligonum polygonoides. *Pallas it.* 3. 536.
Pterococcus aphyllus. *Pallas it.* 2. 738. *t.* 5.
Fruits winged, wings membranaceous curled.

DESCRIPTIONS, &c.

1. This is a ſhrub three or four feet in height, very buſhy and extending on every ſide: the trunk crooked, hard, brittle, the thickneſs of the human arm, covered with a ruſſet-coloured bark, divided into crooked branches, which are ſubdivided into twigs, whence inſtead of leaves ſpring cylindric threads, half a line in thickneſs, and an inch or fifteen lines in length, compoſed of ſeveral jointed pieces, ſo like the leaves of Ephedra, that it is impoſſible to diſtinguiſh them without ſeeing the flowers: from the joints of theſe threads proceed others which are jointed alſo, and along theſe ſome flowers come forth three lines in diameter, they are in form of baſins, cut into five parts to the middle, where they are pale green: the reſt is white; from the bottom of the baſin riſes an angular piſtil a line and half in length, ſurrounded with white filaments which have purple anthers: each flower is ſupported by a very ſlender and ſhort peduncle. The fruit is about half an inch long, and four lines thick, of a conical figure, deeply channelled longitudinally; the channels are ſometimes ſtraight, ſometimes ſpiral; the angles are terminated by wings cut into very fine fringes; the pulpy part is white and angular. The flowers have the odour of thoſe of the Lime tree, are long in withering, and continue at the baſe of the fruit[a].

Tournefort has deſcribed and figured a ſingle ſtyle, whereas there are three or four; he has alſo repreſented very few ſtamens, whereas there are about fifteen; the figure alſo repreſents both calyx and corolla, but there is only one. Linneus aſſigned two ſtigmas without any ſtyle to his Calligonum, and an indefinite number of ſtamens. Tournefort ſeems to have taken the young naſcent twigs for leaves[b].

Found by Tournefort in Armenia, in the plains at the foot of Mount Ararat, in the year 1700.

2. This is perhaps no more than a variety of the foregoing. The plants are in every reſpect alike, but the fruit is with ſofter briſtles; in the other they are very diſtinct and ſtiffer.

It was found in Egypt, by Lippi; and in Barbary, by Louiche Desfontaines[c].

3. This is a ſhrub three or four feet in height, with many alternate, round, reclining, flexuoſe, jointed, ſomewhat knotty, leafleſs branches: the ſhoots at each joint are numerous (ſix to ten), much crowded in bundles, ruſhy, ſome ſimple, others branched; few of theſe become branches, but moſt of them periſh; they are ſubulate, jointed, bright green, or ſomewhat glaucous. At each joint of the ſhoots is a ſingle leaf, which is ſeſſile, cylindric, ſubulate, fleſhy, like the ſhoots, half an inch in length; theſe are placed alternately. Stipule or ſheath membranaceous, obſcurely trifid, withering, ſurrounding the joint, as in the Knot-graſs and other Polygonums. Flowers lateral or axillary, uſually three together at each joint, peduncled, white with the diſk of the calycine ſegments greeniſh, fragrant[d]. Pallas adds, that theſe flowers are very abundant from the younger woody branches, eſpecially about the warty tubercles at the joints, and from the herbaceous ſuckers which puſh up every ſpring; they come out in balls within the ſmall membranous ſtipule. It flowers at the beginning of june, and the ſeeds are ripe in july. He found it in the ſandy deſerts of Siberia, between the Volga and the Jaick. Here it flowers in auguſt, and was introduced in 1780, by Peter Simon Pallas, M. D.[e]

This learned author, not attending either to the *Polygonoides* of Tournefort, or the *Calligonum* of Linneus, propoſed this ſpecies as a new genus, under the name of *Pterococcus aphyllus*; to this miſtake he afterwards added another, in aſſerting that his *Pterococcus* was the ſame plant with the *Polygo-*

[a] Tournef. voy. de Levant.
[b] L'Heritier.
[c] Idem.
[d] Idem.
[e] Hort. kew.

noides of Tournefort. The younger Linneus named it *Pallaſia caſpica*, in honour of Dr. Pallas, who firſt diſcovered it.

The herb and flowers are ſo alike in the ſeveral ſpecies, that we are obliged to have recourſe to the fruit for the ſpecific diſtinctions[f].

Loureiro has given another ſpecies, under the name of *Calligonum aſperum*, which he thus characterizes: leaves ovate, rough, racemes ſubdivided, fruit double. The ſtem is ſhrubby, ſcandent but without tendrils, unarmed, long, branched. Leaves quite entire, alternate. Flowers white, in terminating racemes: calyx five-leaved, herbaceous, except at the end, where it is red; leaflets roundiſh, concave, ſpreading: corolla commonly none, but ſometimes there are four round, concave, ſpreading petals: ſtigma ſeſſile, blunt, deeply two-parted: ſtamens numerous, on the receptacle. He calls the fruit a berry, which ſometimes is ſingle, ſometimes double; is one-celled and contains many ſeeds[g]. In the fruit therefore this plant differs widely from the Calligonums. Native of Cochinchina, in woods.]

[CALLISIA.

Loefling. Lin. gen. 63. *Reich.* 69. *Schreb.* 87. *Juſſ.* 45. Hapalanthus. *Jacqu. amer.* 11.

(Ἁπαλὸς ἄνθος, *tender flower.*)

Claſſ. 3. 1. Triandria Monogynia.

Nat. order of *Enſatæ*. *Junci* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* three-leaved: leaflets linear-lanceolate, keeled, erect, permanent.

Cor. *Petals* three, lanceolate, acuminate, erect, ſpreading at the top, the length of the calyx.

Stam. *Filaments* three, capillary, longer than the corolla, dilated at the top into a roundiſh lamina. *Anthers* double, globular, fixed to the inſide of the lamina.

Pist. *Germ* ſuperior, oblong, compreſſed. *Style* capillary, the length of the ſtamens. *Stigmas* three, ſpreading, pencil-form.

Per. *Capſule* ovate, compreſſed, acute, two-celled, two-valved; the valves contrary.

Seeds two, roundiſh.

Obs. *Allied to* Commelina.

ESSENTIAL CHARACTER.

Cal. three-leaved. *Pet.* three. *Anth.* double. *Capſ.* two-celled.

SPECIES.

1. Calliſia repens. *Creeping Calliſia.*
Lin. ſpec. 62. *ſyſt.* 94. *Reich.* 116. *Loeſl. it.* 305.
Hapalanthus repens. *Jacqu. amer. t.* 11. *edit.* 2. 12. *t.* 14.

DESCRIPTION, &c.

This plant is allied to *Commelina*, but it is deſtitute of nectaries[h].

Herbaceous, tender, creeping from the joints; rather erect at top, a little branching at the baſe, ſmooth. Leaves ovate, acuminate, ſubcordate at the baſe, quite entire, thickiſh, ſhining, fat, ſheathing, the edge purple, alternate. Flowers ſmall, tender, ſeſſile, greeniſh, generally three together from each ſheath of the lower leaves[i].

It is a native of the Weſt Indies, in low moiſt ſhady places. Here it flowers in june and july; and was introduced in 1776, by John Fothergill, M. D.[k]]

[CALLITRICHE. (Καλλος *or* καλὸς *and* θρὶξ; *Fine-hair.*)

Lin. gen. n. 13. *Reich.* 13. *Schreb.* 17. *Gærtn. t.* 68. *Juſſ.* 19. Stellaria. *Dill. gen.* 6.

Claſſ. 1. 2. Monandria Digynia.
23. 1. Polygamia Monoecia. *Hudſ.*

Nat. order of *Holoraceæ*. *Naiades* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. *Petals* two, incurved, acuminate, channelled, oppoſite. (oblong, concave, converging. *Hudſ.*)

Stam. *Filament* one, long, recurved. (ſtraight. *Hudſ.*) *Anther* ſimple.

Pist. *Germ* roundiſh. (ſuperior, compreſſed. *Hudſ.*) *Styles* two, capillary, recurved. (filiform, very long. *Hudſ.*) *Stigmas* acute.

Per. *Capſule* roundiſh, quadrangular, compreſſed, two-celled. (four-celled. *Ray.* obcordate, four-valved. *Hudſ.* none. *G.*)

Seeds ſolitary, oblong. (four, naked. *G.*)

Obs. C. verna *is monoecous.*
Flowers male, female, and hermaphrodite. *Hudſ.*

ESSENTIAL CHARACTER.

Cal. none. *Pet.* two. *Capſ.* two-celled, four-ſeeded.

SPECIES.

1. Callitriche verna. *Vernal Starwort*, or *ſtar-headed water Chickweed.*
Lin. ſpec. 6. *Reich.* 10. *ſuec. n.* 3. *Hudſ. angl.* 439. *With.* 4. *Relh. n.* 2. *Gærtn. fruct.* 1. 330. *Thunb. jap.* 16. *Pollich pal. n.* 2. *Neck. gallob.* 3. *Gmel. ſib.* 3. 13. *n.* 4. *Oed. dan. t.* 129. *Krock. ſileſ. n.* 3. *Villars dauph.* 2. 2.
C. fontana. *Scop. carn. n.* 1201.
Stellaria. *Raii ſyn.* 289. aquatica. *Lob. ic.* 792. 1. *Bauh. pin.* 141. *Dill. giſſ.* 58. *t.* 6. *Ger. emac.* 830. 3. *Park.* 1258. 10. *Petiv.* 6. 3. *Raii hiſt.* 1323.—fol. imis linearibus, ſup. ſubrotundis. *Hall. helv. n.* 554.
Coriſpermum fol. oppoſitis. *Lin. lapp.* 2. *Gron. virg.* 3.
Upper leaves oval; flowers androgynous.
β. Callitriche Plinii. *Col. ecphr.* 1. 315. *t.* 316.
Stellaria fol. petiolatis ſubrotundis. *Hall. helv. n.* 553.
S. minor & repens. *Raii ſyn.* 289. *Dill. giſſ.* 120.
Lenticula paluſtris bifolia, fructu tetragono. *Bauh. pin.* 262.
All the leaves oval; flowers androgynous.

2. Callitriche autumnalis. *Autumnal Starwort.*
Lin. ſpec. 6. *ſyſt.* 53. *Reich.* 10. *ſuec.* 4. *Hudſ. angl.* 440. γ. *With.* 5. *Relh. n.* 3. *Pollich pal. n.* 3. *Neck. gallob.* 3. *Gmel. ſib.* 3. 13. *n.* 5. *t.* 1. *f.* 2. (bad). *Krock. ſileſ. n.* 4. *Villars dauph.* 2. 2.
C. ſtagnalis. *Scop. carn. n.* 1202.
Stellaria fol. omnibus linearibus. *Hall. helv. n.* 555.
S. aquatica fol. longis tenuiſſimis. *Raii ſyn.* 290. *Petiv.* 6. 4.
Lenticula paluſtris anguſtifolia, fol. in apice diſſecto. *Loeſel. pruſſ.* 140. *t.* 38.
Alſine aquatica minor ſ. fluitans. *Bauh. pin.* 257.
All the leaves linear bifid at the end; flowers hermaphrodite.

DESCRIPTIONS, &c.

1. Stems long, round, branching, rooting; leaves in pairs, the upper ones radiating and floating on the ſurface of the water. Flowers ſeſſile in the axils; the upper ones male, the lower female[l]. Petals ſmall, white, thick, flat, creſcent-form; when magnified, they appear to be a collection of air-veſſels, to enable the flower to float[m]. Male and female flowers frequently oppoſite, in the boſom of the correſponding leaves[n]. Thunberg, who obſerved it in Japan, found the flowers always to be monoecous, but in two different manners; firſt a male flower in the uppermoſt, and female flowers in the lower axils; ſecondly, a male and a female flower in oppoſite axils of a leaf. The male flower is often ſolitary in one axil; but the female flowers are often two, one in each axil.

Very common in ditches and ſtanding waters, flowering from april to june. Annual.

β. The leaves of this are all conjugate, ovate, a little ſhorter and broader than in the foregoing, and ſlightly emarginate at the end[o]. This is larger than the others: leaves petioled, roundiſh, quite entire, conjugate; whereas in the former the lower leaves are linear[p]. Haller thinks that it may be the connecting link between the vernal and autumnal Starworts, and that they may poſſibly be one ſpecies. The difference in this variety is probably owing to its ſituation, in places where water has ſtood in the winter, or in ditches and marſhes dried up.

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[f] L'Heritier.
[g] Fl. cochinch. p. 342.
[h] Linn.
[i] Jacquin.
[k] Hort. kew.
[l] Relhan.
[m] Withering.
[n] Woodw. in With.
[o] Pollich.
[p] Haller.

2. Haller ſays that the lower flowers are female, the upper male, as in the former. Linneus and Pollich affirm that they are all hermaphrodite; Scopoli that they are polygamous (and thoſe of the foregoing dioecous). Hudſon unites both ſpecies, and attributes polygamous flowers to both. Wiggers inſiſts that the flowers are generally polygamous; ſometimes dioecous, ſeldom hermaphrodite.

This differs from the former in having all the leaves linear, and cleft at the end, to which Withering adds that the corolla is yellowiſh white; and Linneus that it flowers in ſeptember. It is ſometimes ſo thickly matted together on deep marſhes, that one may walk upon it without ſinking [q].

In the Flora Lapponica he had united all theſe into one ſpecies.

CALLITRICHUM. See *Horminum.*]

[CALODENDRUM. (*From* καλος *and* δενδρον, *a beautiful tree:*)

Lin. gen. Schreb. n. 384. *Thunb. nov. gen.* 41. *Juſſ.* 427.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, permanent, five-parted: *parts* ovate, acute, thickiſh, villoſe-muricate on the outſide, with the edges ſlightly revolute.

COR. *Petals* five, lanceolate, blunt, ſpreading, channelled, keeled, waved, villoſe, three times the length of the calyx.

Nectaries five, ſhaped like the petals, inſerted into the receptacle within them, linear-lanceolate, ſubulate at the tip, terminated by a gland, ſmooth, ſilvery-glandular, narrower than the corolla, but of the ſame length.

STAM. *Filaments* five, equal, the length of the corolla, four of which have anthers; one being uſually barren. *Anthers* ovate-cordate, grooved, inſerted into the back.

PIST. *Germ* pedicelled, capitate, muricate, ſuperior. *Style* inſerted into one ſide of the germ, filiform, the length of the ſtamens. *Stigma* ſimple, blunt.

PER. *Capſule* peduncled, ovate, bluntly five-cornered, five-grooved, muricate, five-celled, five-valved.

SEEDS in pairs, triangular, convex at the back, ſmooth.

OBS. *The number of parts in the corolla, nectary, and ſtamens varies; it is ſeldom four, moſt frequently five, very ſeldom ſix. One of the ſtamens is commonly obſerved to be caſtrated.*

ESSENTIAL CHARACTER.

Cor. ſpreading, five-petalled. *Nect.* five-leaved. *Capſ.* five-celled.

SPECIES.

1. Calodendrum capenſe.
Thunb. diſſ. p. 43. *Linn. ſyſt.* 241.
Dictamnus capenſis. *Linn. ſuppl.* 232. *ſyſt.* 397.

DESCRIPTION, &c.

This is a tree, with branches oppoſite or three together. Leaves entire, ever-green. Flowers in terminating panicles, on oppoſite one-flowered peduncles. Native of the Cape of Good Hope [r].

CALONNEA. See *Galardia.*]

[CALOPHYLLUM. (Καλὸς & φύλλον, *fine-leaf.*)

Lin. gen. n. 658. *Reich.* 716. *Schreb.* 1587. *Gærtn. t.* 43. *Juſſ.* 258. *Jacqu. amer.* 269. Calaba. *Plum. nov. gen.* 39. *t.* 18.

Claſſ. 13. 1. Polyandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved (two-leaved, *Jacqu.*): *leaflets* ovate, concave, coloured, deciduous; the two outer ones ſhorter.

COR. *Petals* four, oblong, concave, ſpreading.

STAM. *Filaments* many (ten, *Jacqu.*) filiform, ſhort. *Anthers* erect, oblong.

PIST. *Germ* roundiſh. *Style* filiform; the length of the ſtamens, (none, *Jacqu.*) *Stigma* headed, obtuſe.

PER. *Drupe* globular.

SEED. *Nut* globular, ſubacuminate, very large.

OBS. *Jacquin obſerved male flowers diſtinct; and Juſſieu has ſeen a polyadelphous ſpecies.*

ESSENTIAL CHARACTER.

Cal. four-leaved, coloured. *Cor.* four-petalled. *Drupe* globular.

SPECIES.

1. Calophyllum Inophyllum.
Lin. ſpec. 732. *Reich.* 2. 583. *fl. zeyl. n.* 201. *Gærtn. fruct.* 1. 200.
Inophyllum fl. octofido. *Burm. zeyl.* 131. *Pluk. alm.* 41. *t.* 147. *f.* 3. *Rumph. amb.* 2. 211. *t.* 71. *Rheed. mal.* 4. 79. *t.* 38. *Raii hiſt.* 1525.
Leaves oval.

2. Calophyllum Calaba.
Lin. ſpec. 732. *Reich.* 2. 583. *fl. zeyl. n.* 202. *hort. cliff.* 206. *Jacqu. amer.* 269. *t.* 165. *pict.* 131. *t.* 249. *Swartz obſ.* 216. *Brown. jam.* 372. 20.
Inophyllum fl. quadrifido. *Burm. zeyl.* 130. *t.* 60. (very good). *Rheed. mal.* 4. 81. *t.* 39. *Raii hiſt.* 1537.
Leaves ovate obtuſe.

DESCRIPTIONS, &c.

Theſe are trees, natives of the Eaſt and Weſt Indies. The firſt was alſo obſerved by the late circumnavigators in the Society Iſles and New Caledonia.

1. Calyx the ſize of the petals. Flowers more racemed, and the leaves twelve times larger than in the following ſpecies. Leaves a ſpan long, and a hand broad, marked with tranſverſe diſtant ſtreaks [s]. The root exudes a whitiſh, clear gum, without ſcent. Flowers eight-petalled, ſnow-white, ſweet ſmelling, growing in racemes. Fruit the ſize of a walnut, under a fleſhy bark, and a woody ſhell, having a very oily nut; which is bitter, and yields a yellow reſinous juice [t].

It is a tree of great ſize, ninety feet in height, and twelve in thickneſs. Bark of the branches ſmooth, at firſt green, afterwards reddiſh; of the trunk thick, ſcaly, blackiſh and purple within, which when wounded exudes a yellowiſh, viſcid juice, frequently hardening to a gum. Leaves like thoſe of the Water-Lily. Fruit ſmooth, ſhining, green, when ripe reddiſh. The nut is at firſt ſweet, but afterwards very bitter. It is common in Malabar, in ſandy ſoils, and bears fruit twice a year, in march and ſeptember, frequently to the age of three hundred years. An oil is expreſſed from the nuts to burn in lamps, to aſſwage pains, and to make ointments. The bark and gum is alſo uſed for medical purpoſes [u].

In Java, &c. they plant this tree about their houſes, for the elegance of the ſhade, and the ſweetneſs of the flowers [x].

2. This alſo is a lofty tree, putting out branches from very near the ground, ſo that it is well adapted for hedges and walks: the younger branches are quadrangular. Leaves ovate obovate or oblong, blunt, emarginate, entire, ſhining, coriaceous, firm, with parallel tranſverſe ſtreaks, on ſhort petioles, oppoſite, four inches long. Flowers on axillary, ſimple, looſe racemes, uſually ſeven together, white and ſmelling ſweet. Fruit green, with little pulp and that hardiſh, involving a ſmooth, yellowiſh, aſh-coloured nut, in which is a white ſolid kernel. It is not eaten, but the Caribes expreſs an oil from it for domeſtic uſes. From the above deſcription it appears that there is a great affinity between this tree and the Mammea, except in the fruit. Calaba is the name by which it is known both among the Caribes and French [y].

Jacquin can hardly be induced to think that the Calaba of Martinico is the ſame with the Tsjerouponna of the Hortus Malabaricus. According to the author of that work the wood is very hard, and of a reddiſh colour. The fruit is firſt green, then red; in taſte ſweet mixed with acid; in ſhape, ſize, and ſubſtance not unlike our Cornelian Cherry. It is eaten by the natives, and an oil is expreſſed from it for lamps.

[q] Linn. ſuec. [r] Thunberg.

[s] Linn. zeyl. [t] Burman. [u] Hort. malab. [x] Rumphius. [y] Jacquin.

Browne ſays that it is a pretty good timber, but does not bear the weather well; and that it is frequently uſed for ſtaves and heading.

Burman named it *Inophyllum*, becauſe the leaves are ſtriated like the fibres of a muſcle diſſected longitudinally. The ſtructure of them is very curious.

Calophyllum. See *Grias* and *Meſua.*]

CALTHA. (Κάλαθος, *a Calathi forma, the name having been anciently applied to the Marigold, which when ſlightly expanded reſembles a baſket: others derive it from* καλλος, *Pulchritudo.*)

Lin. gen. n. 703. *Reich.* 761. *Schreb.* 957. *Gærtn. t.* 118. *Juſſ.* 234. Populago. *Tournef.* 145.

Claſſ. 13. 7. Polyandria Polygynia.

Nat. order of *Multiſiliquæ*. *Ranunculaceæ* Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. *Petals* five, ovate, flat, ſpreading, deciduous, large.

Stam. *Filaments* numerous, filiform, ſhorter than the corolla: *anthers* compreſſed, obtuſe, erect.

Pist. *Germ* ſuperior, five to ten (four to twelve, *H. in With.* ſix to fifteen, *G.*) oblong, compreſſed, erect. *Styles* none. *Stigmas* ſimple.

Per. *Capſules* as many, ſhort, acuminate, ſpreading, one-celled, two-keeled, gaping in the ſuperior future.

Seeds very many, (fifteen) ovate or ovate-oblong, ſmooth, affixed to the ſuperior future, in a double row.

ESSENTIAL CHARACTER.

Cal. none. *Pet.* five. *Nect.* none. *Capſ.* ſeveral, many-ſeeded.

SPECIES.

1. Caltha paluſtris. *Marſh Marygold.* *Souci de Marais.* *Lin. ſpec.* 784. *Reich.* 2. 673. *lapp. n.* 227. *ſuec. n.* 511. *hort. cliff.* 228. *Hudſ. angl.* 245. *With.* 583. *Curt. lond.* 1. *t.* 40. *abr. t.* 8. *Hall. helv. n.* 1188. *Neck. gallob.* 243. *Pollich pal. n.* 541. *Krock. ſileſ. n.* 895. *Villars dauph.* 3. 720. *Fl. dan. t.* 668. *Berg. phyt.* 2. 85. *Bauh. hiſt.* 3. 470. *Raii hiſt.* 700. *Beſl. eyſt. hyem. t.* 4. *f.* 2. *vern.* 7. *t.* 5. *f.* 1.

C. major. *Mill. dict. n.* 1.

C. pal. fl. ſimplici. *Bauh. pin.* 276.

C. pal. major. *Ger.* 670. 1. *emac.* 817. 1.

C. pal. vulgaris ſimplex. *Park.* 1213. 1.

Populago. *Raii ſyn.* 272.—major. *Tabern. ic.* 750. paluſtris. *Scop. carn. n.* 698.

β. Caltha minor. *Mill. dict. n.* 2. *Ger.* 670. 2. Populago minor. *Tabern. ic.* 750. *f.* 2.

γ. C. pal. fl. pleno. *Bauh. pin.* 276. *Tabern.* 751. *With.* 2. *Relh. n.* 413. β. *Cluſ.* 2. 114. 2. *Ger.* 671. 3. *emac.* 818. 3. *Park.* 1213. 2.

DESCRIPTION, &c.

[1. Root perennial. Stems ſeveral, almoſt upright, about a foot high, hollow, nearly round, ſmooth, branched, purple at bottom. Radical leaves on long petioles, cordate-reniform, ſmooth, ſhining, and notched or crenated: ſometimes ſcalloped, ſometimes entire. Stem-leaves nearly ſeſſile, more pointed at top, and ſharply crenated. Stipules brown, membranous and withering. Branches dichotomous. Peduncles one-flowered, upright, grooved. Corolla of five petals, (from five to ſeven) ſomewhat concave, large, without any gloſs on the upper ſide. Anthers oblong, flat, bending inward, yellow; the inner row of filaments with broad anthers; the outer twice as long, club-ſhaped, with compreſſed anthers. Seeds beautiful, at bottom of an olive, and at top of a reddiſh colour.—Wet meadows, and by the ſides of rivers, making a noble appearance, in march and april, ſometimes ſo early as february[a].

The flowers gathered before they expand, are ſaid to be a good ſubſtitute for capers. The juice of the petals, boiled with alum, ſtains paper yellow. Cows will not eat it, unleſs compelled by extreme hunger; it is a vulgar notion therefore, wholly unfounded, that the yellowneſs of butter in the ſpring is cauſed by this plant: where a high colour is not given by art, it is the effect of abundance of rich paſture. Boerhaave ſays, that when kine eat this plant, it occaſions ſuch an inflammation, that they generally die. On may-day the country people ſtrew the flowers before their doors[b]. The garlands are alſo ornamented with it on that day. The leaves ſeldom appear to be eaten; but the flowers are often deſtroyed by a ſpecies of Chryſomela[c].

This is the firſt flower that announces the ſpring in Lapland, where it begins to blow toward the end of may[d].]

Miller inſiſts that the *greater* and *ſmaller* Marſh-Marigolds never vary either in their natural places of growth, or when cultivated in a garden. The variety with very double flowers is preſerved in many gardens for its beauty.

PROPAGATION AND CULTURE.

This is propagated by parting the roots in autumn. It ſhould be planted in a moiſt ſoil and ſhady ſituation, and may be allowed room where few other plants will thrive; during the ſeaſon of flowering it will afford an agreeable variety. The Marſh-Marigold with double flowers, does not appear ſo early in the ſpring as the ſingle, but continues much longer in beauty. It flowers from may to the middle of june.

[Caltha. See *Arnica*, *Calendula*, *Verbeſina.*

Caltrops. See *Tribulus.*

CALYCANTHUS. (*From* καλυξ, *Calyx, and* ανθος *Flos; the flower conſiſting of calycine folioles, without petals.*)

Lin. gen. n. 639. *Reich.* 695. *Schreb.* 870. *Juſſ.* 342. Beureria. *Ehret.* Butneria. *Duham.* Baſteria. *Miller.*

Claſſ. 12. 5. Icoſandria Polygynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, pitcher-ſhaped, ſquarroſe; leaflets coloured, lanceolate; the ſuperior ones gradually larger, reſembling petals.

Cor. none, except the calycine folioles, repreſenting petals.

Stam. *Filaments* numerous, ſubulate, inſerted into the neck of the calyx. *Anthers* oblong, furrowed, growing to the top of the filaments.

Pist. *Germs*, a great many, ending in ſubulate compreſſed ſtyles of the length of the ſtamens. *Stigmas* glandulous.

Per. none; the calyx being thickened, obovate, and berried.

Seeds very many, tailed.

ESSENTIAL CHARACTER.

Cal. one-leafed, pitcher-form, ſquarroſe, with coloured leaflets. *Cor.* calycine. *Styles* very many, with a glandulous ſtigma. *Seeds* very many, tailed, within a ſucculent calyx.

SPECIES.

1. Calycanthus floridus. *Carolina All-ſpice.* *Lin. ſpec.* 718. *Reich.* 2. 554.]

Baſteria. *Mill. dict.* and *fig. t.* 60.

[Beureria. *Ehret. pict. t.* 13.

Butneria. *Duham. arb.* 1. 114. *t.* 45.

Frutex corni fol. &c. *Cateſb. car.* 1. *t.* 46.

Inner petals longer than the outer.

2. Calycanthus præcox. *Japan All-ſpice.* *Lin. ſpec.* 718. *Reich.* 2. 555. *Ait. hort. kew.* 2. 220. *t.* 10. *Kæmpf. amæn. t.* 879.

Inner petals minute.]

DESCRIPTIONS, &c.

1. This ſhrub arrives at the height of eight or ten feet, where it grows naturally; but it ſeldom riſes more than four feet high in this country, dividing into many ſlender branches near the ground; covered with a brown aromatic bark, with two entire leaves placed oppoſite at every joint on ſhort foot-ſtalks; the flowers grow ſingle on ſhort peduncles at the extremity of the branches; they have two ſeries of narrow thick petals, which ſpread open, and turn inward at the top, like thoſe of the Starry

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[a] Curtis, Withering, and Woodw. in With.

[b] Withering.

[c] Curtis.

[d] Linn.

Anemone, or the Virgin's Bower: theſe are of a duſky purple colour, and have a diſagreeable ſcent; they appear in may. The bark of this ſhrub is brown, and has a very ſtrong aromatic ſcent; whence the inhabitants of Carolina gave it the title of All-ſpice.

[There are two varieties of it:

1. Foliis oblongis. *Long-leaved Carolina All-ſpice.*
2. Foliis ſubrotundo-ovatis. *Round-leaved Carolina All-ſpice.*]

Mr. Cateſby, who firſt introduced it into the Engliſh gardens (in 1726), procured it from the country ſome hundred miles on the back of Charles-town in Carolina. It was very ſcarce here till about the year 1757, when many plants were brought from Carolina, having been greatly increaſed in the gardens near Charles-town.

Mr. Miller gave it the name of *Baſteria*, in honour of his worthy friend Dr. Job Baſter, F. R. S. of Zurick Zee, in Holland. About the ſame time Monſ. Duhamel gave it the name of *Butneria*.

[2. Linneus ſays that this ſhrub is unknown to him; that it ſeems to be of this genus, but a different ſpecies, becauſe it flowers before the leaves, and the inner petals are ſaid to be yellow and ſmaller. Native of Japan[e].

Introduced 1771, by Benjamin Torin, Eſq.[f].]

PROPAGATION AND CULTURE.

1. This ſhrub will thrive in the open air in England, if it be planted in a warm ſituation and dry ſoil. It is propagated by laying down the young branches, which will take root in one year, and may then be taken from the mother plant, and ſet where they are deſigned to remain, for they do not bear tranſplanting well, after they are grown to any ſize. When the layers are tranſplanted, the ſurface of the ground ſhould be covered with mulch, to prevent the drying winds from penetrating the ground to the roots; and if the ſeaſon prove dry, they muſt be watered once a week, but ſhould not have too much wet, for that will rot their tender fibres.

The beſt time for laying down the branches is in autumn, but they ſhould not be tranſplanted till the ſpring twelve months after; for the ſpring is the ſafeſt time to remove theſe plants. After the branches are laid down, there ſhould be ſome old tanner's bark laid upon the ſurface to keep out the froſt; which ſhould alſo be done every winter, whilſt the plants are young.

[CALYPTRANTHES. (*From* καλυπτρα, *a veil, and* ανθη *a flower.*)

Lin. gen. Schreb. n. 845. *Swartz prodr.* 5. 79. Chytraculia. *Brown. jam.* 239. Sujygium. *Brown.* 240. Jambolifera. *Lin. gen. n.* 479. *Gærtn. t.* 36. *Juſſ.* 321.

Claſſ. 12. 1. Icoſandria Monogynia.

Nat. order of *Heſperideæ*. *Onagræ* & *Myrti* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, truncate, toothleſs, or very obſcurely four-toothed, ſuperior, permanent: covered with an orbicular, concave, deciduous *lid*.

Cor. none.

Stam. *Filaments* very many, capillary, inſerted into the inſide of the calyx at the rim. *Anthers* roundiſh, twin, ſmall.

Pist. *Germ* roundiſh, faſtened to the bottom of the calyx, two-celled: with a few ſeeds fixed to the partition. *Style* ſimple, filiform, bent in the length of the ſtamens. *Stigma* blunt.

Per. *Berry* globular or oblong, crowned with the calyx, one-celled.

Seed ſingle, or few, ſlightly angular.

Obs. Jambolifera *agrees with the other ſpecies of this genus in having a bell-ſhaped calyx covered with a lid, very many ſtamens inſerted into the rim of the calyx and bent down into its cavity before the expanſion of the flower, and a two-celled many-ſeeded germ, &c. And ſince it differs only in having an oblong berry, often a little contracted in the middle, with a ſimilar ſeed, it can hardly conſtitute a diſtinct genus.*

ESSENTIAL CHARACTER.

Cal. ſuperior, truncate, covered with a veil-ſhaped deciduous lid. *Cor.* none. *Berry* one-celled, one to four-ſeeded.

SPECIES.

1. Calyptranthes Chytraculia.
Swartz prodr. 79.
Myrtus Chytraculia. *Lin. ſpec.* 675. *Reich.* 2. 479. *amoen.* 5. 398.
Chytraculia. *Brown. jam.* 239. *t.* 37. *f.* 2.
Arboreous, peduncles terminating panicled trichotomous tomentoſe, leaves ovate attenuated at the tip.

2. Calyptranthes Zuzygium.
Swartz prodr. 79.
Myrtus Zuzygium. *Lin. ſpec.* 675. *Reich.* 2. 479. *amoen.* 5. 398.
Zuzygium. *Brown. jam.* 240. *t.* 7. *f.* 2.
Arboreſcent, peduncles axillary trichotomous patulous, leaves ovate blunt, branches dichotomous.

3. Calyptranthes rigida.
Swartz prodr. 80.
Arboreſcent, peduncles ſolitary axillary three-flowered or thereabouts, leaves ovate acute convex veinleſs rigid.

4. Calyptranthes Jambolifera.
Jambolifera. *Linn. zeyl. n.* 139. pedunculata. *Lin. ſpec.* 497. *Reich.* 2. 156. *Gærtn. fruct.* 1. 178. *Lour. cochinch.* 230.
Jambolana. *Rumph. amb.* 1. 131. *t.* 34. *Acoſta arom.* 299. *Bauh. pin.* 460.
Prunus indica, fructu nigro, Olivæ magnitudine. *Burm. zeyl.* 197.
Leaves ovate emarginate, corymb terminating.

5. Calyptranthes odorata.
Jambolifera odorata. *Lour. cochinch.* 231.
Leaves ovate, obliquely truncate at the baſe, corymb terminating diſtich.

6. Calyptranthes reſinoſa.
Jambolifera rezinoſa. *Lour. cochinch.* 231.
Leaves oblong, peduncles lateral.

DESCRIPTIONS, &c.

1. The leaves of this tree are ſmooth and oppoſite. The lid is faſtened to the calyx laterally, but afterwards turns back, and then the filaments iſſue forth, which before had been twiſted and concealed.

It is reckoned an excellent timber wood, but it ſeldom exceeds fourteen or fifteen inches in diameter. Native of Jamaica, chiefly in the pariſh of St. John. *Baſtard Green-heart*[g].

Introduced in 1778, by Thomas Clark, M. D.[h]

2. This ſhrub ſeldom riſes above ten or twelve feet in height; the whole is buſhy, and bears black berries, crowned with the margin of the cup. Theſe contain four ſmooth, ſlightly angular ſeeds, one or two only of which uſually arrive at maturity. The ſtyle is longer than the ſtamens; and the ſtigma is acute. Native of Jamaica[i].

Introduced in 1778, by Thomas Clark, M. D.[k].

3. Native of Jamaica[l].

4. This is a tree above the middle ſize, with ſpreading branches, the ſmaller ones brachiate. Leaves oppoſite, quite entire, ſmooth, hardiſh, petioled. Flowers terminating, in racemed corymbs: calyx four-cleft, corolla four-petalled, white. Berry ovate-oblong, almoſt cylindric, blunt, umbilicate, black, juicy, ſweetiſh-acid, eſculent[m].

According to Linneus, the peduncles are axillary, oppoſite, trichotomous (the partial ones three-flowered) continuing frequently upon the boughs below the leaves, after the fruit is fallen off[n].

Gærtner deſcribes the berry as inferior, crowned with the toothleſs annular baſe of the calyx, ovate-cylindric, ſlightly narrowing in the middle, coriaceous, ſlender, one-celled. Receptacle a ſmall ſcar with a tranſverſe wrinkle prominent on one ſide. Seed ſingle, the ſize and form of the cavity of the berry, fleſhy, hard, bipartile. Native of the Eaſt-Indies and China.

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[e] Linn. ſpec.
[f] Hort. kew.
[g] Browne.
[h] Hort. kew.
[i] Browne.
[k] Hort. kew.
[l] Swartz.
[m] Loureiro.
[n] Fl. zeyl. p. 58.

5. This is a ſmall tree about five feet high, with a very ſtraight ſingle ſtem, and brachiate branches. Leaves quite entire, thick, ſmooth, whitiſh underneath, dotted, ſmelling like Cummin. Peduncles, calyx, and corolla entirely white. Calyx four-cleft; corolla four-petalled; ſtamens eight. Berry ſuperior, ovate, ſmall, white, dotted, ſmooth, containing one ſeed. The young leaves are put into ſalads, and are not unpleaſant.

Loureiro obſerved it in the gardens in Cochinchina. On account of its ſmell, it may be doubted, whether it be not the Myrtus Cumini of Linneus, or the Jamboſa ceramica of Rumphius, though it ſhould rather ſeem to be the Folium Inſtinctus of the latter, l. 5. c. 47. p. 202.

6. This is a middle-ſized tree, with ſpreading branches, and a very tough reſinous bark. Leaves quite entire. Flowers white, on many-flowered axillary peduncles: calyx four-toothed; corolla four-petalled, bell-ſhaped. Berry roundiſh, ſmall, black, four-celled. Stamens eight.

Native of Cochinchina, where the fiſhermen dye their nets in a ſtrong decoction of the root, to preſerve them from rotting.

It appears to be the Tenarius major of Rumphius, l. 5. c. 38. t. 122 [o].]

[CAMANBAYA. See *Tillandſia.*

CAMARA. See *Lantana.*

CAMAX. (Καμαξ, *the prop of a vine, a ſtake or pole.*)
Lin. gen. *Schreb. n.* 365. Ropourea. *Aubl. guian. t.* 78. *Juſſ.* 421.
Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted: *parts* roundiſh.
COR. one-petalled, wheel-ſhaped: *tube* very ſhort: *border* five-parted; *parts* roundiſh villoſe above.
STAM. *Filaments* five, inſerted into the corolla between the ſegments, villoſe.
PIST. *Germ* roundiſh, villoſe, ſuperior. *Style* capillary. *Stigmas* three or four, ſharp.
PER. *Berry* ovate, villoſe, four-celled.
SEEDS very many, neſtling in a viſcid pulp.

ESSENTIAL CHARACTER.

Cor. wheel-ſhaped. *Filaments* inſerted between the ſegments of the corolla. *Berry* four-celled, many-ſeeded. All villoſe.

SPECIES.

1. Camax guianenſis.
Ropourea guianenſis. *Aublet. guian.* 1. 198. *t.* 78.

DESCRIPTION, *&c.*

This is a ſhrub growing to the height of twelve or fifteen feet, with a ſimple, knotty, cylindric ſtem. Leaves many, in whorls at the joints, declining, unequally pinnate, with ſix alternate leaflets, which are ſeſſile, oval, acuminate, the largeſt of them ten inches long, and three broad, and a little above each of them is a ſmall ſpine iſſuing from the midrib, which is three feet or more in length. The flowers are ſeſſile in great numbers at the baſe of the leaves, and in the intervals between them. It is called *Bois Gaulete* by the Creoles, and *Aroupouron* by the Couſſaris, one of the nations of Guiana, where it is a native, and flowers in january. The inhabitants and negroes uſe the branches of this ſhrub for wattling their huts [p].

[CAMBOGIA. (*So named becauſe it comes from the province Cambodia or Cambodje.*)
Lin. gen. n. 650. *Reich.* 706. *Schreb.* 883. *Juſſ.* 256.
Claſſ. 13. 1. Polyandria Monogynia.
Nat. order of *Tricoccæ.* *Guttiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved, leaflets roundiſh, concave, deciduous.
COR. *Petals* four, roundiſh-oblong, concave, with oblong claws.
STAM. *Filaments* very many, ſhort. *Anthers* roundiſh.
PIST. *Germ* roundiſh, ſtriated, *ſtyle* none. *Stigma* four-cleft, obtuſe, permanent.
PER. *Pome* roundiſh, eight-angled, eight-celled.
SEEDS ſolitary, reniform-oblong, ſlightly compreſſed.

ESSENTIAL CHARACTER.

Cor. four-petalled. *Cal.* four-leaved. *Pome* eight-celled. *Seeds* ſolitary.

SPECIES.

1. Cambogia Gutta.
Lin. ſpec. 728. *Reich.* 2. 576. *amæn.* 1. 402. *fl. zeyl. n.* 195. *mat. med.* 135. *Lour. cochinch.* 332. *Blackw. t.* 392.
Coddam-pulli. *Rheed. mal.* 1. 41. *t.* 24.
Carcapuli. *Acoſtæ, p.* 296, 297. *Cluſ.* *Bauh. hiſt.* 1. 137. *Raii hiſt.* 1661. *Burm. zeyl.* 27. *Park.* 1635.
Cambogium. *Dale pharm.* 357.
Gambogia. *Lewis mat. med.* 289.

DESCRIPTION, *&c.*

The Cambogia is a tall tree, with a trunk ſometimes as thick as two men can compaſs, with ſpreading, oppoſite branches. Leaves lanceolate-ovate, quite entire, flat, thick, ſcattered, ſmall, oppoſite, petioled. Flowers in whorls, ſeſſile, ſaffron-coloured. Fruit two inches in diameter, on peduncles an inch in length; rind yellow, thin, ſmooth; pulp yellow, ſucculent, ſweet, eſculent [q]. According to the Hortus malabaricus, the fruit is firſt green, then yellowiſh, and when ripe whitiſh.

Native of the Eaſt-Indies, and of the woods in China and Cochinchina; very abundant in Siam and Cambodia, where inciſions are made in the bark and a great quantity of Gummi Guttæ or Gamboge is extracted and exported into foreign countries.

This concrete is a gum-reſin, in part inflammable, compact, dry, yellow inclining to orange colour, without ſmell, and almoſt without taſte, producing however a ſlight ſenſation of acrimony in the throat. A greater quantity of it is diſſolved in ſpirits of wine than in water, to which it imparts a lemon colour.

It is uſed medicinally in the Eaſt, as a purgative, hydragogue and emetic, particularly in dropſies and worm caſes. It is ſaid to loſe the latter quality when macerated in vinegar.

The principal uſe however of Gamboge is in painting in miniature and water colours.

The fruit is eaten at meals in the Eaſt-Indies, and being much eſteemed for provoking the appetite, is a frequent ingredient in their ſauces.

CAMBULU. See *Bignonia.*

CAMELINA. See *Eryſimum*, and *Myagrum.*]

[CAMELLIA. (*So named in honour of George Joſeph Kamel, a Jeſuit, whoſe name is commonly written Camellus. His* Syllabus ſtirpium in inſula Luzone Philippinarum *forms the appendix to the third volume of Ray's hiſtory.*)
Lin. gen. n. 848. *Reich.* 914. *Schreb.* 1145. *Juſſ.* 262.
Claſſ. 16. 5. Monadelphia Polyandria.
Nat. order of *Columniferæ.* *Aurantia* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* many-leaved, roundiſh, imbricate; the ſcales roundiſh, very blunt, the inner ones gradually larger, concave, deciduous.
COR. *Petals* five, obovate, coaleſcing at the baſe.
STAM. *Filaments* numerous, erect, coaleſcing below into a crown larger than the ſtyle, above unconnected, ſhorter than the corolla: *anthers* ſimple.
PIST. *Germ* roundiſh. *Style* ſubulate, length of the ſtamens; *ſtigma* acute, reflex.
PER. *Capſule* turbinate, woody, marked with ſome furrows.
SEEDS. Kernels equal in number to the ſtreaks of the capſule, roundiſh, often filled with ſmaller ſeeds.

ESSENTIAL CHARACTER.

Cal. imbricate, many-leaved; the inner leaflets larger.

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[o] Loureiro.

[p] Aublet.

[q] Loureiro.

SPECIES.

1. Camellia japonica. *Japan Roſe.*
Lin. ſpec. 982. *ſyſt.* 632. *Reich.* 3. 368. *Thunb. jap.* 272. *Curtis mag. t.* 42. *Jacqu. ic. vol.* 2. *collect.* 1. 117.
Thea chinenſis, pimentæ jamaicenſis fol., fl. roſeo. *Pet. gaz. t.* 33. *f.* 4.
Tſubaki montanus. *Kæmpf. amæn. t.* 851.
β. Tſubaki hortenſis. *Kæmpf. amæn.* 852.
Roſa chinenſis. *Edw. birds.* 2. *t.* 67.
Leaves acutely ſerrate acuminate.
2. Camellia Saſanqua.
Lin. ſyſt. 632. *Thunb. jap.* 273. *t.* 30.
Saſanqua. *Kæmpf. amæn.* 853.
Leaves obtuſely ſerrate emarginate.
3. Camellia drupifera.
Lour. cochinch. 411.
Leaves ovate-oblong ſlightly crenate, flowers two or three together, terminating, drupes four-celled.

DESCRIPTIONS, &c.

1. Bark aſh-coloured; branches round and ſmooth. Leaves alternate, ovate, ſhining on both ſides, thick and ſtiff, paler green beneath, on ſhort petioles. Peduncles terminating, very ſhort, commonly ſolitary, with the branches lengthened out beyond them. The calyx has about nine broad-ovate, thick, ſmooth leaves. Petals larger and longer, thickiſh, uniting at bottom into a tube full of nectareous juice. Stamens about fifty. Stigma unequally five-cleft[a].

It is a vaſt and lofty tree, in high eſteem with the Japoneſe for the elegance of its large flowers, which exhibit a great variety of colours, but have no ſcent, and for its evergreen leaves. It is very common every where in their groves and gardens, flowering from october to april. It varies with ſingle and double flowers, white, red and purple[b].

It is a native alſo of China, and occurs very frequently in Chineſe paintings. It was cultivated before 1742, by Robert James Lord Petre[c].

2. A tree of a middling ſize, differing from the firſt ſpecies in having thinner, narrower leaves, obſcurely ſerrate; flowers many times ſmaller, with oblong emarginate petals; and a much ſmaller and more ſlender ſtem. The flowers are borne ſingly at the ends of the branches: the calyx is five-leaved, ſometimes ſix-leaved; the petals are five in number, ſometimes ſix or ſeven, ſnow white and deciduous.

The leaves dried in the ſhade have a ſweet ſmell; a decoction of them is uſed by the women to waſh their hair with; and they are mixed with Tea, to give it a grateful odour. Indeed this ſo reſembles the Tea plant, that it is diſtinguiſhed by little elſe beſides the coaleſcing ſtamens, and this is ſcarcely a ſufficient mark of diſtinction, ſince the ſtamens coaleſce only at the baſe, and even ſometimes ſeem to be diſtinct. Native of Japan, flowering in november[d].

3. This is a middle-ſized tree, with ſpreading branches. Leaves acuminate, ſmooth, hard, ſmall, alternate, petioled. Flowers white, terminating, on two or three peduncles together, one on each. Petals eight, oblong, emarginate. Style quadrifid, equal to the ſtamens. Drupe roundiſh, with a grooved, four-celled nut, and roundiſh kernels. The fruit is equal in ſize to the walnut, and not much unlike it, it is not however eſculent. It is both wild and cultivated in Cochinchina.

The oil expreſſed from the nuts is uſed by the natives to anoint their hair, and for various medical purpoſes; it has a pleaſant odour, and does not eaſily become rancid[e].

PROPAGATION AND CULTURE.

1. Having been hitherto ſcarce, and kept up to a high price, it has been generally treated as a ſtove plant, though it has been ſometimes placed in the greenhouſe. When it ſhall hereafter become more common among us, it may perhaps be treated in the ſame manner as the Magnolia. It is propagated by layers[f]. It may alſo be propagated by cuttings, in the ſame manner as directed for Gardenia.

The other ſpecies have not yet been introduced into Europe.

Camel's hay. See *Andropogon.*]

CAMERARIA. (*So named by Plumier from Joachim Camerarius, a phyſician and botaniſt of Nuremberg, who publiſhed an edition of Matthiolus in Latin and German, with new figures, and many obſervations.*)
Lin. gen. n. 300. *Reich.* 326. *Schreb.* 423. *Plum. gen.* 18. *t.* 29. *Juſſ.* 145.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Contortæ. Apocineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-cleft, acute, converging, very ſmall.

Cor. monopetalous, funnel-form; *tube* cylindric, long, bellied out at the baſe and tip; *border* five-parted, flat; *diviſions* lanceolate, oblique.

Stam. *Filaments* five, very ſmall, from the middle of the tube. *Anthers* converging.

Pist. *Germs* two, with lateral appendages; *ſtyles* hardly any; *ſtigmas* obſcure.

Per. *Follicles* two, horizontally reflected, oblong, obtuſe at both ends, and ſending forth a lobe each way near the ſides of the baſe, one-celled, one-valved.

Seeds numerous, ovate, inſerted on the larger ovate membrane at the baſe, imbricate.

ESSENTIAL CHARACTER.

Contorted. *Follicles* two, horizontal. *Seeds* inſerted into their proper membrane.

SPECIES.

1. Cameraria latifolia. *Baſtard Mangeneel.*
Lin. ſpec. 308. *ſyſt.* 254. *Reich.* 599. *hort. cliff.* 76. *Jacqu. amer.* 37. *t.* 182. *f.* 86. *pict.* 24. *t.* 39. *Plum. ic.* 60. *t.* 72. *f.* 1. *Brown. jam.* 182.
Leaves ovate acute at both ends, tranſverſely ſtriated.
2. Cameraria anguſtifolia.
Lin. ſpec. 308. *Reich.* 599. *Plum. ic.* 61. *t.* 72. *f.* 2.
Leaves linear.

DESCRIPTIONS, &c.

1. [This is a tall elegant tree, about thirty feet in height, the whole abounding with an acrid milky juice. Branchlets moſtly dichotomous. Leaves quite entire, very ſhining, rather rigid, petioled, oppoſite, numerous, ſomewhat reſembling thoſe of Myrtle. Peduncles one or many-flowered, ſlender, long, axillary or from the forks of the branchlets. Flowers ſmall, white. Follicles brown, bivalve in their ſtructure, but not opening.—Cuba, Jamaica, Domingo, in meadows[g].]

It was ſent to Mr. Miller from the Havanna, by Dr. Houſtoun. The flowers appear in auguſt, but never produce any ſeeds in England.

2. [Stem irregularly branching, ſhrubby. Leaves oppoſite, quite entire, the middle nerve decurrent. Flower and fruit much ſmaller than in the foregoing ſpecies, as is the whole plant[h].]

It grows about eight feet high. The leaves have two ribs running longitudinally. The flowers are produced ſcatteringly at the ends of the branches. It abounds with an acrid milky juice, like the other ſort, and grows naturally in Jamaica.

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, which muſt be procured from the places of their growth. They may alſo be increaſed by cuttings planted in a hotbed during the ſummer months. They muſt have a bark-ſtove, for they are very tender; but in warm weather they muſt have plenty of air.

[Cameraria *Dill.* See *Montia.*

Cammarum. See *Aconitum.*

Cammock. See *Ononis.*

Camocladia. See *Comocladia.*

Camomile. See *Anthemis.*]

CAMPANULA. (*Dimin. from Campana; a little bell; from the ſhape of the corolla.*)
Eng. *Bell-flower.* Fr. *Campanule.*
Lin. gen. 218. *Reich.* 234. *Schreb.* 290. *Gærtn. t.* 31. *Tournef. t.* 37. *Juſſ.* 164.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Campanaceæ.*—*Campanulaceæ* Juſſ.

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[a] Jacquin. [b] Thunberg. [c] Hort. kew. [d] Thunberg. [e] Loureiro. [f] Curtis.

[g] Jacqu. & Browne. [h] Plumier.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, acute, erect-expanding, ſuperior.

Cor. monopetalous, bell-form, impervious at the baſe, half-five-cleft, marceſcent; *diviſions* broad, acute, ſpreading. *Nectary* in the bottom of the corolla, compoſed of five valves, acute, converging, covering the receptacle.

Stam. *Filaments* five, capillary, very ſhort, inſerted on the tips of the valves of the nectary; *anthers* longer than the filaments, compreſſed.

Pist. *Germ* angular, inferior: *ſtyle* filiform, longer than the ſtamens; *ſtigma* three-parted, oblong, thickiſh; *diviſions* revolute.

Per. *Capſule* roundiſh, angular, three or five-celled, emitting the ſeeds at ſo many lateral openings.

Seeds numerous, ſmall; *Receptacle* columnar, adnate.

Obs. *The figure of the Pericarp is indeterminate:*

Trachelium of Ray, *has the Pericarp villoſe, ſcabrous, three-celled.*

Rapunculus of Ray *has the Pericarp ſmooth, ovate, three-celled.*

Medium of Knaut *has the Pericarp covered with five valves, five-celled.*

Speculum Veneris of Ray *has the Pericarp columnar, priſmatic, three-celled.*

Pentagonia *has the corolla wheel-ſhaped.*

Erinus *differs in having the corolla unequal, ſtigma ſimple, capſule gaping at top.*

In C. peregrina *the ſinuſes of the calyx are not reflex, the corolla is intermediate between bell-ſhaped and wheeled, and differs in having the piſtil ſhorter than the ſtamens.*

ESSENTIAL CHARACTER.

Cor. bell-form, the bottom cloſed with ſtaminiferous valves. *Stigma* three-cleft. *Capſ.* inferior, gaping with lateral pores.

SPECIES.

* *Leaves more gloſſy and narrow.*

[1. Campanula ceniſia. *Ciliate Bell-flower.*
Lin. ſpec. 1669. *ſyſt.* 206. *Reich.* 454. *Hall. helv. n.* 696. *Allion. pedem. n.* 395. *t.* 6. *f.* 2. *Vill. dauph.* 2. 499.
Stems one-flowered; leaves ovate, ſmooth, quite entire, ſubciliate.

2. Campanula uniflora.
Lin. ſpec. 231. *ſyſt.* 206. *Reich.* 454. *lapp. n.* 85. *t.* 9. *f.* 5, 6.
Conf. *Hall. enum.* 495. *n.* 15. *emend.* 1. *n.* 163. *Allion. n.* 400. *t.* 6. *f.* 1. *Villars* 500. *n.* 2.
Stem one-flowered; calyx equalling the corolla.

3. Campanula pulla. *Ruſſet Bell-flower.*
Lin. ſpec. 231. *ſyſt.* 206. *Reich.* 454. *Jacqu. obſ.* 1. 30. *t.* 18. *auſtr.* 3. *t.* 285. *Scop. carn. n.* 223. *D'Aſſo Aragon. n.* 176.
C. alpina latifolia, fl. pullo. *Bauh. pin.* 93. *prodr.* 33. *Raii hiſt.* 741.
β. C. fol. ſubrotundis. *Bauh. prodr.* 34. *t.* 35.
Stemlets one-flowered; ſtem-leaves ovate, crenate; calyxes drooping.

4. Campanula rotundifolia. *Round-leaved Bell-flower.*
Lin. ſpec. 232. *Reich.* 455. *lapp. n.* 83. *ſuec. n.* 184. *Hudſ. angl.* 95. *With.* 216. *Curtis lond.* 4. 21. *Lightf. ſcot.* 141. *Hall. helv. n.* 701. *Scop. carn. n.* 224. *Pollich pal. n.* 206. *Neck. gallob.* 115. *Villars dauph.* 2. 501. *Allion. pedem. n.* 398. *t.* 47. *f.* 2. *Krock. ſileſ. n.* 310. *Ger.* 367. 3. *emac.* 452. 3. *Fl. dan. t.* 855. *Raii hiſt.* 740. *ſyn.* 277.
C. minor rot. vulgaris. *Bauh. pin.* 93. *Mor.* 5. 2. 17.
C. min. ſylveſtris rot. *Park.* 651. 11.
β. C. min. rot. alpina. *Bauh. pin.* 93. *prodr. t.* 34. *Mor.* 5. 2. 16. *Hall. helv. n.* 702. *Hudſ.* β. *With.* β. *Raii ſyn.* 277. *hiſt.* 740. *Neck. gallob.* 116.
C. cæſpitoſa. *Scop. carn. n.* 225. *Villars dauph.* 2. 500.
γ. C. alp. linifolia cærulea. *Bauh. pin.* 93. *prodr.* 34. *Lin. lapp. n.* 84. *Magn. monſp.* 47. *t.* 46. *Oeder dan. t.* 189. *Hall. helv. n.* 700. *Bocc. muſ. t.* 103. *Barr. ic.* 457. *Hudſ.* γ.—uniflora edit. 1.—*With.* γ. *Raii hiſt.* 740. 16.
C. linifolia. *Scop. carn. n.* 226.
Radical leaves kidney-form; ſtem-leaves linear.]

5. Campanula patula. *Spreading*, or *Field Bell-flower.*
Lin. ſpec. 232. *Reich.* 455. *ſuec. n.* 186. *Hudſ.* 95. *With.* 216. *Hall. helv. n.* 698. *Scop. carn. n.* 227. *Pollich pal. n.* 207. *Krock. ſileſ. n.* 311 *Villars dauph.* 2. 504. *Oed. dan. t.* 373. *Dill. elth. t.* 58. *f.* 68. (very good). *Sowerby Engl. bot. t.* 42.
Rapuntium fl. purpureo. *Merr. pin.*
C. minor rotundifolia, fl. in ſummis cauliculis. *Bauh. pin.* 93.
β. *Lin. ſuec.* 1. *n.* 178.
Leaves ſtiff, the radical ones lanceolate-oval; panicle ſpreading.

6. Campanula Rapunculus. *Rampion.*
Lin. ſpec. 232. *Reich.* 456. *Gærtn. fruct.* 1. 154. *Hudſ.* 95. *With.* 217. *Hall. helv. n.* 699. *Scop. carn. n.* 231. *Pollich pal. n.* 208. *Neck. gallob.* 116. *Krock. ſileſ. n.* 312. *Villars dauph.* 2. 505. (*Fl. dan. t.* 855. is C. rotundifolia.) *Plenck, ic. t.* 151.
Rapunculus eſculentus. *Bauh. pin.* 92. *Raii hiſt.* 739. *Mor.* 5. 2. 13.
R. eſc. vulgaris. *Park.* 648. 1.
Rapuntium parvum. *Lob. obſ.* 165. *Ger.* 369. 2. *emac.* 453.
Rapunculum. *Dod. pempt.* 165.
Leaves waved, the radical ones lanceolate-oval; panicle contracted.

7. Campanula perſicifolia. *Peach-leaved Bell-flower.*
Lin. ſpec. 232. *Reich.* 456. *ſuec. n.* 187. *Gouan illuſt.* 7. *Bulliard. t.* 367. *Hall. helv. n.* 697. *Scop. carn. n.* 228. *Pollich pal. n.* 209. *Krock. ſileſ. n.* 313. *Villars dauph.* 2. 505. *Ger.* 367. 1. *emac.* 451. *Park.* 651. *parad.* 355. *f.* 1. *Raii hiſt.* 738.
C. decurrens. *Mill. dict. n.* 2.
Rapunculus perſicifol., magno fl. *Bauh. pin.* 93.
β. R. nemoroſus anguſtifolius, magno. fl. *Bauh. pin.* 93.
Radical leaves obovate, ſtem leaves lanceolate-linear ſubſerrate ſeſſile remote.

8. Campanula pyramidalis. *Pyramidal Bell-flower.*
Lin. ſpec. 233. *Reich.* 457. *Scop. carn. n.* 229.
C. lacteſcens pyram. *Ger.* 367. 2. *emac.* 451. 2. *Raii hiſt.* 738. *Park. parad.* 354. 2.
Rap. hortenſis, latiore fol., ſ. pyram. *Bauh. pin.* 93.
Pyramidalis lævis. *Bauh. hiſt.* 2. 808. *f.* 3.
Leaves ſmooth and even ſerrate cordate, ſtem-leaves lanceolate; ſtems ruſhy ſimple; umbels ſeſſile lateral.

[9. Campanula americana. *American Bell-flower.*
Lin. ſpec. 233. *Reich.* 457. *mant.* 337. *Ait. hort. kew.* 1. 220.
Leaves cordate and lanceolate ſerrate; petioles of the lower ciliate; flowers axillary ſeſſile; corollas five-parted flat; ſtyles longer than the corolla.

10. Campanula lilifolia. *Lily-leaved Bell-flower.*
Lin. ſpec. 233. *Reich.* 457. *hort. upſ.* 41. *Gmel. ſib.* 3. 148. *t.* 26. *Amm. ruth.* 11. *n.* 17. and 10. *n.* 15.
Leaves lanceolate, ſtem-leaves ſharply ſerrate; flowers panicled nodding.

11. Campanula rhomboidea. *Germander-leaved Bell-flower.*
Lin. ſpec. 233. *Reich.* 458. *Hall. helv. n.* 693. *Scop. carn. n.* 230. *Villars dauph.* 2. 503. *Bauh. pin.* 94. 6. *prodr.* 36. 2. *Bauh. hiſt.* 2. 806. *f.* 2. *Raii hiſt.* 733. 9. *ſee* 739. 10.
Rapunculus Teucrii fol. *Barr. ic.* 567.
R. alpinus Teucr. fol. rhomboidalis. *Bocc. muſ.* 75. *t.* 61.
β. C. Alpini. *Lin. ſpec.* 1669.
C. pyramidalis minor. *Alp. exot.* 340. *Raii hiſt.* 738. 6.
Leaves rhomboid ſerrate; ſpike one-ranked; calyxes toothed.

12. Campanula unidentata. *One-toothed Bell-flower.*
Lin. ſyſt. 206. *ſuppl.* 139.
Erect ſmooth; leaves lanceolate acute, one-toothed on each ſide; panicle divaricate leafy.

Shrubby, erect; leaves ovate, with a tooth or two, recurved; flowers glomerate, terminal.

59. Campanula paniculata.
Lin. ſyſt. 210. *ſuppl.* 139.
Herbaceous; ſtem panicled; branches divaricate; leaves lanceolate entire; flowers terminal, ſolitary.

60. Campanula adpreſſa.
Lin. ſyſt. 210. *ſuppl.* 140.
Herbaceous, erect; leaves lanceolate toothed recurved ciliate at the baſe appreſſed; panicle decompound.

61. Campanula verticillata. *Whorled-leaved Bell-flower.*
Lin. ſyſt. 210. *ſuppl.* 241. *Pallas it.* 3. 719. *t.* G. *f.* 1.
Leaves and flowers verticilled.

62. Campanula procumbens.
Lin. ſyſt. 211. *ſuppl.* 141.
Stem dichotomous, diffuſed; leaves ovate crenate obtuſe; flowers ſolitary erect.

63. Campanula triphylla.
Lin. ſyſt. 211. *Thunb. jap.* 87.
Leaves tern, linear; flowers by threes in a whorl.

64. Campanula tetraphylla.
Lin. ſyſt. 211. *Thunb. jap.* 87.
Leaves by fours, oblong, ſerrate.

65. Campanula glauca.
Lin. ſyſt. 211. *Thunb. jap.* 88.
Leaves ſeſſile ovate ſerrate glaucous beneath; ſtem angular panicled; peduncles one-flowered.

66. Campanula marginata.
Lin. ſyſt. 211. *Thunb. jap.* 89.
Leaves lanceolate waved ſerrate margined; branches weak; flowers terminal ſolitary.

67. Campanula gracilis.
Forſt. florul. auſtr. n. 84.
Leaves linear-lanceolate obſcurely ſerrate; ſtem dichotomous; flowers ſolitary terminal.

68. Campanula Bellardi.
Allion. pedem. n. 396. *t.* 85. *f.* 5.
Stem naked one-flowered; leaves petioled elliptic-lanceolate toothed.

69. Campanula veſula.
Allion. pedem. n. 397. *t.* 7. *f.* 1.
One-flowered; leaves ſmooth oval toothed; ſtem almoſt naked; calyx ſmooth.

70. Campanula ceſpitoſa.
Allion. pedem. n. 399. *Scop. carn. n.* 225. *t.* 4. *ann.* 2. 47. *Villars dauph.* 2. 500. *Scheuch. ic.* 6. *p.* 454. *Hall. helv. n.* 702. *Bauh. prodr.* 34. *hiſt.* 2. 797.
Radical leaves kidney-form gaſhed, ſtem-leaves toothed, upper ones quite entire.

71. Campanula valdenſis.
Allion. pedem. n. 400. *t.* 6. *f.* 1.
C. Scheuchzeri. *itin.* 454. *t.* 14. *f.* 1. *Vill. dauph.* 2. 503. *t.* 10.
Hirſute; leaves lanceolate ſometimes toothletted; flower ſolitary nodding.

72. Campanula urticifolia.
Allion. pedem. n. 406. *Turra prodr.* 64. *n.* 9. *Bauh. hiſt.* 2. 804. *f.* 2.
Stem roundiſh ſimple; upper leaves ſeſſile; ſpike one-ranked; peduncles one-flowered; calyxes ſmooth.

73. Campanula alpeſtris.
Allion. pedem. n. 418. *t.* 6. *f.* 3. *Hall. helv. n.* 694. β.
C. Allionii. *Villars dauph.* 2. 512.
C. trilocularis. *Turra prodr.* 64. *n.* 10.
C. ſaxatilis, Echii folio, flore magno. *Tournef. inſt.* 110. *Raii hiſt.* 734. *var. n.* 10.
Stem quite ſimple one-flowered, leaves lanceolate quite entire acute hiſpid, corolla bearded, capſules three-celled covered.

74. Campanula nitida. *Smooth-leaved Bell-flower.*
L'Herit. ſert. angl. Hort. kew. 1. 221.]
C. americana. *Mill. dict. n.* 13.
[C. amer. minor, fl. cæruleo patulo. *Rob. ic. Herm. lugdb.* 107.
Trachelium amer. minus, fl. cær. pat. *Dod. mem.* 119. *t.* 118.
Leaves oblong crenate gloſſy, thoſe on the ſtem lanceolate almoſt entire, corollas campanulate-rotate.

75. Campanula priſmatocarpos. *Long-capſuled Bell-flower.*
L'Herit. ſert. angl. t: 3. *Hort. kew.* 1. 224.
Capſules linear two-celled, leaves lanceolate looſely ſerrate very ſmooth, ſtem decumbent.

76. Campanula fragilis.
Cyrill. rar. neap. faſc. 1. 32. *t.* 11. *f.* 2.
C. ſaxatilis, &c. *Barr. ic.* 453.
C. parva rotundifolia, flore cæruleo pentagono grandi. *Raii hiſt.* 741.
Stems procumbent, branches directed one way many-flowered, root-leaves kidney-form crenate, calyxes angular.

77. Campanula virgata.
Billard. ſyr. dec. 2. 11. *t.* 6.
Branches wand-like; leaves lanceolate, ſharp at both ends, toothed, ſomewhat rugged; flowers in pairs ſeſſile; corollas deeply parted.

78. Campanula repens.
Lour. cochinch. 139.
Stem ſubdivided creeping, leaves oblong fleſhy, flowers ſolitary.

DESCRIPTIONS, *&c.*

1. Root perennial, creeping, often a foot long, dividing into ſeveral branches at top. Stems numerous, ſimple, ſmall, weak, about three inches high. Root-leaves roundiſh, ſmooth, ciliate: ſtem-leaves (four or five) oblong, lanceolate, or linear, ſeſſile. Peduncle terminating, ſolitary. Flower large in proportion to the plant. Calyx hirſute with white hairs, ſimple or without any appendages; the ſegments triangular, broad, deep, blunt, commonly blue. Corolla blue, divided to the middle into five ſegments, which are frequently bent back, twice as long as the calyx. Capſule three-celled[a].

Native of the higher rocks of the Alps, about the Glacieres. On the higheſt pike of Mont Cenis, called Ronche: by the head of the river Durance; and on other neighbouring eminencies: alſo in Dauphiné. It was introduced in 1775, by Doctors Pitcairn and Fothergill, and flowers in june and july[b].

Haller has confounded this with the ſecond ſpecies.

2. Root fibrous, annual. Stem abſolutely ſimple, the length of a finger, obliquely erect, round, entire. Stem-leaves ſix or ſeven, alternate, the loweſt vertically ovate, the middle ones lanceolate, the uppermoſt linear, the laſt of theſe is immediately under the flower. A ſingle flower terminates the ſtem; it is nodding, bell-ſhaped, contracted towards the baſe, and blue. Fruit turbinate-ovate or pear-ſhaped, very large in proportion to the plant, ſlightly inclined, opening with three holes near where the capſule unites with the crowning calyx[c].

Native of the mountains of Lapland; where it is very rare, and flowers in the beginning of july.

If it be the ſame ſpecies with that of Haller, Allioni, and Villars, it alſo grows wild in Switzerland, Piedmont, and Dauphiné.

There is certainly no agreement whatever between Linneus's and Allioni's figures. (See n. 71.) In the latter it is repreſented a ſpan high, the ſtem and leaves very hairy, ſome of the latter toothed, and none of them ovate, the flower is not nodding.

Haller characterizes his plant as having the bottom leaves cordate and ſerrate, the upper ones entire and hirſute. Villars his, with quite entire hirſute leaves, roundiſh lanceolate and linear. The latter thus deſcribes it. Stems three or four inches high, ſtraight, a little villoſe, with entire villoſe leaves, of a dark green colour; the lower ones almoſt round but pointed, diminiſhing in breadth inſenſibly as they are higher on the ſtem. At the top is one flower, which is ſtraight, with the ſegments of the corolla acute; it is a little larger than that of our common Bell-flower (n. 4.), ſomewhat longer and leſs open, accompanied by the diviſions of the calyx, which are lengthened out beyond the middle of it. Monſ. Villars thinks that this is the ſame with

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[a] Linn. ſpec. Haller, Villars. [b] Hort. kew. [c] Linn. lapp.

Haller's plant; but ſays that he has ſeen a ſpecimen entirely ſmooth, with the ſegments of the calyx toothed, and the root-leaves oblong, which approaches nearer to the C. uniflora of Linneus than this which he has deſcribed.

This perhaps may vary as much as the fourth ſpecies, and we ſhould not be ſurpriſed if a plant ſhould put on a different appearance in the Alps of Lapland and of Dauphiné.

3. Root filiform, creeping. Stems a ſhort ſpan in length, erect, flexuoſe, filiform, ſometimes having a branch or two bearing a ſingle flower. Root and ſtem-leaves ovate, obtuſe, with a few diſtant notches, naked and petioled. Peduncle terminating. Flower drooping, the ſame ſize as in the next ſort, with a ſmooth calyx. The variety has ſeveral flowers at the top of the ſtalk[d].

According to Scopoli, the leaves are notched; the lower ones roundiſh, blunt, not in the leaſt cordate; the upper ones ovate-lanceolate, acuminate; the ſtems are ſlightly villoſe, uſually one-flowered, ſometimes branching. He aſſerts that the flowers are never drooping, but Linneus, Jacquin, and D'Aſſo affirm the contrary. The latter of theſe authors ſays, that the lower leaves are petioled, ovate, and notched, the upper linear and ſeſſile. The flowers large and terminating. He remarks, that in Jacquin's figure ſome of the upper leaves are roundiſh. The corolla is of a very deep blue[e].

Native of the mountains of Auſtria, Carniola and Aragon.

4. Root perennial, creeping, ſweetiſh. Stems ſeveral, a foot or more in height, varying from two inches to a yard, rather upright, but weak and crooked, round, ſmooth, ſolid, milky and branched. Radical leaves heart or kidney form, petioled, toothed (frequently quite entire); ſtem leaves near the baſe lanceolate and toothed, near the ſummit linear and entire. Flower-branches ſpreading, ſimple or ſubdivided, almoſt naked. Flowers nodding a little: corolla blue, ſometimes white. Calyx permanent, ſegments linear, ſmooth, grooved, conſiderably expanded when out of bloſſom. Nectary at the bottom of the corolla, formed of five pointed valves cloſing and covering the receptacle; fringed, white Capſule three-celled. The radical leaves, whence this plant has its name, are uſually hid in the herbage, and therefore ſeldom obſerved: they alſo dry away and drop off, when it is advancing to maturity. It grows plentifully on heaths and other waſte grounds, in dry hilly ſituations, flowering from june to ſeptember[f].

A green pigment is obtained from the flowers[g]. The juice ſtains blue, but with the addition of alum, green[h]. The ſtalks and branches, when broken, give out a milky juice, which has a diſagreeable ſmell[i].

β. This variety has firmer and more ſhining leaves, the ſtem-leaves broader, ſerrate, the firſt rhomboidal, the reſt elliptic, acute; the radical leaves are alſo more narrowly toothed. It is common in the Alps[k]. Ray alſo found it in the mountains of Stiria and Carinthia. With us it has been obſerved on Snowdon, and about Rickmanſworth and Croydon.

γ. The other variety has the radical leaves roundiſh, roughiſh and ſerrate: the ſtems are hirſute; ſo are the ſtem-leaves; the firſt of theſe are ſerrate, moſt of them reſemble the leaves of Flax. Peduncles an inch long, one-flowered hirſute; calyx villoſe, lanceolate; corolla wide, ſhort, blue. In the valley of Urſeren, and mountains about Aigle[l]; on mount Waſſerfall. In Lapland, Denmark: and with us on the higheſt mountains of Wales and Weſtmorland, near Perth, and on Skiddaw, in Scotland.

Scopoli is of opinion that the *linifolia* (var. γ.) is a diſtinct ſpecies—1. becauſe it does not produce ſeveral ſtems from the ſame root; 2. becauſe it is twice or three times larger; 3. becauſe it has much broader and larger flowers; 4. becauſe it has no bottom cordate leaves, at leaſt while it flowers, nor leaf-ſtems ſeparate from the floriferous ones.

5. Root-leaves many together, ſpreading, ſmall, roundiſh or oval, ſoon turning yellowiſh; thoſe on the ſtems lanceolate, ſtraight and even; not waved, as in C. Rapunculus. Panicle much more ſpreading than in that ſpecies, and fewer flowers. The herb though bitter being frequently eaten down by cattle, ſide branches ſpring up, and flower till the winter froſts deſtroy the root. Corolla of an elegant form, tapering at the baſe, but ſpreading in the rim. It has no reſemblance to C. rotundifolia, for which it is ſometimes miſtaken, when the root-leaves are gone[m].

Native of Sweden, Denmark, Germany, Switzerland, Carniola, Piedmont; in corn fields, woods, hedges, and by road ſides; flowering in july and auguſt. In England it is not common. Merrett found it at Adforton near Wigmore in Herefordſhire; Littleton Brown found it in the ſame place: Dillenius in a wood called Elberry-hill, about a mile from Worceſter, and near Biſhop's Caſtle in Shropſhire; Dr. Pulteney, by Buddon-wood, near Loughborough, and between Litchfield and Meriden: Mr. Naſh, near Malvern: Mr. Woodward, near the Bath at Lichfield, and on the road to Coleſhill: Dr. Smith, in the park of the late Lord Ligonier, at Cobham in Surry.

β. The variety, which Linneus thought a diſtinct ſpecies in the firſt edition of the *Flora ſuecica*, and the *Species Plantarum* (C. decurrens), turned out not to be ſo, on ſowing their ſeeds in a garden[n].

6. The whole plant is full of a milky juice. Root biennial, ſpindle-ſhaped, ſometimes branching. Stem upright, angular, two feet high, hairy towards the baſe, ſmooth above: branches alternate, ſhort, upright. Leaves towards the baſe of the ſtem hairy above or on both ſides, blunt; the upper ones ſmooth, and becoming gradually more pointed; obſcurely notched, teeth glandular, whitiſh, not projecting beyond the edge of the leaf. An awl-ſhaped bracte at the baſe of each peduncle. Segments of the calyx awl-ſhaped, or ſetaceous, twice as long as the germ, with a ſmall tooth on each ſide of the baſe. Flowers upright. Corolla blueiſh purple, ſometimes very pale purple or whitiſh; each ſegment marked with three lines. Nectary fringed[o].

It grows wild in France, Flanders, Switzerland, Germany, Carniola, Piedmont; by hedge and road ſides and woods; in fallow fields and dry paſtures; flowering in june, july, and auguſt. In England it has been found growing near Croydon and Eſher in Surry; Old Buckenham Caſtle in Norfolk; about Hindlip and Enville in Worceſterſhire.]

The fleſhy roots are eatable, and are much cultivated in France for ſalads. Some years paſt it was cultivated in the Engliſh gardens for the ſame purpoſe, but is now generally neglected. [Haller ſays that it is in great requeſt among the Swiſs, in the ſpring; and that it increaſes milk. The roots are eaten not only raw in ſalads, but boiled like Aſparagus[p]. They were boiled tender, and eaten cold with vinegar and pepper, in the time of Parkinſon.

7. Root like that of Navew, and eatable. Stem very ſtraight, eighteen inches high and more, (in gardens two feet and a half) unbranched, angular, ſmooth, as is the whole plant (except the germ and capſule). Flowers in a thin ſpike, one or two together, on very long peduncles, which have two ſtipules at the baſe. Corolla large, broad bell-form, deep blue, the ſegments ſhort, and moderately acuminate[q].

This is a perennial plant, native of moſt parts of the continent of Europe from Sweden to Spain, but not of Britain. It was cultivated here by Gerarde, in 1596[r].]

Varieties are, the ſingle blue, and white; and double flowers of both colours. The latter have not been more than fifty years in England, but have been propagated in ſuch plenty, as to have almoſt baniſhed thoſe with ſingle flowers from the gardens.

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[d] Linn. ſpec. [e] Jacquin. [f] Curtis. [g] Lin. ſuec. [h] With. [i] Curtis. [k] Haller. [l] Ibid.

[m] Engl. bot. [n] Lin. ſuec. [o] Stokes in With. [p] With. [q] Haller. [r] Hort. kew.

8. [Pyramidal or Steeple Bell-flower is thus deſcribed in its wild ſtate by Scopoli. The root and ſtem are milky; the latter is four feet high, panicled with ſhort branches from top to bottom. All the leaves are ovate, petioled, and ſhortly toothed; the teeth paler and terminated by a gland. The corolla ſpreading, five-cleft beyond the middle. The calycine teeth, even whilſt the corolla is cloſed, ſpreading out horizontally, and twice as long as the germ, which is three-cornered.

It is found about Idria, in Struk, *&c.* and, according to Allioni, in Savoy.

As it appears in the garden it is thus deſcribed by Miller.]

It has thick tuberous roots, which are milky; theſe ſend out three or four ſtrong, ſmooth, upright ſtalks, which riſe near four feet high, and are garniſhed with ſmooth oblong leaves, whoſe edges are a little indented. The lower leaves are much broader than thoſe on the ſtalks. The flowers are produced from the ſide of the ſtalks, and are regularly ſet on for more than half their length, forming a ſort of pyramid; theſe are large, open, and ſhaped like a bell. The moſt common colour of the flowers is a light blue; but there have been ſome with white flowers, which make a variety when intermixed with the blue, but the latter is moſt eſteemed.

This plant is cultivated to adorn halls, and to place before the chimnies in the ſummer, when it is in flower, for which purpoſe there is no plant more proper; for when the roots are ſtrong, they will ſend out four or five ſtalks, which will riſe as many feet high, and are garniſhed with flowers great part of their length. Theſe upright ſtalks ſend out ſome ſhort ſide branches, which are alſo adorned with flowers, ſo that by ſpreading the upright ſtalks to a flat frame compoſed of ſlender laths (as is uſually practiſed) the whole plant is formed into the ſhape of a fan, and will ſpread near the width of a common fire-place. When the flowers begin to open, the pots are removed into the rooms, where, being ſhaded from the ſun, and kept from the rain, the flowers will continue long in beauty; and if the pots are every night removed into a more airy ſituation, but not expoſed to heavy rains, the flowers will be fairer, and continue much longer in beauty.

[This alſo was cultivated in 1596, by Gerarde[s].

9. Root annual. Stem and germs ſmooth. Leaves acuminate. Flowers three or more from each axil or bracte. Corollas ſmall. Style longer than the corolla[t].

Native of Penſylvania. Introduced in 1763, by Mr. John Bartram. It flowers in july[u].

10. It is ſingular in this plant, that the ſtem, before it produces the panicle, puts out leaves in a kind of roſe, which, when the panicle comes forth, are diſperſed about the ſtem[x]. It varies much in the ſize and colour of the flower, quantity of branches, hardneſs and ſoftneſs, ſmoothneſs and roughneſs of the leaves.

It is found from the Jaick eaſtward to the very confines of China.

The roots are eaten by the inhabitants both raw and boiled[y].

It was introduced in 1784, by Monſ. Thouin, and flowers moſt part of the ſummer. It is perennial[z].

11. Root creeping, perennial. Stem erect, ſmooth, from ſix, eight or ten to eighteen inches in height, unbranched. Leaves few, tender, ſmooth, ending in a point; the upper ones ſmaller. Peduncles axillary, few-flowered, ſometimes one-flowered, ſome inches long, forming a thin ſpike, all directed to one ſide. Corollas blue, ſometimes white, ſhort and ſwelling. Calyx capillary[a].

Native of the mountains of Switzerland, Dauphiné, Carniola, and Italy on Mont Cenis.

Introduced in 1775, by Doctors Pitcairn and Fothergill. It flowers in july[b].

β. The variety obſerved by Alpinus near Baſſano, and by Arduini on monte Somma and other mountains of Italy, has the leaves very much acuminated, and the ſerratures diſtant; the flowers are in a nodding raceme: the leaflets of the calyx have often two acuminate ſerratures on each ſide: the piſtil is longer than the corolla[c].

12. Stems extremely ſimple: the leaves have one ſerrature on each ſide.

13. This and the foregoing ſort were found at the Cape of Good Hope by Thunberg.

14. Differs from the *capillacea* in having hiſpid capſules, and the calyx the length of the corolla.—Found alſo at the Cape by Thunberg.

15. This ſpecies has the air of a *Lobelia*, the ſame tenderneſs, divided in the ſame manner, and even the ſame infloreſcence. Perianth three or five-leaved, leaflets ovate, obtuſe, permanent: corollas very ſmall, purpliſh-white, twice as long as the calyx, funnel-form, tube round, gradually widened, ſegments erect. It varies with the calyx and corolla three and five-parted, and even with three and five ſtamens: the capſule alſo is two-celled[d]. Native of Madeira; found there by Mr. Francis Maſſon. Introduced in 1777. It flowers in july and auguſt[e].

16. This pours out a milky juice when wounded. The root is whitiſh and perennial. Stems herbaceous, annual, weak, hardly branching, bearing one or very few flowers. In gardens it becomes branching and many-flowered. The root-leaves are kidney-form roundiſh; the peduncle elongated and ſmooth; the corolla blue. It flowers the whole ſummer, and was firſt obſerved on the Carpathian alps by Fr. Joſ. Lipp[f]. It was introduced in 1774, by Joſ. Nich. de Jacquin, M. D.[g]

It is obſerved by Mr. Curtis, that it is yet ſcarce in our gardens, but deſerves to be more generally known and cultivated; its flowers in proportion to the plant, being large and ſhowy; and, like many other Alpine plants, being well ſuited to decorate rock-work, or ſuch borders of the flower-garden as are not adapted to large plants.

17. The whole plant is very ſmooth. Root perennial white, fuſiform, the thickneſs of a finger and branched. Stems few, erect or aſcending, ſimple, round, a foot high, leafy all over, annual, terminated with one handſome flower, but without ſcent, nodding a little; with ſometimes one or two flowers more from the upper axillas. Leaves irregularly ſcattered, ſeſſile or on very ſhort petioles, ovate or ſublanceolate, ſhort and ſharply ſerrate: ſometimes a few of the leaves, and at others all of them are in threes. Corolla two inches in diameter or more, very deep blue with numerous blue veins; elegantly pear-ſhaped before expanding, and at firſt green. No holes in the capſule. It flowers in june and the beginning of july, and ripens its ſeeds in auguſt[h].

The flowers being of the ſame form as in the foregoing ſort, it is doubted in the ſupplement of Linneus whether it be any thing more than a variety of it; but the leaves are never cordate.

Native of Siberia. Introduced in 1782, by Mr. John Bell. It flowers in july[i].

18. Stems panicled, growing cloſe to the rocks. Leaves lanceolate, ſmooth. Calyx ſuperior, coloured. Tube of the corolla diſtant from the calyx; ſegments linear, reflex. Diſcovered in the iſland of Madeira by Maſſon[k]. Introduced in 1777. It flowers in auguſt and ſeptember[l].

19. This very much reſembles *Lobelia tenella.* Stem determinately branched and hard: branches ſimple, and covered with leaflets. Leaves alternate, rather crowded, ſeſſile, minute, ſubimbricate, gloſſy, obtuſe, channelled; in the boſom of theſe are ſmall leaflets, much reſembling them, which are a kind of rudiments of ſmall branches. Peduncles from the top of the branches, one-flowered, lateral, longer

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[s] Hort. kew.
[t] Linn. mant.
[u] Hort. kew.
[x] Linn.
[y] Gmelin.
[z] Hort. kew.
[a] Haller.
[b] Hort. kew.

[c] Linn. ſpec.
[d] Linn. ſuppl.
[e] Hort. kew.
[f] Jacquin.
[g] Hort. kew.
[h] Jacquin.
[i] Hort. kew.
[k] Suppl.
[l] Hort. kew.

than the leaves. Calyx gloſſy, acute. Corolla five-parted. The leaves are ſeldom without a lateral tooth. Found at the Cape, by Thunberg[m].

20. This is a plant difficult to be diſtinguiſhed, unleſs by the pores, ſcarcely diſtinguiſhable by the naked eye, which penetrate into the ſtem, not downwards but upwards. Stem round, a foot high, erect; branches numerous, erect, ſhort. The upper leaves linear, even, quite entire. Racemes terminal, erect. Flowers ſmall, leſs than thoſe of n. 4., rather erect. Calyx ſhorter by half than the corolla, even; with lanceolate ſegments[n].

21. Stem a foot and half high, erect, filiform, gloſſy, ſomewhat branched at top. Leaves ſeſſile, reflected at the edge, ſubdecurrent, repand, ſomewhat gloſſy. Peduncles terminal, long, leafleſs. Flowers the ſize of the fourth ſpecies. Calyx gloſſy, with ſhort, acuminate teeth. Thunberg diſcovered theſe two at the Cape[o].

22. Stem three feet high and more, angular, ſmooth, not branching. Leaves ſharply ſerrate, on ſhort petioles, hirſute. Flowers axillary, one or two together, on peduncles ſhorter than the leaf. Calyx ſmooth, with broad triangular ſegments. Corolla very large, blue, the ſegments triangular, divided by a line. The fruit obliges the peduncle to bend down with its weight. Oeder has very well expreſſed the coaleſcing claws of the ſtamens[p].—The peduncles have two ſubulate bractes about the middle. The ſegments of the calyx are a little ſerrate. Corolla oblong-ovate, with five angles; the ſegments ſhallow. Nectary fleſhy, purpliſh, woolly. Anther woolly, twice as long as the filaments. The whole plant abounds with a milky liquor[q]. It varies with purple, and with white flowers. It grows naturally in the northern parts of England, in Flintſhire, Scotland, Denmark, Sweden, Switzerland, Piedmont, &c. flowering in july and auguſt; and is perennial.

Johnſon ſays that it was kept by Gerarde in his garden, as alſo by Parkinſon in his: but that he found it in the year 1626 in great plenty, upon the banks of the river Ouſe in Yorkſhire, as he went from York to viſit Selby, the place where he was born.

23. This is in many reſpects like *C. Trachelium* (n. 28.): the lower leaves are on long petioles and ſerrate; the upper ones ſtem-claſping: the ſtem is ſimple, or only branched at top. But the whole is more ſoft: the ſtem purple, ſmooth, ſlightly hairy: flowers from the axillas, ſolitary, on long peduncles, large, nodding all one way in a ſpike at the top of the ſtalk. The throat of the corolla is not very hairy. The root creeps prodigiouſly, and is ſaid to be eſculent. M. De Sauſſure found a variety with leafy ſpikes[r].

Native of France, Germany, Auſtria, Switzerland, Piedmont, &c. Ray remarked it about Geneva, towards Gex, and on Mont Saleve. It affects a dry ſoil, and flowers in july and auguſt. Perennial. Cultivated 1683, by Mr. James Sutherland[s].

24. The ſtem has the air of *Verbaſcum nigrum*. Leaves ſtem-claſping, lanceolate, ſerrate. Flowers in a very long thyrſe: peduncles generally three-flowered[t]. Root large, woody, like that of Navew. Stem three feet high and more, erect, with many aſcending, conjugate branches. Leaves ſtem-claſping, almoſt cordate, villoſe with a white nap beneath, but not rough, moderately ſerrate; the ſame under the flowers, which come out on almoſt naked branches, and at the top of the ſtem, the lower ones on erect, ſhort peduncles, three together, the upper ones ſeſſile in the axillas ſolitary or two together, at the top of the ſtem very numerous but ſmall, forming a ſpike. They are of a violet colour. Calyx hairy, with lanceolate ſegments. Tube of the corolla angular, brim not entirely ſemiquinquefid; ſegments lanceolate, divided by a line. Filaments and piſtil hairy[u]. Stem round. Nerves of the leaves underneath pubeſcent with ferruginous wool. Flowers in a long, ſtiff, panicle. Peduncles three to five-flowered; the upper one-flowered. Calycine ſegments erect, double the length of the germ[x]. It has the appearance, according to Scopoli, of *C. pyramidalis*. Native of Bologna, monte Baldo, Auſtria, Switzerland, Piedmont. Perennial. Introduced 1773, by John Earl of Bute[y].

25. Like *Phyteuma hemiſphærica*, but larger. Root of many tufts. Leaves very narrow like Graſs, ciliate at the baſe; ſtem-leaves almoſt ſtem-claſping, and preſently ſubulate. Stems extremely ſimple, ſcarcely longer than the leaves. Flowers faſcicled into a head, with ovate bractes ſubulate at top. Stigma bifid[z]. Native of Italy, in the mountains of Abruzzo near Salmone, and monte Vergine.

26. Found at the Cape by Thunberg.

27. Stem branching, a hand high, and hiſpid, more branching at top. Leaves alternate, linear, acuminate, ciliate, eſpecially the midrib. Calyxes ſubſeſſile, terminal, linear, with the keel ciliate. Corolla funnel-form. Stigma trifid. Annual. Obſerved at the Cape by Sparrman[a].

28. Root perennial. Stems from two to three feet in height, upright, ſtiff, hairy, angular, the angles membranaceous, putting out a few ſhort ſide branches. Leaves reſembling thoſe of the great Nettle, but rather ſhorter and broader, alternate, ovate, cordate, pointed, hairy, deeply toothed, ſometimes having two or three lobes: petioled, except the upper ones, which are ſeſſile. Peduncles alternate, axillary, trifid and three-flowered. The number of flowers however varies from one or two to three, four and even five. They are large and nodding. Bractes oblong, ſerrate. Calyx angular, acute, hiſpid. Corolla pale or deep blue, purple or white, ſpreading very much, hairy within, the ſegments triangular, divided by a hairy line. Capſule villoſe, rugged, three-celled, and perforated by three holes. When the corolla is double, there are no ſtamens or nectary. The whole plant contains a juice of a dirty yellow colour. Beſides the common varieties, Haller mentions a monſtrous one, with the corolla and calyx imperfect, and the leaves collected into a head[b].

Native of moſt parts of Europe, and of Japan, in woods and hedges; flowering in july and auguſt.

29. Root perennial. Stem upright, angular, hairy, commonly ſomewhat rugged, but ſometimes ſmooth, from ſix to eighteen inches in height but varying from two and even three feet in ſtrong ſoils, down to two inches in lofty dry ſituations; ſeldom or ever branched, unleſs when it is eaten down by cattle. The bottom leaves are cordate-oblong, on long winged petioles; the upper ones are lanceolate and ſeſſile or half-ſtem-claſping; all ſerrate, rough, pale but not hoary underneath, commonly blunt, ſometimes rather acutely pointed. From the axils, towards the upper part of the ſtalk come out long naked peduncles, ſupporting two or three flowers, cloſely joined together, and the main ſtem is terminated by a larger cluſter of five or ſix of the ſame flowers; except when the plant is dwarfiſh, and then it has ſometimes one flower only. Bractes ovate-lanceolate. Calyx hirſute. Corolla blue, purple, or white, five-cleft to the middle (ſometimes four-cleft), uſually villoſe on the inſide, and ſometimes on the outſide, with white hairs. Anthers ſlender, ſulphur-coloured. Stigma blunt. Style white or blue, pubeſcent. Capſule three celled, with three holes[c].

Native of moſt parts of Europe, in hilly and dry paſtures, particularly in a calcareous ſoil; flowering from june to ſeptember.

This plant is no contemptible ornament for rock-work or dry flower borders. A moiſt or rich ſoil makes it too luxuriant, and renders the flowers pale and degenerate[d].

β. The alpine variety has handſomer, larger flowers[e].

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[m] Suppl. [n] Ibid. [o] Ibid. [p] Haller. [q] Withering. [r] Haller. [s] Hort. kew. [t] Linn. mant. [u] Haller.

[x] Scopoli. [y] Hort. kew. [z] Linn. ſyſt. [a] Linn. ſuppl. [b] Linn. With. Lyons in Relh. Haller. [c] Relhan. Engl. bot. Woodw. in With. Krock. Linn. [d] Engl. bot. [e] Haller.

30. This reſembles the foregoing; but the root is biennial, the whole plant is more rugged and hiſpid, the ſtems are higher, the leaves much narrower, the flowers ſmaller, leſs open, and a little villoſe on the outſide. It is alſo a wood plant, whereas the other grows in open ſituations[f].

Native of Sweden, Denmark, Germany, Switzerland, Piedmont, Siberia; flowering in july and auguſt. The root is eſculent. Introduced in 1783, by William Pitcairn, M. D.[g].

31. Root large, woody, biennial; from which riſes a round tuft of rough broad ovate-lanceolate leaves, as in the Sedums. From the centre of theſe ſprings a ſtem eight or ten inches high, unbranched, covered with leaves and flowers, the leaves tongue-ſhaped, longer than the radical ones, equal to the whole ſtem; the flowers hirſute, white or yellowiſh white, long and ſlender, collected into one very long ovate-cylindric cloſe terminating ſpike, leafy at bottom but naked at top[h]. Sometimes the corolla is cut into four or ſix parts, and then there is a proportional number of ſtamens and two ſtigmas[i].

In Switzerland it is common in ſtony alpine meadows; on the lower mountains it is more rare. It was obſerved by Ray to grow plentifully on the higheſt tops of Jura. It is alſo a native of Germany, Hungary, Auſtria, Carniola, Savoy, and Dauphiné. It was introduced in 1785, by William Pitcairn, M. D. and flowers in july[k].

32. Stem upright, rough, hairy, from a foot to two feet in height, beſet with flowers from the top to below the middle, in alternate diſtinct bunches, with a leaf between each. The lower leaves are petioled, the reſt are ſeſſile; they are all bluntiſh, ſerrate, rugged on the upper ſurface, white with nap on the under. Corolla white[l], divided into five (ſometimes ſeven) ſharp ſpreading ſegments, twirling at the extremity[m].

It was firſt obſerved by Pona on monte Baldo, flowering in auguſt. It is a native alſo of Piedmont, Sileſia, *&c.*

33. Leaves oblong, rugged. Flowers ſolitary from the forks and ends of the branches, of the ſame ſtructure as in *C. Medium,* but only half the ſize; they are twice as large however as in *C. ſibirica*[n].]

34. Root biennial. Leaves oblong, rough, hairy, ſerrate, coming out without order from the root, narrowing into a petiole. From the centre of theſe the ſecond ſeaſon, ariſes a ſtiff, hairy, furrowed ſtalk, about two feet high, ſending out ſeveral lateral branches, with long, narrow, hairy, ſerrate, ſeſſile leaves, placed alternately. From the ſetting on of theſe leaves come out the peduncles, thoſe on the lower part of the ſtem and branches four or five inches long, diminiſhing gradually in length upwards, and thus forming a ſort of pyramid. The flowers are very large, and make a fine appearance; they are ſmooth, and the ſegments turn back at the end: they come out the beginning of june, and if the ſeaſon be not very hot, will continue a month in beauty. The ſeeds ripen in ſeptember, and the plants decay ſoon after.

It grows naturally in the woods of Germany, Auſtria, and Italy; and is cultivated in the Engliſh gardens for the beauty of its flowers, of which there are the following varieties: blue, purple, white, ſtriped, and double: but the two laſt are not very common in England.

[It was cultivated here in 1597[o].

35. Root perennial, (according to ſome, biennial) white, large, and woody, fuſiform or rather tuberous, two, three or more inches in length. The whole of the plant is villoſe. Root-leaves many (five to ten), oblong-lanceolate or tongue-ſhaped, bluntiſh, obſcurely crenulate, ſomewhat rugged, from two to three inches long and upwards, narrowing into flat petioles. From theſe ariſes a ſimple upright round ſtem, from ſix to eighteen inches in height, with very few ſeſſile leaves on it; and towards the top from three or four to five or ſix, and ſometimes ten or eleven flowers, forming a kind of looſe ſpike; they are large, ſolitary, nodding, alternate, and commonly all directed one way: the lower ones are on long peduncles, and the upper flowers on very ſhort ones. Corolla pale blue (ſometimes white), ſmoothiſh on the outſide, but within bearded with long white hairs. Calyx hiſpid with white hairs, covered in part with ears or appendicles turning downwards from the origin of its diviſions[p]. According to Haller, the fruit is five-angled, and has five obſcure grooves, but is three-celled.

Native of the mountains of Italy, Auſtria, Switzerland, Dauphiné, and Sileſia.

Introduced in 1775, by Doctors Pitcairn and Fothergill. It flowers in june and july[q].

According to the obſervations of Scopoli, it varies: 1. With one flower; the ſtem ſcarcely ſix inches high; the leaves entire; the calyx villoſe, only half the length of the corolla, deeply five-cleft, appendicled. This is the one-flowered variety of Haller, mentioned by Caſpar Bauhin (prodr. 37.) to be found by Burſer on the alps. 2. With two flowers. 3. With three flowers, the ſtem a foot high, and the leaves unequally notchletted. 4. With four flowers or more; well figured by Jacquin (Obſ. bot. 2. t. 37.), with many flowers on a ſtem.

36. Root biennial, the thickneſs of a finger, two or three inches long, fuſiform. Root-leaves linear-lanceolate, quite entire, rough, hairy: ſtem-leaves like them, but ſhorter and narrower. Stem a foot high (Krocker ſays, four, five, or ſix feet; according to Haller, very high), with white ſtiff hairs, like all other parts of the plant, and alternate branches, terminating in a very long looſe ſpike of many ſeſſile, alternate, remote flowers. Calyx hoary with white hairs. Corolla ſmall in compariſon of the plant, ſubcylindric, blue[r].

Haller obſerves, that it reſembles *C. Cervicaria* (n. 30.) ſo much, that it may ſeem doubtful whether it be really diſtinct, but that it is however probably a different ſpecies. The flowers, he ſays, are not in a few whorls, but one or two in each axil from top to bottom, within a boat-ſhaped leaf; the calyxes and bractes are wholly white with hairs; and the top of the ſtalk ends, not in a white umbel of flowers, but in a narrow point.

Theſe long ſpikes of flowers bear ſo much reſemblance to thoſe of *Echium,* that Monſ. Villars would have this ſpecies named *Campanula echioides.*

Allioni remarks, that it puts on a variety of appearances in very dry open ſituations at the foot of the Alps; where it has very rough linear leaves, with a curled waving edge, and flowers in a very long cloſe continued ſpike. In the county of Nice it has elliptic leaves, not curled about the edge, with flowers in an interrupted ſpike. But it has more uſually linear leaves, and flowers, though in a ſpike, yet interrupted, ſo as to form lateral heads, as it is repreſented by John Bauhin.

It is common both in the Upper and Lower Valais, about Chiavenna, and by the Lago Maggiore and Como, in the vineyards. Between Pignerolles and la Peroſa, and in the whole valley of Feneſtrelles, very common in dry open rocky ſituations. In Alſace between Sultz and Zenne. In Dauphiné, but not common. In Sileſia. It flowers in july. Introduced in 1786, by William Pitcairn, M. D.[s]

37. Root perennial, fuſiform. Stem abſolutely ſimple, ſmooth, a ſpan high, loaded the whole length with axillary, ſolitary flowers. Root-leaves oblong, lanceolate, blunt, growing wider towards the top, hirſute, entire: ſtem-leaves ligulate, ſmaller, ſeſſile. Peduncles upright, very long, with two bractes. Valves of the nectary ſemiovate, blue. Germ blue, three-cornered, ſemiovate, faſtened by its baſe to the bottom of the calyx; ſtigma trifid. Capſule

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[f] Villars, Allioni, Linn. [g] Hort. kew. [h] Haller. [i] Villars. [k] Hort. kew. 3. 486. [l] Krocker. [m] Seguier. [n] Linn. amoen. [o] Hort. kew. from Ger.

[p] Krocker, Scop. Haller. [q] Hort. kew. [r] Linn. Krock. [s] Hort. kew.

roundiſh, three-celled. Seeds browniſh, with a membranaceous edge[t].

Haller obſerves, that it much reſembles the *barbata* (n. 35.); that the ſtem however is ſcarcely nine inches high and ſmooth, producing one peduncle from each axil, with two narrow leaves and only one flower, which is nodding, ſhorter, wide, ſmooth and pale blue: calyx blue at the baſe, with five darker ſpurs, hairy, and the ſegments triangular.

On Schneeberg, Scheidegg, &c. alſo in Sileſia; flowering in july.

38. Stems decumbent, with few branches, rather ſtiff, villoſe. Leaves ſmall, ſeſſile, nearly entire, tomentoſe, pubeſcent. Flowers from the axils ſolitary, on long peduncles, ſix times as big as the leaves: calyxes large, naked, with reflex ſinuſes. In ſhort, it has the herb of *Antirrhinum molle*, the flowers of *Campanula Medium*, and the ſtature of *Campanula heterophylla*[u].

Native of Syria, Sicily, and Spain.]

39. The ſtalks riſe a foot high; the flowers are large, blue, nodding, alternate; they open in july, and are ſucceeded by five-celled capſules, filled with ſmall ſeeds. It grows naturally in Crete, upon rocks, where the roots penetrate the fiſſures, and the plants continue much longer than in gardens.

[Cultivated by Mr. Miller in 1768.

40. Root biennial. Stem a foot high, angular, a little hiſpid, ſtraight, undivided. Panicle thin, looſe. Leaves linear, half-ſtem-claſping; ſtem-leaves rugged. Flowers oblong, ſmall: peduncles generally three-flowered: calyxes hiſpid. There is a variety, with a ſubdivided ſtem, and broader leaves. Native of Siberia, Auſtria[x], and Piedmont. Introduced in 1783, by William Pitcairn, M. D. It flowers from july to ſeptember[y].

41. This has the root-leaves of *Statice reticulata*, lanceolate, wedge-form, having frequently three teeth at the end. Stem twice as long as the leaves, with ſome linear leaves on it. Flowers upright, rather large, ſolitary. Found in the Levant by Tournefort.

42. Root biennial. Stem two feet high, ſuffruticoſe, branched from the bottom. Lower leaves eight inches long and two inches and a half wide; thoſe on the branches two or three inches long and ſeſſile; the uppermoſt only four or five lines in length, ſlightly crenated and pointed. Flowers large, pale blue. Capſule five-celled, nine or ten lines in diameter. Found by Tournefort in the iſland of Policandro, and cultivated in the Paris garden from ſeeds ſent by him[z].

43. Stem eighteen inches high, rough with hairs. Root-leaves cordate or ovate, ſomewhat oblong, ſerrate, rough with hairs on both ſides, petioled: ſtem-leaves alternate, remote, ſeſſile, obtuſe, ſerrate-toothed, rough with hairs, narrower at the baſe. Flowers axillary, ſolitary, erect. Calyxes rough with hairs, covering the germ with their ſinuſes. Native of Syria and Paleſtine[a].

44. This is now made a diſtinct genus, under the name of *Canarina*.

45. This is ſhrubby, and a native of the Cape of Good Hope. It was introduced in 1787, by Mr. Francis Maſſon, and flowers here in auguſt[b].]

46. *Venus's Looking-glaſs* is an annual plant, which riſes with ſlender ſtalks a foot high. The flowers are of a beautiful purple, inclining to a violet colour, (ſometimes pale purple or white) and in the evening fold up into a pentagon figure, whence it is called *Viola pentagonia*. The calyx is compoſed of five narrow leaves, which ſpread open, turn back, and are much longer than the petals; theſe remain on the top of the priſmatic ſeed-veſſel, which is filled with ſmall angular ſeeds.

[The ſtem is tender, quadrangular, naturally procumbent, branched from the bottom at very great angles. Leaves ſeſſile, obovate, waved about the edge. Flowers axillary, erect, on very long peduncles. Corolla wheel-ſhaped, and ſo deeply five-cleft, that the ſegments, which are ovate, ſcarcely cohere. The filaments are not united by their claws. The capſule is longer and narrower than in the generality of the ſpecies; the ſeeds are ovate and ſhining[c].

Native of moſt of the ſouthern countries of Europe, among corn. It flowers from may to ſeptember.

Some authors make two ſpecies of this: one larger, which is Moriſon's Campanula ſive Pentagonia folio oblongo latiori; and another ſmaller, which is Campanula arvenſis minima of the ſame author; though he ſays that this grows wild in England, which muſt be a miſtake.

Johnſon on Gerarde, ſays that he had only ſeen ſome branches of it brought from Leyden, by his friend Mr. William Parker. It was cultivated in 1683, by Mr. James Sutherland[d].

47. This is alſo an annual plant. It differs from the foregoing in having the ſtem upright; it is very ſtiff and ſtraight, and ſcarcely ever branches any where but at bottom. The flowers are ſeſſile, three or four together, much ſmaller than in the other; the corollas frequently lurking in the rudiment and not unfolding[e]. To this we may add, that the ſegments of the calyx are broader, being oval-lanceolate, whereas in that they are ſubulate: it is permanent, crowning the ripe capſule[f].

Linneus ſuppoſes this to be a hybridous or mule plant, and the foregoing ſpecies to be the mother of it. The Engliſh name of Venus's Looking-glaſs, which is applied to both, is derived from the ſhining ſmoothneſs of the ſeeds. Our wild ſpecies is well deſcribed, and not ill figured by Johnſon in Gerarde. It is common in corn fields, in England, France, Switzerland, &c. flowering in june and july.

Haller has a larger and ſmaller variety of this alſo. To the firſt he gives the ſynonyms of Lobel and Tabernæmontanus; to the ſecond thoſe of Linneus and Moriſon, C. arvenſis minima erecta, *hiſt. oxon. n.* 22.

48. Root-leaves petioled, but not rigid. Stem with very ſimple, wand-like branches, and linear or ſubulate leaves. Flowers remote, axillary, with bractes the length of the germ. Native of the Levant[g].

49. This is a ſmall plant, a hand or not more than ſix inches in height, with a ſimple white root. The ſtem is ſlender, weak, ſhrubby with frequent branches. Leaves a finger's length, narrow, the breadth only one third of the length, ſeſſile; the lower ones broader, reſembling thoſe of Gratiola and Hyſſop, the upper ones narrower and ſharp. Flowers at the ends of the ſtem and branches, twice as large as in C. Speculum Veneris, and of a paler purple, the bottom or eye white, but leſs ſo than in that; a broad blue band ſurrounds the eye, and the edges are purple. The flowers are more concave and bell-ſhaped than in our common garden ſort, and the ſegments are not ſo deeply cut. The leaflets of the calyx are narrow, oblong, ſharp, ſpreading but not revolute, and ſometimes have little briſtles at the edges. The flowers before they open are folded up, like the other ſorts, and have five wings like the feathers of a ſhaft; and hence the name *Pentagonia*; they ſit upon a ſquare oblong capſule, at the baſe of which are two oppoſite leaves; and from the axils of the leaves come out two branchlets. The ſeeds are round, large, and ſhining[h].

Linneus ſays, that with him the flowers were generally mutilated or imperfect.

Ray cultivated this plant before the year 1686. He informs us, that the ſeed was collected in Thrace by Mr. Covill of Cambridge, and that it was given to him by his old friend Mr. Dent, an apothecary and excellent botaniſt there.]

50. This is an annual plant, which in good ground, will riſe a foot and half high, but in poor ground, or where it grows wild among corn, ſcarcely

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[t] Krock, Linn. [u] Linn. ſpec. [x] Linn. [y] Hort. kew. [z] Tourn. voy. [a] Linn. [b] Hort. kew.

[c] Haller. [d] Hort. kew. [e] Linn. ſpec. [f] Withering. [g] Linn. ſpec. [h] Ray hiſt.

riſes to the height of ſix inches. The ſtalk is ſingle, rarely putting out any branches, unleſs near the root, whence ſometimes one or two ſhort lateral branches are produced. The leaves are roundiſh and ſtem-claſping, ſharply ſerrate at the edge, and from their baſe comes out a cloſe tuft of flowers, ſurrounded with a leaf as with the calyx. The flowers are five-cornered and ſhaped like thoſe of C. Speculum Veneris, but much ſmaller; they are produced the whole length of the ſtalk.

[Linneus obſerves, that it is very diſtinct from its congeners; the ſtem being commonly upright without branches; the leaves cordate, crenate, alternate; flowers three, commonly ſeſſile, within each axil; all, except the terminating one, generally mutilate[i].

Ray remarks, that the ſimple woolly angular ſtem is higher than that of C. Speculum Veneris and Pentagonia, being a long ſpan or about nine inches in height; that the leaves on the ſtem are frequent, an inch broad and roundiſh; that there are commonly three flowers, ſeldom four, from each axil, not ſpreading ſo much as in C. Speculum Veneris, but with rounder ſegments, and of a paler colour: the ſegments of the calyx are broader; and the ſtem ſometimes puts forth branches.

Native of North America. Cultivated in 1680; and flowers in june[k].

51. Root annual. Stem round. Leaves long-pointed. Branchlets from the axils generally ſimple. Stem, leaves and calyx hirſute. Peduncle ſometimes a foot long. Corolla blue. Capſule three-celled. Native of the Cape of Good Hope; flowers in auguſt and ſeptember, ripens its ſeeds in october, and then dies[l].

52. Root perennial. Stems many, procumbent, round, generally ſimple, from the fiſſures of rocks. Leaves alternate, petioles longer than the leaves in the bottom ones, but ſucceſſively ſhorter up the ſtem, cordate, acuminate, aſh-coloured, but paler beneath. Racemes three or four-flowered, axillary; ſometimes in the lower ones branched, but uſually ſimple. Flowers purple, half-five-cleft, the ſegments lanceolate, revolute. Calyx half-five-cleft, ſpreading; the ſegments not appendicled. All the flowers except the extreme one have a linear bracte. An axillary raceme terminates the ſtalk. The whole plant is pubeſcent with ſoft hairs, and is very milky. At the foot of the Alps, in the country of the Valdenſes or Vaudois, in rocky, ſhady ſituations[m].

53. Root perennial, fibrous, ſlender, creeping. Stems procumbent, filiform, trailing, matted together, and covering ſpots of a foot diameter. The whole herb pale, tender, delicate, and ſmooth, except a very few ſcattered hairs occaſionally found on ſome of the leaves; the lower of which are heart or kidney-form, and nearly entire. Peduncles long, filiform, ſolitary, either terminating or axillary. Segments of the calyx pointed and entire. Corolla pale blue, ſlender, oblong. Filaments longer than the anthers[n].

Linneus has a ſuſpicion that this is a hybrid plant, produced from one of the Campanulas impregnated by *Veronica hederifolia*. The reaſon he gives is, that the leaves are quite foreign to thoſe of others in this genus; yet ſurely they reſemble much more the root-leaves of *Camp. rotundifolia* than thoſe of *V. hederifolia*[o].

Native of England and Wales, Denmark, France, and Spain, in moiſt ſhady places. It was firſt diſcovered to grow in this country, ſays Johnſon in Gerarde, by Mr. George Bowles in 1632, who found it in Montgomeryſhire; in Cornwall and Devonſhire it is common. In Bagley-wood near Oxford. Near Baly, Maresfield, *&c.* in Suſſex; near Sheffield and Halifax in Yorkſhire. And on Epping Foreſt. Said to be common in the weſtern counties and many parts of Wales. It flowers from may to auguſt.

54. See *Lobelia Erinus.*

55. Root perennial, white, ſweet, and full of milk. Lower leaves like thoſe of the Daiſy, diſpoſed in a ring, browniſh green, ſhining, two inches and a half long, and half an inch wide: thoſe on the ſtem are more like thoſe of *Nummularia*, fleſhy, ſmooth, bright green, eight or nine lines in length, terminating inſenſibly in a point, on a very ſhort petiole, frequent, alternate. Stems eight or nine inches long, a line in thickneſs, milky, and full of white pith. Flowers axillary, ſeven or eight lines long, and four or five wide, pale blue. Calyx five lines in length, and three in width, pale green. Fruit three-celled, filled with browniſh red, poliſhed, oval ſeeds, the third of a line in length. The whole plant is inſipid[p].

According to Linneus, the leaves are obovate, pubeſcent, waved at the end; the ſtem branches alternately; and the flowers pendulous[q].

Native of the Levant. Found by Tournefort in the deſert iſle of Cheiro.

56. This is a low annual plant, ſeldom riſing ſix inches high, but dividing into many branches. [Root white, ſimple, with few fibres. Leaves alternate, but where the branches come out two oppoſite, very deeply toothed. Flowers ſmall, pale blue[r].] They are produced at the ends of the branches, are ſhaped like thoſe of C. Speculum Veneris, but their colours are leſs beautiful, and the leaflets of the calyx are broader.

[Villars remarks, that the whole plant is villoſe, and that it has rather the air of an annual Veronica than of a Campanula: it agrees however, as Linneus obſerves, in all reſpects with the Campanulas.

Native of Spain and Portugal, Italy, Sicily, and the South of France. Moriſon obſerved it in Poitou near Rochelle; Ray about Montpellier and Meſſina; Villars near Vienne, Valence, Montelimar, *&c.*; Allioni in the county of Nice; and Loefling at Oporto and St. Ybes. It was cultivated by Mr. Miller in 1768; and flowers in july and auguſt[s].

57, 58, 59, 60. Theſe were found at the Cape of Good Hope by Thunberg[t].

61. Root perennial. Stems many, ſtraight. Leaves in fives or ſixes, lanceolate, ſerrate. Whorls of flowers uſually five, very remote; peduncles ſomewhat branching, with a linear upright ſtipule at the baſe. Calyxes ſmall, ſimple; the ſegments briſtle-ſhaped; corollas ſmall, pale blue; ſtyle double the length of the corolla. Native of Siberia; flowering in june[u]. Introduced in 1783, by Mr. John Bell[x].

62. This is a tender plant, found in moiſt places, near the Cape of Good Hope by Thunberg[y].

63. Root fuſiform. Stem herbaceous erect, the whole ſmooth. Leaves ſeſſile, acute, entire, reflected at the edge, expanding, ſmooth, an inch long. Flowers axillary, peduncled. Peduncles capillary, one-flowered, ſeldom divided, three times the length of the leaves. It flowers in ſeptember[z].

64. Stem obſcurely angular, jointed, ſmooth, ſimple at bottom, panicled at top, two feet high. Branches four, oppoſite and alternate, wand-like, diffuſed, obſcurely four-cornered, floriferous, ſmooth; the upper ones ſhorter, capillary. Leaves ſeſſile, attenuated towards the baſe, acute; green above, pale beneath with the midrib raiſed; ſmooth, erect, an inch or more long, the length of the internodes. Flowers on the branches racemed, drooping. Bractes ſetaceous, ſmooth. Racemes many-flowered, on capillary peduncles, half an inch in length. Perianth permanent, decurrent. Corolla whitiſh. Anthers linear. Style double the length of the corolla: ſtigma trifid[a].

65. Stem underſhrubby, ſmooth, erect, two feet high. Branches very angular, flexuoſe, erect, ſubfaſtigiate, ſmooth. Leaves ſcattered, acute, ſerratures argute, the edge a little reflected; above green, beneath glaucous, ſcabrous, netted; the lower ones larger, expanding; the upper gradually leſs, erect, about an inch in length. Flowers axil-

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[i] Spec. and hort. cliff.
[k] Hort. kew.
[l] Commelin.
[m] Allioni.
[n] Engl. bot. With. Ray.
[o] Engl. bot.

[p] Tournef. voy. du Levant.
[q] Syſt.
[r] Ray.
[s] Hort. kew.
[t] Linn. ſuppl.
[u] Pallas.
[x] Hort. kew. 3. 486.
[y] Linn. ſuppl.
[z] Thunb.
[a] Ibid.

lary on the tops of the branches. Peduncles erect, bracted, an inch long. Bractes one or two on a peduncle, alternate, lanceolate, reſembling the leaves. Calyx ſubangular, glaucous; diviſions lanceolate, reflex. Corolla large, blue. It flowers in july and auguſt; and is cultivated in Japan.

66. Stem thick at the baſe, rather woody, decumbent. Branches very many, capillary, rather erect, with a very few ſubdiviſions, ſtriated, ſmooth, a ſhort ſpan in length. Leaves on the lower part of the branches ſeſſile, alternate, white-edged; ſerrature remote, hiſpid with white hairs, half an inch long.—By road ſides; flowering in may and june[b].

Theſe four were diſcovered in Japan by Thunberg.

67. Native of New Zealand and New Caledonia[c].

68. This very elegant Campanula has a few leaves at the bottom, rather erect, on petioles the length of the leaves, and grooved within. The leaves are drawn to a point at each end, have on each ſide two or three ſharpiſh teeth, are of a deep green, roughiſh, rather firm and not juicy. The little ſtem is erect, rather firm, round, ſmooth, half a finger high. Flower erect: calyx ſmooth, five-cleft beyond the middle, the ſegments lanceolate-linear, not reflected, nor expanded, nor appendicled. Corolla blue.

Native of Piedmont. Perennial[d].

69. Radical leaves very many, petioled, decurrent, acute, ſhortly toothed or rather notched, nerved beneath, finely and thinly haired ſo as to ſeem almoſt ſmooth. Stem round, a ſhort ſpan in height. Calyx livid, five-cleft beyond the middle; ſegments lanceolate, not reflex. Corolla ſpreading. Native of Piedmont. Perennial[e].

70. Many ſtems and ſhoots form a tuft. The ſhoots have only ovate, acuminate, toothed, petioled leaves; they flower the ſecond year, are a ſhort ſpan in length, and branching; the branches lax, ſlender, bearing few flowers: leaves at the baſe imbricate, lanceolate, ſeſſile, ſcattered, dotted beneath, above the middle moderately concave, toothed: teeth terminating in a reddiſh gland. A third part of the ſtem is covered with theſe; the reſt are linear, quite entire, and more remote. The flowers nod: corolla deep blue, half an inch long and four lines over, form oval wider below than at the edge; with three lines on each ſegment. Diviſions of the calyx the length of the ſegments of the corolla, erect, not toothed, ſlender and very ſharp. Germ very ſmooth, ten-angled, the angles alternately thicker. Haller took it for a variety of *C. alpina*. In dry rocky mountains, flowering the beginning of auguſt[f].

Very nearly allied to the *rotundifolia*. Perennial.

Native of Switzerland, Dauphiné, Carniola, Piedmont.

Bellardi found a variety of this with all the leaves lanceolate[g].

71. Root perennial. Very nearly allied to *C. linifolia* of John Bauhin, but the leaves are rather ſtrigoſe, hirſute, broader, and toothed[h].

It ſeems to be the intermediate link between the *rhomboidea* and *uniflora*. Haller has united it to the latter. The root is ſmall, and throws out one or two ſtems only two or three inches high, often bending to one ſide and arched. Stem-leaves oval oblong and linear. A ſingle flower at the top is deep blue or almoſt black, more lengthened out than in the ſpecies that moſt reſemble it[i].

Native of Piedmont and Dauphiné.

72. Root perennial. Plant entirely ſmooth. Stem three feet high, ſimple, ſtreaked, round. Leaves ſoft, ovate-lanceolate, unequally and ſharply toothed. Each axil produces a flower on a ſhort peduncle. Towards the top the flowers are nearer each other, and have linear bractes. Calyx five-cleft beyond the middle, with narrow ſegments, not reflex. Corolla and calyx nearly equal. Native of Italy, in woods[k].

73. Root perennial, creeping. Stems only two or three inches in height, having at top a ſingle flower, which hangs down, is a little villoſe, ſhorter than in *C. barbata*, but wider and more puffed out; calyx rough, the ſegments reaching to the middle of the corolla, and having ſmall appendages at the baſe. Root-leaves, which appear the firſt year, ſmall, blunt, and almoſt round; thoſe which come afterwards are longer; the bottom ſtem-leaves are ſtill longer, pointed, and a little waved on the edge, they are all roughiſh, and ciliate on the edge with ſmall ſtiff hairs[l].

Haller gives this as a variety of *C. barbata* (n. 35.). Allioni is perſuaded that it is a diſtinct ſpecies; and ſays, that he has found a one-flowered variety of that on Mont Cenis, but differing entirely from this in not having the leaves acute. *C. alpeſtris* is ſeldom, if ever, many-flowered. It grows on the very high Alps; and on Mont Cenis varies with a white flower[m]. According to Villars, it does not keep to the high Alps, among the turf, as the *barbata* does, but is frequently found in looſe ground, among ſhattered rocks, and in and about torrents which carry it down into lower ſituations. Add to this, that the *barbata* is biennial, and puſhes up only one ſtem or at moſt two; whereas this, from a perennial root, puſhes up ſeveral ſtems, which creep on every ſide. It is not always one-flowered, but then the flowers are axillary, upright, and not hanging down at the extremity of the ſtem, as in the *barbata*.]

74. This has many ſtiff oblong leaves coming out from the root on every ſide, which form a ſort of head like thoſe of Houſeleek, crenate, having a ſtrong rib running on their border longitudinally. From the center of the plant proceeds the ſtalk, which riſes about a foot high, and is thinly garniſhed with very narrow ſtiff leaves, of a ſhining green. From the wings of the leaves come out the peduncles, which are from two to four inches long, each being terminated by one ſpreading bell-ſhaped flower, whoſe calyx is ſhort, and cut into five acute ſegments. The ſtyle of this is longer than the petal, and is crowned by a bifid ſtigma. There is a white and a blue flower of this ſort in the gardens, but in Holland they have it with a double flower.

It is a native of North America, and has been long known in the gardens both of Holland and England. [Mr. Miller cultivated it in 1743. It flowers in july[n].

75. The ſtems are a little ſhrubby at the baſe[o]. Native of the Cape of Good Hope, where it was found by Mr. Francis Maſſon. Introduced in 1787. It is an annual, and flowers in ſeptember[p].

76. This is a very beautiful plant, but extremely brittle, abounding in milk, commonly quite ſmooth, bright green and lucid, but ſometimes lanuginous; it has a handſome head of flowers. The root is perennial and brown. The root-leaves are crowded, and kidney-form, with about eight ovate notches on the edge; petioles grooved, from an inch to two inches in length: ſtem-leaves alternate, ovate-lanceolate, with ſmaller notches: floral-leaves or bractes lanceolate-ovate, quite entire. Stems numerous, crowded, weak, hanging from the clefts of the rocks, branching towards the middle. Flowers two, three or more from the ends of the branches: ſegments of the calyx lanceolate, acute, rendered angular by a ridge along the back of each: corolla large, bright blue, flat with a very ſhort tube, and ſharp ſegments deeply cut: the nectariferous ſcales have the edge rough with hairs[q].

Native of the kingdom of Naples, eſpecially on the coaſt of the bays of Salerno and Amalfi. Firſt obſerved by Ray, then by Barrelier, and finally by Cyrilli and his family.

77. Root biennial. Stem upright, ſtreaked, a foot or more in height, ſcarcely leafy, with ſpread-

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[b] Thunberg. [c] Forſter. [d] Allioni. [e] Ibid. [f] Scopoli. [g] Allioni. [h] Ibid. [i] Villars. [k] Allioni.

[l] Villars. [m] Allioni. [n] Hort. kew. [o] L'Heritier. [p] Hort. kew. [q] Cyrilli.

ing branches. Leaves radical, petioled. Flowers remote, commonly two together, blue, with a bracte under them the length of the germ: ſegments of the calyx acute; thoſe of the corolla lanceolate, cut almoſt to the baſe. Capſule turbinate, angular, three-celled, with three holes opening laterally.

It differs from *C. limoniifolia* in having the corolla ſo deeply cut, whereas in that they are divided only half way; the leaves alſo are toothed and ſomewhat rugged.

Native of Mount Libanus[r].

78. Stem herbaceous, procumbent, ſubdivided, very much branched; the ſmall branches creeping. Leaves oblong-ovate, quite entire, ſmall, hairy, oppoſite. Flowers white, ſeſſile, axillary, ſolitary: calyxes acute, upright; corollas ſmall, with rounded, acuminate ſegments; ſtigma trifid. Capſules roundiſh-three-cornered, hairy, three-celled, one-ſeeded. Native of Cochinchina[s].]

PROPAGATION AND CULTURE.

6. *Rampion* is propagated by ſeeds, which ſhould be ſown in a ſhady border the latter end of may, and when the plants are about an inch high, the ground ſhould be hoed, as is practiſed for Onions, to cut up the weeds, and thin the plants to the diſtance of three or four inches; and when the weeds come up again, they muſt be hoed over to deſtroy them: this, if well performed in dry weather, will make the ground clean for a conſiderable time, ſo that being three times repeated, it will keep the plants clean till winter, which is the ſeaſon for eating the roots, when they may be taken up for uſe as they are wanted. Theſe will continue good till april, at which time they will ſend out their ſtalks, when they will become hard and unfit for uſe, as do alſo thoſe roots which have flowered; the young roots only are fit for the table, when the ſeeds are ſown too early, the plants frequently run up to flower the ſame year, and the roots are ſpoiled.

7. The *Peach-leaved Bell-flower*, and all the other hardy perennial ſorts, which are very numerous in this genus, are eaſily propagated by parting their roots in autumn, at which time every head that is ſlipped off will grow. They will thrive in any ſoil and ſituation; and are proper furniture for the common borders of the flower-garden and ſhrubbery.

8. Thoſe plants of the *Pyramidal* or *Steeple Bell-flower* which are trained for adorning halls and chimnies are ſeldom fit for the purpoſe the following ſeaſon; a ſupply of young plants therefore ſhould be annually raiſed. The common method of doing this is by dividing the roots; and the beſt time for doing it is in ſeptember, that the offſets may have time to get ſtrong roots before winter.

This method of propagating by the offſets is the quickeſt, therefore generally practiſed, but the plants which are raiſed from ſeeds, are always ſtronger; the ſtalks will riſe higher, and produce a greater number of flowers; therefore I recommend it to the practice of the curious; but in order to obtain good ſeeds, there ſhould be ſome ſtrong plants placed in a warm ſituation, near a pale, or wall, in autumn; and, if the following winter ſhould prove ſevere, they ſhould be covered either with hand-glaſſes or mats, to prevent their being injured by the froſt; and, in the ſummer, when the flowers are fully open, if the ſeaſon ſhould prove very wet, the flowers muſt be ſcreened from great rains, otherwiſe there will be no good ſeeds produced: the not obſerving this, has occaſioned many to believe that the plants do not bear ſeeds in England, which is a great miſtake, for I have raiſed great numbers of the plants from ſeeds of my own ſaving; but I have always found that the plants which have been long propagated by offſets, ſeldom produce ſeeds, and this is the caſe with many other plants which are propagated by ſlips, or cuttings, which in a few years become barren.

When the ſeeds are obtained, they muſt be ſown in autumn in pots, or boxes, filled with light undunged earth, and placed in the open air till the froſt or hard rains come on, when they ſhould be placed under a hot-bed frame, where they may be ſheltered from both, but in mild weather the glaſſes ſhould be drawn off every day, that they may enjoy the free air; with this management the plants will come up early in the ſpring, and then they muſt be removed out of the frame, placing them firſt in a warm ſituation; but when the ſeaſon becomes warm, they ſhould be removed where they may have the morning ſun only. During the following ſummer they muſt be kept clean from weeds, and in very dry weather, now and then refreſhed with water, which muſt be given with great caution, for the roots are very ſubject to rot with too much moiſture. In ſeptember the leaves of the plants will begin to decay, at which time they ſhould be tranſplanted; therefore there muſt be one or two beds prepared, in proportion to the number of plants. Theſe beds muſt be in a warm ſituation, and the earth light, ſandy, and without any mixture of dung, which laſt is an enemy to this plant. If the ſituation of the place is low, or the natural ſoil moiſt, the beds muſt be raiſed five or ſix inches above the ſurface of the ground, and the natural ſoil removed a foot and a half deep, putting lime rubbiſh eight or nine inches thick in the bottom of the trench, to drain off the moiſture. When the beds are prepared, the plants muſt be taken out of the pots, or caſes, very carefully, ſo as not to break or bruiſe their roots, for they are very tender, and, on being broken, the milky juice will flow out plentifully, which will greatly weaken them. Theſe ſhould be planted at about four inches diſtance each way, with the head or crown of the root half an inch below the ſurface; if there happens a gentle ſhower of rain ſoon after they are planted, it will be of great ſervice to the plants; but as the ſeaſon ſometimes proves very dry at this time of the year, in that caſe, it will be proper to give them a gentle watering three or four days after they are planted, and to cover the beds with mats every day, to prevent the ſun from drying the earth; but theſe muſt be taken off in the evening, that the dew may fall on the ground. Towards the end of october the beds ſhould be covered over with ſome old tanners bark to keep out the froſt, and where there is not conveniency of covering them with frames, they ſhould be arched over with hoops, that in ſevere froſts they may be covered with mats; for theſe plants, when young, are often deſtroyed in winter, where this care is wanting. In the ſpring the coverings muſt be removed, and the following ſummer the plants muſt be kept clean from weeds; and, if the ſeaſon ſhould prove very dry, they muſt now and then be refreſhed with water. The following autumn the ſurface of the ground ſhould be ſtirred between the plants, and ſome freſh earth ſpread over the beds, and in the winter covered as before. In theſe beds the plants may remain two years, during which time they muſt be treated in the manner before directed; by which time the roots will be ſtrong enough to flower: in ſeptember they ſhould be carefully taken up, and ſome of the moſt promiſing planted in pots; the others may be planted into warm borders, or in a freſh bed, at a greater diſtance than before, to allow them room to grow. Theſe plants which are potted ſhould be ſheltered in winter from great rains and hard froſts, otherwiſe they will be in danger of rotting, or at leaſt be ſo weakened, as not to flower with any ſtrength the following ſummer; and thoſe which are planted in the full ground, ſhould have ſome old tanners bark laid round them, to prevent the froſt from entering deep to the roots; with this management theſe plants may be brought to the utmoſt perfection, and a conſtant ſucceſſion of good roots raiſed, which will be much preferable to thoſe which are propagated by offſets. I have been informed that there is a double flower of this kind, but as I have not ſeen any, I can give no farther account of it.

[16. This, and ſeveral other ſorts of Campanula deſerve to be more generally cultivated, for their large and ſhowy flowers. They are well adapted to the decoration of rock-work, and being hardy perennials, may be propagated by parting their roots in autumn.]

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[r] Billardiere.

[s] Loureiro.

22. *Broad-leaved Bell-flower* is eaſily propagated by ſeeds, which it furniſhes in great plenty; if theſe be ſuffered to ſcatter the plants will come up abundantly the following ſpring, when they may be removed into the nurſery till autumn, at which time they ſhould be tranſplanted where they are deſigned to remain. As this ſort delights in ſhade, the plants may be placed under trees, or in ſhady borders, where few better things will thrive, and they will there afford an agreeable variety when in flower.

28. With reſpect to the *Great Canterbury Bells*, the double ſorts are propagated by parting their roots in autumn, which ſhould be annually performed, otherwiſe the flowers are apt to degenerate to ſingle. The ſoil ſhould not be too light or rich, in which they are planted, for in either of theſe they will degenerate; but in a ſtrong freſh loam their flowers will be in the greateſt perfection. Theſe plants being extremely hardy, may be planted in any ſituation; thoſe with ſingle flowers do not merit a place in gardens.

5, 30, 39. *Spreading* or *Field Bell-flower*, *Cervicaria* or *waved-leaved Bell-flower*, and *Rock Bell-flower*, with ſeveral others, may be propagated by ſeeds, ſown in the autumn; for ſuch as are ſown in the ſpring often fail, or at leaſt lie a year in the ground. When the plants come up they ſhould be removed into beds, and kept clean from weeds. A few plants of the thirty-ninth ſort may be ſet in pots, to be ſheltered in winter.

34. The *Medium*, commonly called *Coventry* or *Canterbury Bells*, is propagated by ſeeds, ſown in the ſpring on an open bed of common earth. When the plants are fit to remove, they are to be tranſplanted into other beds in the flower-nurſery, ſix inches aſunder, obſerving to water them frequently till they have taken new root; after which they will require no other culture, but to keep them clean from weeds till the following autumn, when they may be tranſplanted into the borders of the flower-garden. As theſe plants periſh the ſecond year young ones ſhould be raiſed annually for a ſucceſſion.

46. [*Venus's Looking-glaſs* is commonly ſown in patches in the borders of the flower-garden among other hardy annuals in the ſpring;] but if it be ſown in autumn, it will grow much taller, and flower a month earlier, namely in may.

49, 50, 56. May be treated in the ſame way; or if the ſeeds be permitted to ſcatter, they will come up without care.

74. This not producing ſeeds in England, is only propagated by offsets, which ſhould be taken off in auguſt, that they may get good root before cold weather comes in. They muſt be planted in ſmall pots, filled with freſh, light, loamy earth, and placed in the ſhade until they have taken root; then they may be put along with other hardy exotic plants; and in autumn they muſt be removed into ſhelter, for in ſevere winters plants which are expoſed are often deſtroyed; though in mild winters they will live in the open air.

[The directions given above, under the different articles, may ſerve for all the other hardy annuals, biennials, and perennials, of which this genus chiefly conſiſts. Some of the ſpecies come from the Cape; theſe muſt be kept in the dry ſtove, and otherwiſe treated like the plants from that country; they may in general be increaſed from cuttings.

CAMPANULA. See *Canarina*, *Hamellia*, *Linum*, *Lobelia*, *Phyteuma*, *Roella*.

CAMPANULATA. See *Linnæa*.

CAMPECHE WOOD. See *Hæmatoxylum*.

CAMPHIRE or CAMPHOR WOOD and CAMPHORA. See *Laurus*.

CAMPHORATA. See *Camphoroſma*, *Herniaria*, *Polycnemum*, and *Selago*.]

CAMPHOROSMA. (*From Camphora and* ὀσμὴ *odor: ſmelling of Camphor.*)

Lin. gen. n. 164. *Reich.* 176. *Schreb.* 221.

Camphorata. *Tournef. act.* 1705. *Juſſ.* 84.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Holoraceæ*. *Atriplices* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* pitcher-ſhaped, half-four-cleft, compreſſed, permanent: ſegments acute; the oppoſite ones largiſh, recurved.

COR. none.

STAM. *Filaments* four, filiform, equal. *Anthers* oval.

PIST. *Germ* ovate, compreſſed. *Style* filiform, half-two-cleft, longer than the calyx. *Stigmas* acute.

PER. *Capſule* one-celled, gaping above, covered by the calyx.

SEED ſingle, oval, compreſſed, ſhining.

OBS. *Calyx four-leaved, the two larger leaflets keeled, the two ſmaller ones flat. Stamens four, ſhorter than the calyx. Styles two, longer than the calyx. Zinn. Stamens five, longer than the flower; calyx five-toothed.* *Pollich palat.* 1. *p.* 166.

ESSENTIAL CHARACTER.

Cal. Pitcher-form: two of the teeth oppoſite, and the alternate ones very ſmall. *Cor.* none. *Capſ.* one-ſeeded.

SPECIES.

1. Camphoroſma monſpeliaca. *Hairy Camphoroſma.*
Lin. ſpec. 178. *Reich.* 347. *amæn.* 1. 392. *mat. med.* 53. *Villars dauph.* 2. 308. *Allion. pedem. n.* 2062. *Plenck, ic. t.* 68.
Camphorata hirſuta. *Bauh. pin.* 486. *Buxb. cent.* 1. 18. *t.* 28. *f.* 1. *Zinn. gott.* 36. *Raii hiſt.* 210.
C. monſpelienſium. *Bauh. hiſt.* 3. 379. *f.* 380. *Tabern. hiſt.* 57. 1. *Park.* 568. 1.
Leaves hirſute.

[2. Camphoroſma acuta. *Sharp-leaved Camphoroſma.*
Lin. ſpec. 178. *Reich.* 348. *amæn.* 1. 393. 2. *Pollich pal. n.* 167.
Camphorata altera. *Tabern. hiſt.* 57. 2.
Camphoratæ congener. *Bauh. pin.* 486. *Raii hiſt.* 210. *Park.* 568. 3.
Anthyllis altera Italorum. *Lob. ic.* 407, *Ger. emac.* 623. *f.* 3.
Leaves ſubulate, rigid, ſmooth.]

3. Camphoroſma glabra. *Smooth Camphoroſma.*
Lin. ſpec. 178. *Reich.* 348. *amæn.* 1. 393. 3.
Camphorata glabra. *Bauh. pin.* 486. *Dalech. hiſt.* 1179. *Hall. helv. ed.* 1. 183. *n.* 1.
Polycnemon. *Hall. helv. n.* 1570.
Leaves ſubtriquetrous, ſmooth, unarmed.

[4. Camphoroſma Pteranthus.
Lin. ſyſt. 166. *Reich.* 348. *mant.* 41.
Louichea cervina. *L'Herit. monogr.*
Pteranthus dichotomus. *Forſk. ægypt.* 36.
Very branching; peduncles enſiform, dilated; bractes creſted.

5. Camphoroſma paleacea.
Lin. ſyſt. 166. *ſuppl.* 128.
Shrubby, branches ſpike-form chaffy hairy.]

DESCRIPTIONS, &c.

1. This is an annual plant with trailing branches; extending a foot or more in length. Leaves linear, hairy, placed cloſe on the branches. The flowers are produced from the joints, and are ſo ſmall as to be ſcarcely perceptible. [Native of the South of France, Spain, the county of Nice, &c. Ray obſerved it about Montpellier, Avignon, &c. It was cultivated in 1739 by Mr. Miller[a].

The whole plant ſmells of Camphor. It abounds in a volatile oily ſalt, and is warm and ſtimulating. An infuſion of it is of ſervice in the aſthma. The doſe from half an ounce to an ounce and half[b]. In Leucorrhæa eximium medicamentum. *Lin. amæn.*

2. Root perennial, ſlender, fuſiform, fibrous. Stems many, woody, decumbent, round, hairy, roughiſh, from a finger's length to a foot in height. Branches alternate. Leaves alternate, ſeſſile, linear, rather acute, quite entire, at the baſe, eſpecially the floral leaves, ciliate, five lines long, and hardly a quarter

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[a] Hort. kew.

[b] Allioni.

of a line broad, bright or yellowiſh green, pubeſcent, ſoft: there are uſually two ſmaller ones by the ſide of theſe, a line in length. Two ſmall flowers, half a line in length and breadth are ſeſſile in each axilla. Calyx roundiſh, villoſe, with five ciliate toothlets. Stamens five, longer than the flower, with roundiſh, yellow anthers. Style one: germ ovate, rather acute.—In very dry ſandy fields: flowering in july and auguſt[c]. Native of the Palatinate, Italy, and Tartary.]

3. This is a perennial plant, with trailing branches. The flowers are not more viſible than thoſe of the firſt ſort.

[Haller, in the firſt edition of his Swiſs plants, keeps this, and *Polycnemum arvenſe* ſeparate, both under the name of *Camphorata*: but in the ſecond edition he puts the ſynonym of Camph. glabra, *Bauh. pin.* to his *Polycnemon*. Linneus gives that of Anthyllis altera Italorum, *Lob.* both to the Polycnemum, and his ſecond ſpecies of Camphoroſma: as he does alſo that of Camphoratæ congener, *Bauh. pin.* Lin. ſpec. edit. 2.

4. Root annual, fibrous. Stem herbaceous, jointed, a palm high, dichotomous or trichotomous. Leaves linear, a little branched, roundiſh, verticilled, the two lower ſomewhat larger. Flowers ſubſeſſile, green, ſmall, ſurrounded with a very ſhort bifid membrane, from which on each ſide are three imbricate, foliaceous bractes, like the rudiments of leaves. Capſule globular, clothed with a two-horned ſpreading calyx and two awns from the outer leaflets of the calyx. Peduncle membranaceous, very much compreſſed. Native of Arabia[d], Egypt, and Barbary.

Monſ. L'Heritier has conſtituted a new genus from this plant, under the name of *Louichea*, from his friend Monſ. René Louiche Desfontaines, M. D. Prof. Bot. Member of the Academy of Sciences at Paris; he having ſent the ſeeds from Barbary to Monſ. L'Heritier, in whoſe garden it flowered and perfected ſeeds.—It is ſingular in its manner of flowering, and its fruit reſembling a ſtag's horns.

5. A ſhrub ſcarcely a foot high, determinately-branched. Branches alternate, the leaves and flowers mixed and imbricate. Chaffs membranaceous, white, minute. Leaves minute, elliptic, even, ſeſſile. Calyxes four-leaved: petals four, very ſhort, ciliate, obtuſe. Stamens ſcarce longer than the calyx. Germ ſuperior; ſtyle capillary; ſtigma ſimple. All which is hardly viſible to the naked eye. Found at the Cape, by Thunberg.]

PROPAGATION AND CULTURE.

Theſe plants are preſerved in gardens merely for the ſake of variety. They are propagated by ſeeds, which ſucceed beſt when ſown in the autumn. The European ſorts require only to be thinned, and kept clean from weeds; and if they are permitted to ſcatter their ſeeds, there will be a ſupply of young plants in the ſpring.

[CAMPHOROSMA. See *Dracocephalum.*]

CAMPION. See *Agroſtemma*, *Cucubalus*, and *Lychnis*.

[CAMUNIUM. See *Chalcas*.

CANARINA. (*From the Canary iſlands, of which it is a native.*)

Lin. gen. *Reich. n.* 480. *Schreb.* 603. *Juſſ.* 164.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Campanaceæ*. *Campanulaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* ſuperior: *leaflets* ſix, lanceolate, recurved, permanent.

COR. monopetalous, bell-form, ſix-cleft, nerved. *Nectary* of ſix valves, equal, diſtant, covering the receptacle.

STAM. *Filaments* ſix, ſubulate, ſpreading outwards, originating from the valves. *Anthers* pendulous from the tip.

PIST. *Germ* inferior, ſix-cornered. *Style* conical, ſhort. *Stigma* longer than the ſtamens, clavated, ſix-cleft.

PER. *Capſule* ſix-angled, obtuſe, ſix-celled.

SEEDS numerous, ſmall.

ESSENTIAL CHARACTER.

Cal. ſix-leaved. *Cor.* ſix-cleft, bell-form. *Stigmas* ſix. *Capſ.* inferior, ſix-celled, many-ſeeded.

SPECIES.

1. Canarina Campanula. *Canary Bell-flower.*
   Lin. ſyſt. 344. *Reich.* 2. 110. *mant.* 225.]
   Campanula canarienſis. *Lin. ſpec.* 238. *ſyſt.* 209. *Mill. dict. n.* 14. *hort. cliff. t.* 8. *Pluk. alm. t.* 276. *f.* 1.
   [*Stem erect, leaves haſtate, in threes or oppoſite.*
2. Canarina Zanguebar.
   Lour. cochinch. 195.
   Stem ſcandent, leaves haſtate alternate.

DESCRIPTIONS, &c.

1. Root perennial, tuberous-fuſiform. Stem three feet high erect ſolitary round even with ſwelling joints. Branches by three from each joint; the upper ones longer, dichotomous at the end; branchlets alternate. Leaves on the ſtem in threes, on the branches oppoſite, petioled, haſtate, toothletted, even, veined. Flowers from the forks of the upper branches ſolitary, peduncled, drooping. Corolla larger than the leaves, reſembling that of Crown Imperial, rufous, brighter within, with a yellow eye; each ſegment with three purple nerves. Style club-form, longer than the ſtamens.

It is very nearly allied to the Campanulas, but is diſtinguiſhed from them, becauſe the number ſix generally prevails in the germ, calyx, corolla, nectary, ſtamens, and ſtigma[e].

It was cultivated in 1696, in the royal garden at Hampton Court; and flowers from january to march[f].

2. Stem ſhrubby, round, even, branched. Leaves cordate-haſtate, quite entire, ſmooth, veined, petioled. Flowers ſolitary, lateral. Corolla pale-coloured. Capſule ſubovate, ſharp at the baſe, ſix-nerved, opening at the baſe. Seeds cordate, compreſſed, ſurrounded by a turbinate wing, odorous. Native of Zanguebar on the coaſt of Africa[g].]

PROPAGATION AND CULTURE.

1. It is propagated by parting the roots, which muſt be done with caution, for if they be broken or wounded, the milky juice will flow out plentifully, ſo that if they be planted before the wounds are ſkinned over, it occaſions their rotting, therefore whenever any of them are broken, they ſhould be laid in the green-houſe a few days to heal. The roots muſt not be too often parted, for that weakens the plants, and prevents them from flowering well. The beſt time for doing it is july, ſoon after the ſtalks are decayed. The earth ſhould not be rich, for that will cauſe the plants to be luxuriant in branches, but poor in flowers. The ſoil in which they ſucceed beſt, is a light ſandy loam, with a fourth part of ſcreened lime-rubbiſh. The pots ſhould at firſt be placed in the ſhade, and, unleſs the ſeaſon be very dry, they ſhould not be watered. About the middle of auguſt the roots will begin to put out fibres; when, if the pots be placed under a hot-bed frame, and as the nights grow cool, be covered with the glaſſes, opening them every day, it will greatly forward their flowering, and increaſe their ſtrength: when the ſtalks appear, the plants muſt be now and then refreſhed with water, but it muſt not be given too often, nor in great quantity. By the middle of ſeptember the plants will be grown ſo tall, that they muſt be removed into a dry airy glaſs-caſe, where they may enjoy the free air in fine weather, and yet be ſcreened from cold. In winter they muſt be frequently refreſhed with water, and ſcreened from froſt. In ſpring, when the ſtalks begin to decay, the pots ſhould be ſet abroad in the ſhade, and not watered.

[CANARIUM. (*From its vernacular name* Canari *in the Malay language.*)

Lin. gen. *Reich. n.* 480. *Schreb.* 1516. *Juſſ.* 370. *Gærtn. t.* 102.

Claſſ. 22. 5. Dioecia Pentandria.

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[c] Pollich.

[d] Linn. mant.

[e] Linn. mant. and ſyſt.

[f] Hort. kew.

[g] Loureiro.

GENERIC CHARACTER.

Male.

CAL. *Perianth* two-leaved; *leaflets* ovate, concave, permanent.

COR. *Petals* three, oblong, like the calyx.

STAM. *Filaments* five, very ſhort. *Anthers* oblong, of the length of the petals.

Female.

CAL. As in the male; *leaflets* reflex.

COR. As in the male.

PIST. *Germ* ovate. *Style* ſcarcely any. *Stigma* headed, three-cornered.

PER. *Drupe* dry, ovate, acuminate, baſe ſurrounded by a crenate membrane.

SEED. *Nut* ovate, three-cornered, acute.

ESSENTIAL CHARACTER.

MALE. *Calyx* two-leaved. *Corolla* three-petalled.

FEMALE. *Calyx* two-leaved. *Corolla* three-petalled. *Stigma* ſeſſile. *Drupe* with a three-cornered nut.

SPECIES.

1. Canarium commune.
Lin. ſyſt. 885. *mant.* 127. *Reich.* 4. 248. *Rumph. amb.* 2. 145. *t.* 47. *Beſl. muſ. p.* 22. *t.* 5. *Bauh. hiſt.* 1. *l.* 3. *p.* 308.
C. Mehenbethene. *Gærtn. fruct.* 2. 98.
β. Canarium ſylveſtre.
Gærtn. fruct. 2. 99. *Rumph. amb.* 2. 155. *t.* 49.
γ. Canarium decumanum.
Gærtn. fruct. 99. *Rumph. amb.* 2. 166. *t.* 55.

DESCRIPTION, *&c.*

Leaves alternate, pinnated with an odd foliole; the common petioles ſtriated: folioles nine, petioled, ovate-oblong, acuminate, even. Panicles with divaricate, rigid branches. Flowers ſeſſile [a].

The fruit is a ſuperior, ovate-acuminate berried drupe, covered with a thin olive-coloured ſkin; and having within it very little pulp full of capillary fibres. Shell bony, either very obſcurely furrowed or ſmooth, three-celled, with three blunt teeth at the tip, and three obſcure raiſed lines on the ſides, bored with a filiform canal the whole length of the axis. In each cell a pair of ſeeds, of which one only comes to maturity; it is ovate-oblong.

The *Canarium commune* of Linneus is a mere variety of this. The drupe is a little larger, and the pulp without fibres. The ſhell is more acutely three-cornered, the angles near the vertex marked with white, and as it were fungous, the ſides very ſmooth, flattiſh, without the middle raiſed ſtreak. Of the three cells two almoſt obliterated, the third only fertile, and larger than in this. The ſeed alſo a little larger.

In the oldeſt ſeeds, the kernel is never rancid in either of theſe, but always ſweet like that of ſweet almonds; which is the more remarkable, becauſe the cotyledons ſeem always as if anointed with oil, inſomuch that they are very ſlippery and repel water [b].

This is a tree, native of the Molucca iſles, Banda, New Guinea, *&c.* The nuts are eaten both raw and dreſſed by the inhabitants; an oil is expreſſed from them which is uſed at the table when freſh, and for lamps when ſtale; bread is alſo made of them, and cakes, biſcuits, *&c.* for the table. Eaten freſh, they are apt to bring on diarrhœas and dyſenteries, and to occaſion an oppreſſion of the breaſt [c].

β. The drupe is fleſhy, obovate or thicker at top, rounded not three-cornered. Shell ovate, ſtony, very thick, very obſcurely three-cornered, with three depreſſed longitudinal lines, to which as many ſmall callous tubercles are joined below the tip of the ſhell. Cells three, two of which are often obliterated, the third only fertile, very irregular, and lined with a very ſmooth cartilaginous cruſt. Seed oblong, three-cornered, bent like the letter S, gibbous in contrary directions near each end: ſkin ſingle, membranaceous, cheſnut-bay-coloured. No albumen. Embryo very brittle. Cotyledons ſix, unequal, variouſly bent. It is very difficult to get out the kernel from the ſhell, on account of its ſingular form and brittleneſs.

γ. The drupe is larger than that of the others. Shell ovate-oblong, three-cornered, ſtony, thick, ſix-toothed at the end: angles prominent, ſmooth, with a longitudinal groove in the middle, and the ſides with holes, as if eaten with worms: axis perforated with a three-ſided canal: cells three, large [d].

CANARY-GRASS. See *Phalaris.*

CANDEL and CANDELA. See *Rhizophora.*

CANDELABRUM. See *Ceropegia.*]

CANDLEBERRY-TREE. See *Myrica.*

CANDY-TUFT. See *Iberis.*

[CANE. See *Arundo.*

CANELLA.

Lin. gen. Schreb. n. 817. *Swartz obſ.* 189. *in Linn. tranſ.* 1. 99. *t.* 8. & 2. 356. *Brown. jam.* 275. *Gærtn. t.* 77. Winterana. *Lin. gen. n.* 598. *Reich.* 653. *Juſſ.* 263.

Claſſ. 11. 1. Dodecandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, three-lobed: *lobes* roundiſh, concave.

COR. *Petals* five, oblong, ſeſſile, longer than the calyx, two a little narrower than the reſt.

Nectary pitcher-ſhaped, the length of the petals, anther-bearing.

STAM. *Filaments* none. *Anthers* twenty-one (ſixteen, *S.* twelve to twenty, *G.*) linear, parallel, diſtinct, faſtened on the outſide to the nectary.

PIST. *Germ* ſuperior, within the nectary, ovate. *Style* cylindric, the length of the nectary. *Stigmas* two (two or three, *Sw. obſ.* three, *S.*) blunt, convex, wrinkled.

PER. *Berry* oblong, three-celled.

SEEDS roundiſh-kidney-ſhaped (two to four.)—in pairs, cordate, *Schreb.*—geminate, ſhining, *Gærtn.*

OBS. *Allied to* Tinus. *In the ripe fruit, one cell only is fertile, the rudiments of the other two being rarely ſeen.*

ESSENTIAL CHARACTER.

Cal. three-lobed. *Cor.* five-petalled. *Anthers* twenty-one (twelve to twenty-one) faſtened to a pitcher-ſhaped nectary. *Berry* three-celled (one or two-cells abortive). *Seeds* two to four.

SPECIES.

1. Canella alba. *Laurel-leaved Canella.*
Lin. ſyſt. 443. *Ait. hort. kew.* 2. 125. *Swartz obſ.* 190. *in Linn. tranſ.* 1. 96. *t.* 8. *Brown. jam.* 275. *t.* 27. *f.* 1. 3. *Plenck; ic. t.* 363. *Woodv. med. bot.* 318. *t.* 117.
C. Winterana. *Gærtn. fruct.* 1. 373.
Winterania Canella. *Lin. ſyſt. ed.* 13. 369. *Reich.* 2. 418. *ſuppl.* 247. *mat. med.* 119. *Mill. dict.*
Laurus Winterana. *Lin. ſpec. ed.* 1 371. *hort. cliff.* 448.
Cortex Winteranus. *Blackw. herb. t.* 206. *Dale pharm.* 296. *Lemery,* 170. *Pomet,* 147. &c.
Caſſia cinnamomea. *Pluk. phyt. t.* 160. *f.* 7.
Pſeudo-Caſſia cinnamomea americana. *Bauh. pin.* 409.—Canella peruana. *ejuſd.* 461. *Park. theat.* 1581.
Canella Cubane. *Johnſ. dendr.* 165.
Lignum ſ. potius cortex aromaticus. *Monard.* 334. *Laet.* 24.
Arbor baccifera, &c. *Sloan. jam.* 2. 87. *t.* 191. *f.* 2. & *Philoſ. tranſ: n.* 192. *p.* 462. *Cateſb. car.* 2. *t.* 50.
Arbor Jucaiæ. *Nieremb.* 294.

DESCRIPTION, *&c.*

This is a tree, the ſtem of which riſes from ten to fifty feet in height, very ſtraight and upright, and branched only at the top. The bark is whitiſh, by which it is known at firſt ſight in the woods. The branches are erect, and not ſpreading. Leaves petioled, alternate, but not regularly, oblong, pointed, entire, without any diſtinct nerves or veins, dark green, of a thick conſiſtence like thoſe of Laurel, and ſhining. The flowers grow at the tops of the branches in cluſters, but upon divided peduncles;

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[a] Linn. mant.

[b] Gærtner.

[c] Rumphius.

[d] Gærtner.

they are ſmall and ſeldom open, and of a violet colour. The lobes of the calyx are divided almoſt to the bottom, incumbent, green, ſmooth, membranaceous, permanent. The petals are concave, upright, thick and deciduous; as is alſo the nectary[e]. The berry is fleſhy, ſmooth, black: the receptacle is the central angle of the cells, to which the ſeeds are fixed. The ſeeds are regularly two in each cell, but one or two cells are commonly abortive; they differ in form, but are uſually globular, and beaked, always very ſmooth, black and ſhining, the outer ſkin is cruſtaceous, thin and brittle; the inner of a bay-brown colour[f].

It is common in moſt of the Weſt-India iſlands, and is frequently found near the coaſt; then ſeldom exceeding twelve or fifteen feet: in the inland woods it attains a more conſiderable height.

The whole tree is very aromatic, and when in bloſſom perfumes the whole neighbourhood. The flowers dried, and ſoftened again in warm water, have a fragrant odour, nearly approaching to that of Muſk. The leaves have a ſtrong ſmell of Laurel. The berries, after having been ſome time green, turn blue, and become at laſt of a black colour and gloſſy, with a faint aromatic taſte and ſmell. When ripe, the white-bellied and bald-pate Pigeons (*Columba jamaicenſis* and *leucocephala*) feed greedily upon them, and thence acquire their peculiar flavour.

This bark, and the fruit of Capſicum, were formerly common ingredients in the food and drink of the Caraibs; and at preſent it makes a neceſſary ingredient in the meagre pot of the negroes[g]. It was cultivated in 1739, by Mr. Miller[h].

The bark is brought to Europe in long quills, which are about three quarters of an inch in diameter, ſomewhat thicker than Cinnamon, and both externally and internally of a whitiſh or light brown colour, with a yellowiſh hue, and commonly intermixed with thicker pieces, which are probably obtained from the trunk of the tree. In taſte it is moderately warm, aromatic, and bitteriſh. Its ſmell is agreeable, and reſembles that of Cloves. Its virtues are extracted moſt perfectly by proof ſpirit. The uſe of Canella alba now ſuperſedes that of the old bark of Winter, on the authority of both the London and Edinburgh pharmacopœias. It has been ſuppoſed to poſſeſs conſiderable virtues, and is ſaid to be uſeful in ſcorbutic and many other complaints. It is now however conſidered merely in the light of an aromatic, and like many other ſpices, is employed for the purpoſe of correcting diſagreeable drugs. It is therefore an ingredient in the pulv. aloet. Pharm. Lond. and in the tinctura amara, vinum amarum, vinum rhei, &c. of the Pharm. Edinb.]

PROPAGATION AND CULTURE.

This tree is too tender to live in England out of a ſtove. The plants require to be plunged in the tanbed, and in winter ſhould be ſparingly watered; in ſummer they ſhould have it in greater plenty, when alſo they ſhould have a good ſhare of air admitted to them when the weather is warm. With this management the plants may be preſerved very well, but they are difficult to propagate either by layers or cuttings. The ſureſt method is to procure freſh ſeeds from the Weſt-Indies.

CANNA. (*Uſually not diſtinguiſhed from arundo and calamus, but it is larger than the firſt, and leſs than the ſecond.* Κάννα *is interpreted* ψιαθος. *which ſignifies a mat, and was made of this plant. Hence our word Cane.*)

Engl. *Indian Flowering Reed*, or *Indian Shot.*
Fr. *Baliſier.*

Lin. gen. 1. *Reich.* 1. *Schreb.* 1. *Gærtn. t.* 12. *Juſſ.* 63. *Cannacorus Tournef.* 192.

Claſſ. 1. 1. Monandria Monogynia.

Nat. order of *Scitamineæ. Cannæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* three-leaved; *leaflets* lanceolate, erect, ſmall, coloured, permanent.

Cor. monopetalous, ſix-parted; *diviſions* lanceolate, conjoined at the baſe, the three outer ones erect, larger than the calyx; the three inner ones larger than the outer, two erect, one reflected, and thus conſtituting the upper lip.

Nectary petal-like, two-parted, of the length and figure of the petals; the upper diviſion aſcending, the inferior revolute, imitating the lower lip of a corolla.

Stam. *Filament* none. *Anther* linear, growing to the upper margin of the diviſion which bears the nectary.

Pist. *Germ* roundiſh, rugged, inferior. *Style* ſingle, enſiform, growing to the anther-bearing nectary, lanceolate, of the length and figure of a petal. *Stigma* linear, growing to the margin of the ſtyle.

Per. *Capſule* roundiſh, rugged, crowned, three-grooved, three-celled, three-valved.

Seeds few, globular.

Obs. *The nectary was afterwards regarded by Linneus as the lip of the corolla, to which the ſtyle grows. Syſt.*

ESSENTIAL CHARACTER.

Corolla ſix-parted, erect; *lip* two-parted, revolute. *Style* lanceolate, growing to the corolla. *Calyx* three-leaved.

SPECIES.

1. Canna indica.

Lin. ſpec. 1. *Reich.* 2. *fl. zeyl.* 1. *Gærtn. fruct.* 1. 37. *t.* 12. *Mill. illuſtr. Amer. nurnb. t.* 1. *Riv. mon. t.* 111, 112. *Beſl. eyſt. aut.* 2. *t.* 1, 2.

Cannacorus. *Rumph. amb.* 5. 177. *t.* 71. *f.* 2.

Arundo indica latifolia. *Bauh. pin.* 19. *Mor. hiſt.* 3. 250. *ſ.* 8. *t.* 14. *f.* 1.

Canna ſ. A. ind., quibuſdam Flos Cancri. *Bauh. hiſt.* 1. 752. *Raii hiſt.* 1202.

C. ind. fl. rubro. *Park. parad.* 376. *f.* 1. 381.

Gladiolus indicus. *Camer. epit.* 731.

Arundo florida. *Ger.* 36. fig. *emac.* 39.

Katu-Bala. *Rheed. mal.* 11. 85. *t.* 43.

β. Canna latifolia. *Mill. dict. n.* 2.

Cannacorus ampliſſimo fol., fl. rutilo. *Tourn. inſt.* 367.

γ. C. coccinea. *Mill. dict. n.* 3. *Hort. kew.* 1. γ.

C. fl. coccineo ſplendente. *Tourn. inſt.* 367.

Scarlet Indian Reed or *Shot.*

δ. C. lutea. *Mill. dict. n.* 4.

C. ind. fl. flavo punctato. *Hort. kew.* 1. β. *Park. parad.* 376.

Cannacorus fl. luteo punctato. *Tourn. inſt.* 367. *Riv. t.* 112.

Yellow Indian Reed or *Shot.*

Leaves ovate, acuminate at both ends, nerved.

[2. Canna anguſtifolia. *Narrow-leaved Indian Reed.*

Lin. ſpec. 1. & 1675. *Reich.* 2. *hort. cliff.* 1. *n.* 2.

Cannacorus anguſtifolius, fl. flaveſcente. *Tourn. inſt.* 367. *Riv. t.* 113.

Arundo indica florida anguſtifolia. *Mor. hiſt.* 3. 250. *ſ.* 8. *t.* 14. *f.* 6.

Albara, ſ. Pacivira. *Piſ. braſ.* 213.

Leaves lanceolate, petioled, nerved.]

3. Canna glauca.

Lin. ſpec. 1. *Reich.* 2. *vir. cliff.* 104. *hort. cliff.* 488. *Hort. kew. n.* 2.

Cannacorus glaucophyllus, ampliore fl. Iridis paluſtris facie. *Dill. elth. t.* 59. *f.* 69.

Leaves lanceolate, petioled, nerveleſs.

[4. Canna flaccida.

Saliſb. ic. rar. 3. *t.* 2.

Leaves narrow lanceolate, ſmooth and even on both ſides; inner limb of the corolla five-cleft, ſegments flaccid obovate, the inmoſt largeſt.

5. Canna juncea.

Retz. obſ. 1. 9.

Leaves linear nerved.]

DESCRIPTIONS, &c.

1. This plant has a thick, fleſhy, tuberous root, which divides into many irregular knobs, ſpreading wide near the ſurface of the ground, ſending out many large ovate leaves without any order; theſe at

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[e] Swartz.

[f] Gærtner.

[g] Swartz.

[h] Hort. kew.

their firſt appearance, are twiſted like a horn, but afterwards expand and are near a foot long, and five inches broad in the middle, leſſening gradually to both ends, and terminating in points. They have many large tranſverſe veins running from the midrib to the ſides, which are prominent on their under ſide; and between each of theſe run two ſmaller, parallel, pointed veins, which are peculiar to this ſpecies. The ſtalks are herbaceous, riſing four feet high, encompaſſed by the broad leafy foot-ſtalks of the leaves; theſe are compreſſed on two ſides; at the upper part of the ſtalk the flowers are produced in looſe ſpikes, each being at firſt covered by a leafy hood, which afterwards ſtands below the flower, and turns to a brown colour. Each flower has one petal, which is cut almoſt to the bottom into ſix ſlender ſegments, the three upper broadeſt; theſe are of a pale red colour. The flower is encompaſſed by a three-leaved calyx, which ſits upon a ſmall, roundiſh, rough germ, which, after the flower is fallen, ſwells to a large fruit or capſule oblong and rough, having three longitudinal furrows, and is crowned by the three-leaved calyx of the flower which remains. When the fruit is ripe, the capſule opens lengthways into three cells, which are filled with round, hard, black, ſhining ſeeds. The principal ſeaſon of theſe plants flowering, is in june, july, and auguſt.

1. β. This variety grows naturally in Carolina, and ſome of the other northern provinces of America. The leaves are longer than thoſe of the former, and terminate in ſharper points. The ſtalks grow taller, and the ſegments of the flower are much narrower; the colour being a pale red, it makes no great appearance. The ſeeds are like thoſe of the former.

1. γ. This variety has larger leaves than either of the former; the ſtalks riſe much taller. I have received the ſeeds of this from America, and from the Brazils, by the title of Wild Plantain. The flower-ſtalks riſe more than ſix feet high. The leaves are very large, and thoſe near the root have long foot-ſtalks. The flowers are produced in larger ſpikes than thoſe of the former, and are of a much brighter ſcarlet. The ſeed-veſſels are longer, and the ſeeds larger.

1. δ. This variety is leſs common in America than either of the former. I received the ſeeds from India, but have had two varieties ariſe from the ſeeds, one with a plain yellow, and the other with a ſpotted flower, which I find are apt to change from one to the other, when propagated by ſeeds. This has ſhorter and rounder leaves than either of the former. The ſtalks ſeldom riſe higher than three feet, and the ſpikes of flowers are like thoſe of the firſt, excepting the colour of the flowers.

[Gerard informs us that in his time, it was in the garden at Padua, *&c.* that he had planted it in his garden divers times, but it never came to flowering: and that it muſt be ſet or ſown in a pot with fine earth, or in a bed made of horſe-dung, in ſuch manner as Cucumbers and Muſk Melons are.—Parkinſon ſays, that in ſome kindly years this beautiful plant has borne its brave flowers, but never any ripe ſeed; and that it will not abide the extremities of our winters, unleſs it meet with a ſtove or hot-houſe, ſuch as are uſed in Germany: for neither houſe nor cellar will preſerve it. Cluſius ſaw it flowering by houſe ſides in Spain and Portugal: and ſays that the inhabitants there uſe the ſeeds for making their roſaries.—It is found wild within the tropics on all the Continents.

2. This is ſcarcely to be diſtinguiſhed from the firſt, and therefore he who would conſider it as a variety, would hardly be miſtaken. It is however lower and narrower. The three inner petals are emarginate, as in that; but one of the lateral petals in this is ſo bent as to become the middle one.—Within the tropics in America, in ſhady ſpongy places[a].]

3. The roots of this are much larger than either of the former ſorts, and ſtrike down ſtrong fleſhy fibres deep in the ground. The ſtalks riſe ſeven or eight feet high. The leaves are near two feet long, narrow, ſmooth, and of a ſea-green colour. The flowers are produced in ſhort thick ſpikes at the extremity, are large, and of a pale yellow colour; the ſegments of the petal are broad, but their ſhape like thoſe of the other ſorts. The ſeed-veſſels are larger, and much longer than thoſe of the other ſorts, but contain fewer ſeeds, which are very large.

[Cultivated in 1732 at Eltham by James Sherard, M. D.[b]] Mr. Miller received the ſeeds of this from Carthagena in New Spain, in the year 1733, which produced very ſtrong plants the firſt year, and ſome of them flowered the ſame autumn.

[4. Four feet high or more, very much reſembling Canna glauca in the herb. Root horizontal, tuberous, perennial. Stem pale glaucous, upright, ſimple, round, jointed, ſmooth, herbaceous, annual, almoſt covered by the petioles. Leaves five to ſeven, pale glaucous, alternate, ſhorter than the petiole or ſheath, ſpreading, quite entire with a very thin membranaceous edge, pointed at the end, very finely nerved, a little channelled on the upper, and keeled eſpecially towards the baſe on the lower ſurface. Flowers one to three, without ſcent, nodding a little; peduncle a continuation of the ſtem, angular. Bractes two under each germ, very pale glaucous; the outer preſſed cloſe, the inner longer and narrower, often curved in and patulous; both blunt and quite entire, permanent. Calyx very pale glaucous; leaflets unequal, embracing the tube of the corolla, quite entire, blunt. Corolla pale yellow; tube much longer than the calyx, a little recurved: outer limb a little longer than the tube, reflex, deeply trifid; ſegments unequal, linear-lanceolate, quite entire, blunt, thicker; inner limb ſtill longer, deeply quinquefid; ſegments unequal, much curled about the edge, the inmoſt emarginate; the whole is very tender, ſmooth, and deciduous. Anther whitiſh, confluent with the edge of the inner ſide of the inmoſt ſegment, upright, very minutely pointed, two-celled, gaping in front. Germ pale green, oval, minutely papilloſe. Style very pale yellow, linear-ſpatulate, ſmooth on both ſides, flat. Stigma whitiſh, minutely pubeſcent. It is often confounded with Canna glauca in our ſtoves. Native of South Carolina, where it was found by Bartram[c].

5. Leaves reſembling thoſe of Graſs, with five raiſed nerves, ſheathing at the baſe, near the root covered with capillary fibres, a ſpan or a foot in length. Scape with ſeveral lanceolate ſheaths, and few flowers. Corolla ſmall, of a duſky rufous colour. Pericarp muricated. It is very diſtinct from *C. anguſtifolia*, the leaves being by no means petioled, and much narrower. It was diſcovered in China by Bladh[d].]

PROPAGATION AND CULTURE.

All the ſorts are propagated by ſeeds, which ſhould be ſown on a hot-bed in the ſpring; and when the plants are fit to remove, they ſhould be tranſplanted into ſeparate ſmall pots, filled with rich kitchen-garden earth, and plunged into a moderate hot-bed of tanners-bark, obſerving to ſhade them till they have taken root; after which, they ſhould have a large ſhare of free air admitted to them every day in warm weather, and be frequently refreſhed with water. As theſe plants will make great progreſs in their growth, they muſt be ſhifted into larger pots filled with the ſame ſort of earth, and part of them plunged into the hot-bed again; and the others may be placed abroad in june, with other exotic plants, in a warm ſituation. Thoſe which are placed in the hot-bed, will be ſtrong enough to flower well in the ſtove the following winter; but thoſe in the open air, will not flower before the following ſummer. Theſe may remain abroad till the beginning of october, when they muſt be removed into the ſtove, and treated in the ſame manner as the old plants;

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[a] Linn. ſpec.

[b] Hort. kew.

[c] Saliſbury.

[d] Retz.

and in may, a gentle hot-bed ſhould be made, covered a foot thick with rich earth, and the plants turned out of the pots, planting them with their balls of earth upon the hot-bed, covering each with a bell-glaſs, which may be raiſed on one ſide every day to admit air to the plants; and as they advance, they muſt be gradually inured to bear the open air. With this management the plants will grow much taller, and flower ſtronger than thoſe which are kept in pots, and from theſe good ſeeds may be expected in autumn. Theſe plants will continue many years with proper management; but as young plants always flower better than the old roots, it is ſcarce worth while to continue them after they have borne good ſeeds.

As the firſt ſort is a native of the warmeſt parts of America, it requires to be placed in a moderate ſtove in winter, otherwiſe the roots will decay. I have frequently tried to keep theſe roots through the winter in a green-houſe, but could not ſucceed; for although ſome have eſcaped, yet they were ſo much weakened by the cold, as not to recover their ſtrength the following ſummer, ſo as to flower in any tolerable degree of perfection; ſo that I have ſince conſtantly kept them in winter in a moderate ſtove, where they always flower in that ſeaſon, at which time they make a fine appearance; and in the ſummer, place them abroad in a ſheltered ſituation with other tender exotic plants, where they flower again, and produce ripe ſeeds annually.

β. The ſecond variety, which is much hardier than the others, ſhould have a different treatment. The young plants of this muſt be earlier inured to the open air, where they may remain till the froſt begins; then they muſt be placed in the green-houſe, and ſhould have but little wet in winter; and the beginning of may, theſe ſhould be turned out of the pots, and planted in a warm ſouth border, in a dry ſoil, where they will thrive and produce flowers annually; but as there is little beauty in this ſort, a few plants for variety will be ſufficient. Sometimes it has variegated leaves. This may be propagated by parting the roots, but having little beauty, it is ſcarcely worth cultivating.

3. The young plants which are raiſed from ſeeds of this ſort, do more certainly flower than the old roots, or the offsets taken from them; for the roots ſend out many offsets, which will ſpread to a conſiderable diſtance where they have room, but ſeldom produce flowers; ſo that it is the beſt way to raiſe a ſucceſſion of plants from ſeeds, and to throw out the old ones after they have perfected their ſeeds.

Cannabina. See *Bidens*, *Datiſca*, and *Verbeſina*.

CANNĂBIS. (*Gr.* Κάνναβις *or* κάνναβος, *from* κάννα. *See Canna.*—Κάναβοι, *are foul ſprings, wherein Hemp*, &c. *grow naturally.*)

Eng. *Hemp.* Fr. *Chanvre.*

Lin. gen. 1115. *Reich.* 1220. *Schreb.* 1522. *Gærtn. t.* 75. *Tourn.* 308. *Juſſ.* 404.

Claſſ. 22. 5. Dioecia Pentandria.

Nat. order of *Scabridæ*. *Urticæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* five-parted; *leaflets* oblong, acuminately obtuſe, concave.

Cor. none.

Stam. *Filaments* five, capillary, very ſhort. *Anthers* oblong, four-cornered.

* *Female.*

Cal. *Perianth* one-leafed, oblong, acuminate, gaping longitudinally on one ſide, permanent.

Cor. none.

Pist. *Germ* very ſmall. *Styles* two, ſubulate, long. *Stigmas* acute.

Per. very ſmall; calyx tightly cloſed.

Seed. *Nut* globoſe-depreſſed, bivalve.

ESSENTIAL CHARACTER.

Male. *Calyx* five-parted. *Corolla* none.

Female. *Cal.* one-leafed, entire, gaping on one ſide. *Corolla* none. *Styles* two. *Nut* bivalve within the cloſed calyx.

SPECIES.

1. Cannabis ſativa.

Lin. ſpec. 1547. *Reich.* 4. 251. *hort. cliff.* 457. *mat. med.* 213. *Gærtn. fruct.* 1. 357. *Hall. helv. n.* 1616. *Gmel. ſib.* 3. 104. *Lour. cochinch.* 616. *Blackw. t.* 322. *Mill. fig. t.* 77. *Bauh. pin.* 320. 1. & 3. *Bauh. hiſt.* 1. 447. fig. 448. *Raii hiſt.* 158. *Ger.* 572. *emac.* 708. *f.* 1, 2. *Park.* 598.

DESCRIPTION, *&c.*

1. [Stem the height of a man or more (ſometimes eighteen feet) branched, hairy, as are alſo the leaves, which are digitate, ſlender, ſerrate; the folioles ſeven, the outer ones ſmalleſt. In the female plant the flowers are ſolitary in the axillas: in the male, they are in thin pendulous ſpikes, at the ends of the ſtem and branches. Some female flowers are frequently found among the males, and ſome males among the females[a]. It is therefore no objection to the ſexual ſyſtem, that female plants of the Hemp have produced perfect ſeed, when there have been no male plants near them. Mr. Miller however affirms, that he made trial of this for ſeveral years, by removing all the male plants; and although the female plants continued ſtrong and flouriſhing, yet they never produced any good ſeeds[b]. It may not be amiſs to obſerve, that all the old authors, ignorant of the true doctrine of the ſexes, and blindly following the ancients, are exactly wrong; for they call the male plants female, and the females male.

Like many other plants generally cultivated, it is difficult to aſcertain the original place of its native growth. We may however trace it, with moſt of the reſt, to the Eaſt. Linneus, in his Materia Medica, gives it to the Eaſt-Indies and Japan. Thunberg ſays it grows here and there, in Japan. Gmelin thinks it may be a native of Tartary, ſince he found it there, though the Tartars do not cultivate it. In the Species Plantarum it is ſaid to grow wild in India, but in Reichard's edition of the Syſtema it is aſſigned to Perſia. Father Hennepin found it wild among the Illinois in America. Pliny and Dioſcorides ſpeak of it as a native of Europe.

The uſes of Hemp are well known, as well as its great importance to the navy for ſails and cordage. Exceeding good huckaback is made from it, for towels and common table-cloths. The low priced hempen cloths are a general wear for huſbandmen, ſervants, and labouring manufacturers; the better ſorts (from 18d. to 2s. the yard) for farmers and tradeſmen in the country; and the finer ones ſeven-eights wide (from 2s. 6d. to 3s. 6d. the yard) are preferred by ſome gentlemen, for ſtrength and warmth. They poſſeſs this advantage over Iriſh and other linens, that their colour improves in wearing, whilſt theirs declines. Engliſh Hemp, properly manufactured, ſtands unrivalled in its ſtrength, and is ſuperior in this reſpect to the Ruſſian. Conſiderable quantities of cloth are imported from that country for ſheeting, merely on account of its ſtrength, for it is coarſer at the price than other linen. Our hempen cloth however is preferable, being ſtronger from the ſuperior quality of the thread, and at the ſame time lighter in waſhing[c].

The Hemp raiſed in England is not of ſo dry and ſpongy a nature as what we have from Ruſſia, and therefore it requires a ſmaller proportion of tar to manufacture it into cordage. Tar being cheaper than Hemp, the rope-makers prefer foreign Hemp to ours, becauſe they can make a greater profit in working it: but cordage muſt certainly be ſtronger in proportion as there is more hemp and leſs tar in it, provided there be a ſufficient quantity of the latter to unite the fibres[d].

An oil is extracted from the ſeeds of Hemp. The ſeeds themſelves are reckoned a good food for poultry, and are ſuppoſed to occaſion hens to lay a greater quantity of eggs. Small birds in general are very fond of them, but they ſhould be given to caged birds with caution, and mixed with other ſeeds. A very ſingular effect is recorded, on very good authority, to have been ſometimes produced by feeding Bullfinches and Goldfinches on Hemp-ſeed alone, or in too great quantity; *viz.* that of changing the red and yellow on thoſe birds to a total blackneſs.

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[a] Haller.
[b] Figures, p. 52.
[c] Young's ann. of agric. 10. 383, 386.
[d] Bath papers, 2. 377.

It does not ſeem that the *Bangue* of the Eaſt-Indies, or the great Chineſe Hemp, or the large ſort which Parkinſon received from Virginia, are different from our Hemp, except in ſize.

Hemp is named in German *Hanf*, or *Hampf*; in Dutch *Hennip* or *Kennip*; in Daniſh *Hamp*; in Swediſh *Hampa*; in French *Chanvre*; in Italian *Canapa*; in Spaniſh and Portugueze *Canamo*; in Ruſſian *Konapli, Konopel, Kanaple*; in Poliſh *Konop*; in Illyrian and Sclavonian *Konoplija*; in Walachian *Kænepe*; in Hungarian *Kender*; in Tartarian *Kinder*; in Armenian *Kanop*; in Arabian *Sjaranck*; in Perſian *Cannab*; in Chineſe *Ma fuen, Chu tſao.* There can be no doubt but that the Greeks took their name from the Eaſtern *Kanop* or *Cannab*, and that the plant originally migrated into Europe from thoſe countries, notwithſtanding what Pliny and Dioſcorides affirm of its growing wild in Europe.]

PROPAGATION AND CULTURE.

Hemp is commonly ſown on a deep, rich, moiſt ſoil, ſuch as is found in the tract called Holland in the county of Lincoln, and the fens of the iſle of Ely, where it is cultivated to great advantage; as it might in many other parts of England, where there is the like ſoil; but it will not thrive on clay, or ſtiff cold land. [It is however found that it will do very well after Turneps on friable loams, and good ſands, provided it be well manured. Spalding-moor in Lincolnſhire is a barren ſand, and yet with proper care and culture, it produces as fine Hemp as any in England, and in large quantities. In the iſle of Axholme, in the ſame county, the culture and management of it is the principal employment of the inhabitants; and according to Leland, it was ſo in the reign of Henry VIII.[e] In the county of Suffolk, in the diſtrict extending from Eye to Beccles, it is cultivated on a ſandy loam, with great ſucceſs[f]. On ſuch ſoils, the quantity is not ſo great as in a black rich mould, but the quality is much finer, and therefore better adapted to the fabric of hempen cloth.]

Hemp is eſteemed a cleanſing crop; for it deſtroys all weeds, by depriving them of their nouriſhment; but at the ſame time it is a great impoveriſher of land, and therefore muſt not be repeated on the ſame ground. [It may however be grown, with ſucceſs on the ſame land many years, by manuring annually; it is even ſaid that it has been ſown on the ſame piece for ſeventy years together. If it ſtands for feed, it is on all hands acknowledged to be an exhauſting crop; but if it be cut without feed, it is on the contrary ſuppoſed by many to improve the land, and to be an excellent preparation for Wheat.

The land on which Hemp is to be ſown muſt have three earths given it, with harrowing ſufficient to make the ſoil perfectly fine; it is laid flat with as few furrows as poſſible. It muſt be well manured with twenty-five or thirty three-horſe loads of muck, or from ſixteen to twenty loads of dung to an acre, immediately after wheat-ſowing is finiſhed[g]; or, according to others, a fortnight before ſeed-time, which is from the beginning, or rather the middle, to the end of april. If ſown earlier, the ſpring froſts will greatly injure, if not deſtroy the plants. Sowing is ſometimes deferred to the middle of may; but the ſeaſon permitting, early ſowing is to be preferred, becauſe the quality of the Hemp is then ſuperior[h].]

Three buſhels is the uſual allowance for ſowing an acre, but two is fully ſufficient. [Others recommend eleven, or from nine to twelve pecks to the acre, according to the ſtrength of the ſoil; and ſome ſow as much as three buſhels and half[i].] In the choice of the ſeed, the heavieſt and brighteſt coloured ſhould be preferred; and ſome of them ſhould be cracked to ſee if they have the germ perfect. [The ſeed ſhould be gently and lightly harrowed in: and the birds muſt be kept off the land till the plants appear[k].]

In the fen countries, the plants are hoed out in the ſame manner as is practiſed for Turneps, leaving them a foot or ſixteen inches apart, and cutting down all the weeds: they give them a ſecond hoeing about a month or ſix weeks after the firſt. If theſe hoeings be well performed, the crop will not require any farther care, for the Hemp will ſoon cover the ground, and prevent all growth of weeds.

[In other places no weeding is ever given it, the Hemp of itſelf choking every other plant.]

The firſt ſeaſon for pulling the Hemp, is uſually about the middle of auguſt, when they begin to pull the Fimble [Femble or Thimble Hemp[l]], that is, the male plants. But it would be much better to defer this a fortnight or three weeks, [if the Hemp is to ſtand for ſeed] until theſe male plants have fully ſhed their duſt, without which it is well known, the ſeeds will not grow, nor will thoſe concerned in the oil-mills give any thing for them. The ſecond pulling is a little after michaelmas, when the ſeeds are ripe: this is of the female plants, Seed Hemp or Karle Hemp as it is uſually called. It is bound in bundles a yard in compaſs; they are laid in the ſun a few days to dry, and then are ſtacked up or houſed till the ſeed can be threſhed out. An acre of Hemp, on a rich ſoil, will produce near three quarters of ſeed; which, together with the unwrought Hemp, is worth from ſix to eight pounds.

[When Hemp is intended for making thread only, without any regard to the ſeed, the male and female Hemp is pulled together, thirteen or fourteen weeks after ſowing. The leaves turning yellow, and the ſtalks white are ſigns of its maturity. The wetter the ſeaſon the longer it ſtands; and it bears a dry year better than a wet one.

When the Hemp is all pulled up, it is bound in ſmall bundles, of ſuch a ſize as may be graſped with both hands, and tied with bands at each end; theſe bundles are called *baits*. Thus prepared the Hemp is conveyed to the water, in order to undergo the operation of *water-retting*[m]. For this purpoſe claypits are preferred to running water, and are cleaned out once in ſeven or eight years. Three ſmall waggon loads, the common produce of one acre, may be laid in one bed. The ſame water is not proper for receiving Hemp more than three times in a ſeaſon, although they will water ſometimes five times in the ſame hole; the firſt water however always produces the beſt colour, in the leaſt time. If it be neceſſary to wait, they pull as the hole is ready, not chooſing to leave it on the land after it is pulled. The bundles are placed in rows croſſing each other, and are kept under water by blocks and logs of wood. It ſoaks generally four days, if the weather be warm; if not, five or ſix; till the outſide coat eaſily rubs off. It is then ſpread out ſingly on graſs, and turned, if there be ſhowers, thrice a week; if not, twice a week. This is called graſſing, and requires five or ſix weeks. It is then tied up in large bundles of eight or ten baits, and carted home to a barn or houſe for *breaking*, by a machine called a *brake*: this is either done directly, or the bundles are laid up dry till december or january, for that purpoſe. Thus prepared, the Hemp is bound up in bundles, weighing a ſtone or fourteen pounds and a half each, and carried to market. The Hemp which breaks off in the operation, is called ſhorts; this is bound up by itſelf, and is about half the value of the long Hemp. The offal is called hemp-ſheaves, makes good fuel, and ſells at two-pence a ſtone.

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[e] Bath papers, 2. 375.

[f] Survey of Suffolk, 48.

[g] Ibid.

[h] Mills in Young's ann. 9. 377.

[i] Ibid, and 10. 377. and Survey of Suffolk, 48.

[k] Young's ann. 9. 377.

[l] Theſe names are a corruption of *Female*, the male plants having been taken for females, and *vice verſa*; by all ancient, and many modern writers. This error is continued in Abbé Brulles's memoir on Hemp, printed by the Lords of Trade and Plantations.

[m] Corrupted from *rotting*.

The cuſtom of many places is to dew-ret their Hemp; that is, to ſpread it on meadow land, as ſoon as pulled, turning it frequently; but this is a very bad method, for the bark will not come off compleatly, it therefore requires more violent means to be uſed for bleaching the yarn, and conſequently diminiſhes the ſtrength: it is likewiſe much ſooner injured in rainy ſeaſons.

Hemp, when left for ſeed, is ſeldom water-retted. It is generally ſtacked and covered during the winter, and ſpread upon graſs in january or february. If the ſeaſon ſuits, particularly if it be covered with ſnow, it will come to a good colour, and make a ſtrong coarſe cloth: but it is much inferior to Hemp pulled in proper time, and water-retted.

The Hemp now paſſes from the grower to the hickler or heckler, who firſt bunches or beats it, either by hand, or more frequently by a mill; and then dreſſes or combs it, by drawing it through hickles or heckles, reſembling wool-combers tools, only fixed. It is dreſſed finer or coarſer, to ſuit the demands of the purchaſers: ſometimes the whole is worked together for one ſort, and ſometimes it is divided into two or three ſorts, called *long ſtrike, ſhort ſtrike,* and *pull tow.* The heckler either ſells the tow to ſpinners and weavers, or puts it out to ſpin himſelf, and diſpoſes of the yarn to the latter. The weaver delivers the yarn to the whiteſter, who returns it to him bleached. This is a difficult operation; the art conſiſting in procuring the beſt colour with the leaſt diminution of ſtrength. It is performed by laying the yarn in large tubs, covered with thick cloths, upon which aſhes are placed; and pouring hot water daily through it, turning the yarn frequently, until the bark comes off; and then it is ſpread on poles in the air. In general, hempen cloth is ſold as it comes from the loom, and is bleached by the purchaſer; ſome however is bleached, ready for weaving either by the weaver or by a whiteſter. This is done by boiling it in lye, made from aſhes, and frequently ſpreading it on graſs.

Although Hemp, in the proceſs of manufacturing, paſſes through the hands of the breaker, heckler, ſpinner, whiteſter, weaver, and bleacher; yet many of theſe operations are frequently carried on by the ſame perſon. Some weavers bleach their own yarn and cloth, others their cloth only; ſome heckle their tow, and put it out to ſpinning, others buy the tow, and put it out; and ſome carry on the whole of the trade themſelves.

When the trade is conducted by different perſons, their intereſts often claſh. By under-retting the Hemp, the grower increaſes the weight; by ſlightly beating it, the heckler increaſes the quantity of tow, but leaves it fuller of bark; by drawing out the thread beyond the ſtaple, the ſpinner increaſes the quantity of yarn, but injures the quality; by forcing the bleaching, the whiteſter increaſes his profit, but diminiſhes the ſtrength of the yarn; in general, in manufacturing cloth, ſtrength is ſacrificed to fineneſs and colour. All this requires regulation[a].

The above is the practice in the county of Suffolk, and probably differs in ſome particulars in other counties.

The expenſe of an acre of Hemp may be eſtimated at eight or nine pounds; and the average produce at forty-five ſtones, which at 7s. 6d. the ſtone is 16l. 17s. 6d. Some crops riſe to fifty-five ſtones, and even more; but there are bad ones ſo low as twenty-five: the price varies from 6s. to 9s. and even 10s. the ſtone. Some carry the expenſes ſo high as 14l.; but in that caſe the crop is ſo much greater and better, as to be valued at 20l.

The objections to this crop are, that its coming in the midſt of harveſt is embarraſſing; and that the attention it demands in every ſtate of its progreſs is too great, where it is only a ſecondary conſideration: it is however of great conſequence to the country, as a ſupport for the poor, and therefore deſerves every encouragement from the legiſlature*.

Cannabis lutea. See *Datiſca.*

——— spuria. See *Galeopſis.*

——— virginiana. See *Acnida.*]

Cannacorus. See *Canna.*

[Canschi. See *Trewia.*

Cantabrica. See *Convolvulus.*

Canterbury Bells. See *Campanula.*

Cantharellus. See *Agaricus.*

Cantharifera. See *Nepenthes.*

Capa-veela. See *Cleome.*]

Cape Aster. See *Cineraria.*

——— Jasmin. See *Gardenia.*

Caper. See *Capparis.*

[Caper Bean. See *Zygophyllum.*

Capyllus Veneris. See *Adiantum.*]

Capnoides,
Capnorchis, and } See *Fumaria.*
Capnos.

CAPPĂRIS. (Παρὰ τὸ καπτάνειν ἀράν, *from its curing madneſs and melancholy.*)

Engl. *Caper-buſh.* Fr. *Caprier, Taperier.*

Lin. gen. n. 643. *Reich.* 699. *Schreb.* 876. *Tournef.* 139. *Juſſ.* 243. Breynia. *Plum.* 11. Cadaba. *Forſk. Juſſ.* 243. Crateva. *Brown. t.* 28. *f.* 1.

Claſſ. 12. 1. Polyandria Monogynia.

Nat. order of *Putamineæ. Capparides* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved, coriaceous; *leaflets* ovate, concave, gibbous.

Cor. *Petals* four, obtuſe, ſpreading, very large.

Stam. *Filaments* numerous, filiform, patulous. *Anthers* oblong, verſatile, inclined.

Pist. *Germ* pedicelled. *Style* none. *Stigma* obtuſe, ſeſſile.

Per. *Berry* corticoſe, one-celled, pedicelled.

Seeds numerous, reniform, neſtling.

Obs. *The figure of the fruit is very different in different ſpecies. Hence the genus may be divided into two ſections: 1. with a berried fruit; 2. with a ſiliquoſe fruit.*

ESSENTIAL CHARACTER.

Calyx four-leaved, coriaceous. *Petals* four. *Stamens* long. *Berry* corticoſe, one-celled, pedicelled.

SPECIES.

1. Capparis ſpinoſa. *Prickly Caper-buſh.*
Lin. ſpec. 720. *Reich.* 2. 563. *mat. med.* 133. *hort. cliff.* 203. *Hall. helv. n.* 1077. *Scop. carn. n.* 632. *Smith ſpicil.* 2. 18. *t.* 20. *Blackw. t.* 417. *Gron. orient.* 154. *Bauh. hiſt.* 2. 63. *pin.* 480. 1. *Raii hiſt.* 1629. 1. *Ger.* 748. 2. *emac.* 895. 2. *Park.* 1023. 1.
β. C. fol. acuto. *Bauh. pin.* 480. 2. *Raii hiſt.* 1629. 2. *Ger.* 748. 1. *emac.* 895. 1. *Park.* 1023. 2.
C. ſicula, &c. *Bocc. ſic.* 79. *t.* 42. *f.* 3. *Raii hiſt. n.* 5.
Peduncles one-flowered ſolitary, ſtipules ſpiny, leaves annual, capſules oval.

[2. Capparis zeylanica.
Lin. ſpec. 720. *Reich.* 2. 564. *fl. zeyl. n.* 210. *Lour. cochinch.* 330.
C. ſpinoſa, fol. oblongis. *Burm. zeyl.* 53. *ind.* 118.
Peduncles one-flowered ſolitary, ſtipules ſpiny, leaves ovate ſharp at both ends.

3. Capparis horrida.
Lin. ſyſt. 488. *ſuppl.* 264.
Peduncles axillary by two, ſtipules prickly, branches flexuoſe, leaves ovate-lanceolate mucronate ſmooth.

4. Capparis ſepiaria.
Lin. ſpec. 720. *Reich.* 2. 564.
Arbuſcula baccifera ſcandens ſpinoſa, fol. buxi pallidioribus. *Pluk. alm.* 27. *t.* 338. *f.* 3.
Peduncles umbelled, ſtipules ſpiny, leaves annual ovate emarginate.

5. Capparis frondoſa.
Lin. ſpec. 1674. *ſyſt.* 488. *Reich.* 2. 564. *Jacqu. amer.* 162. *t.* 104. *pict.* 79. *t.* 153.
Peduncles umbelled, leaves every where crowded.

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[a] Young's ann. 10. 378, &c. 9. 378. Survey of Suffolk, 49.

* Young's Survey of Suffolk, 52.

6. Capparis ferruginea.
Lin. ſpec. 721. *Reich.* 2. 564. *amœn.* 5. 398. *Swartz obſ.* 208.
C. octandra. *Jacqu. amer.* 160. *t.* 100. (bad.)
Cratæva fruticoſa, &c. *Brown. jam.* 247. *t.* 28. *f.* 1. (good.)
Peduncles umbelled, leaves permanent lanceolate tomentoſe beneath, flowers eight-ſtamened.]

7. Capparis Baducca.
Lin. ſpec. 720. *Reich.* 2. 564. *hort. cliff.* 204. 3.
Baducca. *Rheed. mal.* 6. 105. *t.* 57. *Burm. ind.* 118. *Raii hiſt.* 1630.
Peduncles one-flowered, leaves perennial ovate-oblong, determinately crowded, naked.

8. Capparis cynophallophora.
Lin. ſpec. 721. *ſyſt.* 488. *Reich.* 2. 565. *Jacqu. amer.* 158. *t.* 98. *pict.* 77. *t.* 145. (good.) *Plum. ic.* 73. *f.* 1. *Brown. jam. t.* 27. *f.* 1. (Breynia 1.)
Cynophallophorus. *Pluk. alm. t.* 172. *f.* 4.
Acaciis affinis arbor ſiliquoſa, &c. *Sloan. jam.* 2. 59. *Raii dendr.* 102.
Peduncles many-flowered terminal, leaves oval obtuſe perennial, glands axillary.

[9. Capparis pulcherrima.
Lin. ſpec. 1674. *ſyſt.* 488. *Reich.* 2. 565. *Jacqu. amer.* 163. *t.* 106. *pict.* 80. *t.* 155.
Peduncles racemed, leaves oblong obtuſe, fruits berried.

10. Capparis linearis.
Lin. ſpec. 1674. *ſyſt.* 488. *Reich.* 2. 566. *Jacqu. amer.* 161. *t.* 102. *pict.* 79. *t.* 151.
Peduncles ſubracemed, leaves linear.]

11. Capparis Breynia.
Lin. ſpec. 721. *Reich.* 2. 566. *hort. cliff.* 204. 2. *Jacqu. amer.* 161. *t.* 103. *pict.* 79. *t.* 152. *Swartz obſ.* 210.
C. cynophallophora. *Lin. ſpec. ed.* 1. 503.
Breynia elæagni fol. *Breyn. ic.* 13.
Br. affinis arbor octandra. *Loefl. it.* 207.
Peduncles racemed, leaves permanent oblong, calyxes and peduncles tomentoſe, flowers eight-ſtamened.

[12. Capparis haſtata.
Lin. ſpec. 722. *ſyſt.* 488. *Reich.* 2. 566. *Jacqu. amer.* 159. *t.* 174. *f.* 56. *pict.* 78. *t.* 147.
Peduncles many-flowered, leaves haſtate-lanceolate glittering.

13. Capparis flexuoſa.
Eadem cum cynophallophora. n. 8.]

14. Capparis ſiliquoſa.
Lin. ſpec. 721. *Reich.* 2. 566.
Peduncles many-flowered compreſſed, leaves permanent lanceolate-oblong acuminate dotted beneath.

[15. Capparis grandis.
Lin. ſyſt. 488. *ſuppl.* 263.
Corymbs terminating, leaves ovate acute ſmooth, fruit globular.

16. Capparis magna.
Lour. cochinch. 331.
Stem arboreous, unarmed; leaves ternate lanceolate; corymbs terminating.

17. Capparis falcata.
Lour. cochinch. 331.
Stem arboreous, unarmed; leaves ternate ſickle-ſhaped, racemes looſe terminating.

18. Capparis cantonienſis.
Lour. cochinch. 331.
Peduncles racemed, ſtipules thorny, leaves ovate acuminate wrinkled.

19. Capparis toruloſa.
Swartz prodr. 81.
Breynia arboreſcens, &c. *Brown. jam.* 246. 2.
Peduncles ſubbiflorous round terminating, leaves lanceolate-oval dotted with white underneath, pods round linear toruloſe.

20. Capparis longifolia.
Swartz prodr. 81. *Pluk. phyt. t.* 327. *f.* 6.
Leaves linear-lanceolate dotted with meal underneath.]

Mr. Miller has alſo the following ſpecies.

21. Capparis arboreſcens.
Mill. dict. n. 3.
Leaves lanceolate-ovate, perennial; ſtem arboreſcent.

22. Capparis racemoſa.
Mill. dict. n. 5.
Leaves ovate oppoſite perennial; flowers racemed.

23. Capparis fruticoſa.
Mill. dict. n. 7.
Leaves lanceolate acute crowded perennial, ſtem ſhrubby.

24. Capparis conferta.
Mill. dict. n. 8.
C. alia arboreſcens lauri fol., fructu oblongo ovato. *Plum. cat.* 7.
Leaves lanceolate alternate on very long petioles; flowers crowded.

25. Capparis triflora.
Mill. dict. n. 10.
Leaves lanceolate nerved perennial, peduncles three-flowered.

DESCRIPTIONS, *&c.*

This genus conſiſts of ſhrubs. The leaves are ſimple, in the berry-bearing ſorts having frequently two ſpines at the baſe, but in thoſe which bear pods commonly naked or biglandular. Flowers ſolitary axillary or in a kind of corymb, terminating[a]. Some of the ſpecies have a berry: as *ſpinoſa, zeylanica, horrida, ſepiaria, ferruginea, pulcherrima, grandis, magna, falcata, cantonienſis.* Others have a ſilique or pod for a fruit: as *frondoſa, Baducca, cynophallophora, linearis, Breynia, haſtata, toruloſa, longifolia*[b]. Swartz unites *Moriſonia* to this genus, under the name of *Capparis Moriſonia.*]

1. The common Caper-buſh is a low ſhrub, generally growing out of the joints of old walls, the fiſſures of rocks, and among rubbiſh. The ſtems are woody, and covered with a white bark. [They are trailing, round, ſmooth, and branching: branches alternate, ſpreading, often downy, leafy. Leaves alternate, on ſhort foot-ſtalks, ſpreading, oval or roundiſh, in the wild plant often terminated by a little ſharp point, which diſappears by culture, entire, veiny, ſucculent, bright green, deciduous. Scopoli adds, that they are four times as long as the foot-ſtalks. Stipules none, but in their ſtead two ſpines at the baſe of the foot-ſtalks, acute, ſomewhat recurved, yellowiſh, in the cultivated plant nearly obliterated. Bractes none. Flowers numerous, axillary, ſolitary, large, handſome, inodorous. Peduncles round, longer than the leaves[c], reddiſh, nearly horizontal, but finally pendulous[d]. Calyx of four unequal, concave leaves, tipped with purple[e]; three of the leaflets are long and narrow, the fourth is larger, and turned downwards[f]. Petals much larger than the calyx, ſpreading, obovate, waved, white with a faint tincture of red. Haller remarks, that they are tender and flaccid, that two of them are continued ſome way into the calyx, and the other two free. Stamens very numerous (about ſixty, *Scop.*), the length of the petals, ſpreading, ſlender, in the upper part pale purple like the anthers. According to Scopoli, they are longer than the petals, and unequal: the anthers yellow, with a whitiſh pollen. Germ oval, ſmall, green, ſtanding on a round purpliſh foot-ſtalk, which is longer than the ſtamens. Capſule (Linneus calls it a berry) oblong-oval, coriaceous[g].

It grows wild in the ſouthern countries of Europe, and in the Levant, on rocks, walls, and in dry places. Mr. Ray obſerved it on the walls of Rome, Sienna, and Florence wild, and about Toulon cultivated. I remarked it at Verona.

It is ſurpriſing, ſays Dr. Smith, that this beautiful ſhrub, which is as common in the South of France as the Bramble with us, and which grows luxuriantly in the open air when trained againſt a wall even at Paris, ſhould be almoſt unknown in the Engliſh gardens, where it can ſcarcely be made to flower, except in a ſtove with all poſſible care.

Gerarde tells us, that he put ſome ſeeds into the brick walls of his garden, " which did ſpring and grow green :" and Bradley ſowed ſome ſeeds, which he procured from Italy, in the garden walls of

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[a] Juſſieu gen. [b] Swartz. obſ. [c] Smith. [d] Scopoli. [e] Smith. [f] Haller. [g] Smith.

Campden houſe near Kenſington, about the year 1716.] Mr. Miller mentions an old plant growing there, which reſiſted the cold many years, and annually produced many flowers, but the young ſhoots were frequently killed to the ſtump during the winter.

[The flower-buds, which are produced in great plenty on the wild plant, are well known as a pickle. The unripe fruit is in Italy prepared in the ſame manner. Every part of the plant in a recent ſtate is highly acrid and burning to the taſte[h].

β. This, which is a mere variety, was obſerved by Boccone near Girgenti and Terra di Palmi in Sicily. It has the flower, capſule and ſeed of the common ſort; but the leaves are ſharp at the end.

2. Stem ſhrubby, ſix feet high, upright but weak: branches divaricating. Leaves alternate, remote, quite entire, running into the petioles, which are very ſhort; at their origin are two ſharp, recurved ſpines. Peduncles axillary, ſingle or two together, one-flowered. Petals white, oblong, ſpreading, nearly equal; with a lateral, prominent, cloven nectary. Stamens thrice the length of the corolla[i].

Linneus remarks, that it differs little from the firſt ſpecies; and that it is difficult to determine whether they be really diſtinct, ſo long as the fruit of this is unknown. Loureiro deſcribes it to be a roundiſh, fleſhy, black, ſmall, one-celled berry, placed on a long pedicel, and containing three ſeeds. Native of Ceylon and Cochinchina, in hedges.

3. This is a ſtiff tree, with double ſtipular prickles, red and rigid, from the baſe of the leaves, which are petioled, and end in a ſmall ſpine. Peduncles in pairs, one-flowered. Found in Coromandel by Koenig[k].

4. Branches round and woody. Spines ſtipular, double, recurved, ſhort, black. Leaves ſubpetioled, hairy ~~naked~~, quite entire. Umbels terminating, ſimple, many-flowered; with a no ſhort common peduncle. Native of the Eaſt-Indies[l].

5. Height about ſeven feet, extending as far as twenty. Branches very few and ſcarcely divided. Leaves acute, ſhining, waved, quite entire, ſubcoriaceous, petioled, varying much in ſize, frequently a foot long. Common peduncle round, ſhining, erect, terminal, ſolitary, bearing at the end in an umbel a few flowers without ſmell, green or purple, an inch in diameter: after fecundation the petals are revolved, and the ſtamens variouſly twiſted. Pods an inch or an inch and half in length, ſhining, dark purple, with a whitiſh fleſh[m]. Native of South America, in thickets.

6. This is a ſmall tree or a ſhrub, with ſtriated rufous or ferruginous coloured branches. Leaves oppoſite, ovate-lanceolate, quite entire, lanuginous-aſh-coloured beneath, ſmooth on the upper ſurface. Petioles ferruginous, ſhort. Flowers in a ſort of corymb, terminating, on bifid or trifid peduncles. Corollas white. Calyx quadrifid, flat at the baſe, and permanent: ſegments ſpreading, equal, acute. Petals equal, concave, the claws the length of the calyx, into the diviſions of which they are inſerted. Nectaries four, ovate, between the petals and the column of the piſtil. Filaments eight, ſeldom more, fixed to the pedicel of the germ, ſhorter than the corolla: anthers oblong, inſerted into the filaments. Germ ovate, on a round pedicel, half the length of the corolla: ſtigma ſeſſile, head-club-ſhaped. Berry fleſhy, oblong. Seeds few (five or ſix) oblong. The flowers are fragrant[n]. The plant is ſtrongly impregnated with an acrid volatile ſalt, like the Muſtard tribe; and hence in Jamaica, where it grows wild, it has obtained the name of the Muſtard ſhrub[o]. Browne, miſled by this circumſtance, and the regularity in form and diſpoſition of the calyx, petals and nectaries, has referred this plant to the Tetradynamia claſs.

7. Leaves ſmooth on both ſides, obſcurely netted, eſpecially beneath[p].] According to Mr. Miller, it has a tree-like ſtem dividing into ſmooth branches, having no ſpines on them; the peduncles come out ſingly from the axils: the flowers are like thoſe of the firſt, but are much larger, as are alſo the buds.

[It is a native of the Eaſt-Indies, where it is cultivated for the beauty of the flowers, which are produced in the month of january[q].

8. This ſpecies varies conſiderably in its habit or general appearance, according to the ſoil in which it is found: in ſunny hedges it is weak, thin, and as it were ſupported by the neighbouring vegetables; but in fields and towards the ſhores it is a kind of ſhrub or little tree of twelve feet high, and of a pretty appearance. The leaves are alternate, petiolated, ſmooth on both ſides, thickiſh, ſomewhat ſtiff and about three inches long: they are alſo either ovate, obovate, or even lance-ovate, but more frequently oblong. In the axilla of the leaves there is a roundiſh ſolitary gland, which is ſcarce ever miſſing. The flowers are beautiful, very patulous, and extremely fragrant, of a white or greeniſh white; the ſtamens often four inches long. The ſilique about half a foot long, of various degrees of thickneſs, outwardly green or greeniſh purple with a red ſuture; and when ripe ſplit longitudinally, each part rolling back to the very footſtalk, and ſucceſſively letting fall the ſeeds, which are coated with a white bark externally, and greeniſh internally, and are ſurrounded by a ſcarlet fleſh or pulp.

Native of the Weſt-Indies[r].] Mr. Miller ſays, that it was ſent him from Carthagena, by Mr. Robert Millar, ſurgeon.

[9. This is an upright ſhrub, in open ſituations only two or three feet high, but in woods twelve. Branches ſmooth. Leaves ſhining, quite entire, coriaceous, alternate, on ſhort petioles, and frequently ten inches long. Raceme terminating, ſimple, erect, thick, ſolitary, half a foot long, very ſpecious. Flowers beautiful, pale yellow, of a very ſweet ſcent. Filaments at firſt white, then bright purple. Each raceme has only one or two berries, from two to four inches in diameter variegated green and brown on the outſide; the fleſh or pulp when unripe hard and having little ſcent; but when ripe ſoft, nauſeous, and ſo fetid that no animal will touch it. Native of Carthagena in New Spain, on declivities of the mountains[s].

10. This ſpecies, which grows in great plenty on the woody hills of Carthagena, is an elegant, upright, branchy tree, about fifteen feet high: the leaves are linear, coriaceous, entire, unveined, obtuſe, with a very protuberant midrib: the ſides are often revolute. The racemes are terminal, or axillary, ſupporting about ten flowers, more or leſs, and they commonly grow in an horizontal poſition. The flowers are white, inodorous, and about half an inch in diameter. The fruits are orange-coloured with a redneſs intermixed, and about an inch diameter[t].

11. This is a ſmall tree, with an upright, ſmooth trunk, and flexuoſe branches, ſcarred with the fallen leaves; twigs angular and pubeſcent. Leaves alternate, ſcattered, acuminate, nerveleſs, ſmooth on the upper ſurface and ſhining, beneath hoary-ferruginous or aſh-coloured, covered with very minute ferruginous dots. Petioles angular, hoary-ferruginous. Peduncles terminating, ſomewhat branched, forming a ſort of umbel, compreſſed, marked with lines, ferruginous. Flowers rather large. Leaflets of the calyx reflex, convex, white on the inſide, ferruginous beneath and ſomewhat rugged. Petals twice as large as the calyx, entire, white tinged with purple, ſpotted with ruſt-colour on the outſide, deciduous. Nectariferous glands four, ſmall, ovate, acute, compreſſed, permanent. Filaments long, meeting at the baſe round the germ, with a pale red pile on them. Anthers almoſt erect, acuminate, curved inwards, yellow. Germ elongated, minute, on a very ſhort pedicel. Style the length of the

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[h] Smith.
[i] Lour. cochin. and Linn. zeyl.
[k] Linn. ſuppl. and Retz. obſ. 5.
[l] Linn. ſpec.
[m] Jacquin.
[n] Swartz.
[o] Browne.
[p] Linn.
[q] Hort. malab.
[r] Jacquin.
[s] Ibid.
[t] Ibid.

ſtamens. Stigma thickened, obtuſe, ferruginous. The fruit is a long, cylindric, ſubtoruloſe, two-valved legume; containing ſeveral, kidney-ſhaped ſeeds.

It is a native of dry coppices near the ſea in Jamaica[u], and moſt of the other iſlands in the Weſt-Indies.

12. A native of Carthagena, growing in woody places. It is an upright, weak ſhrub, divided into a few very long branches, often ſix feet long. The leaves are alternate, petiolate, coriaceous, ſtiff, and from three to ſeven inches in length, and recede ſometimes from an oblong and entire figure almoſt to a haſtated one on the ſame ſhrubs. The common footſtalks of the flowers are cluſtery, terminal, almoſt half a foot long, and ſupport about eight flowers, which are ſomewhat odorous, purple, and nearly two inches in diameter.

13. This is in no wiſe different from *Capparis cynophallophora* of Linneus and Jacquin. It was determined from an imperfect ſpecimen in the Linnean herbarium; and firſt deſcribed, in the *Amoenitates Academicæ* (5. 398.) under the name of *Moriſona flexuoſa*[x].

14. According to Linneus, this reſembles the eighth ſpecies. The leaves are extremely acuminated, the upper ſurface is glittering, and the lower is powdered with ferruginous duſt[y].]

Mr. Miller ſays, it riſes with a ſhrubby ſtalk to the height of eight or ten feet, ſending out many woody branches, covered with a reddiſh brown bark, and having oblong, ſpear-ſhaped, ſtiff leaves, with punctures on their under ſide; the peduncles are long, ſlender, compreſſed and axillary, each ſuſtaining a ſmall, white flower, which is ſucceeded by an oval pod, containing many, ſmall, kidney-ſhaped ſeeds. It was ſent him from Tolu in America.

[The ſpecimen in the Linnean herbarium ſeems to be only a variety of *Capparis Breynia*. Browne's ſynonym (247.2.) belongs to *Capparis toruloſa* (n. 19.): and Plukenet's (327. 6.) to *C. longifolia* (n. 20.)[a]

15. This is a large hoary tree. Leaves alternate quite entire, veined. Stipules none. Corymbs, when fruit-bearing, elongated into a raceme. Flowers whitiſh-yellow. Fruits very large, and globular. Found in Ceylon by Koenig[a].

16. This is a middling-ſized tree, with ſpreading, unarmed branches. Leaves quite entire, ſmooth. Flowers large, white, in ſpreading corymbs. Calyx wheel-ſhaped, with lanceolate, flat, interrupted leaflets. Petals broad-ovate, ſharp at both ends, many-nerved, veined, ſpreading, equal, with long claws. Filaments twenty-four, very long. Anthers three-celled, oblong, recurved. Germ roundiſh, pedicelled. Style ſhort. Berry roundiſh, two inches long, fleſhy, eatable, with a dotted, rough rind, of a greeniſh aſh-colour, within one-celled, containing many, kidney-ſhaped neſtling ſeeds.

Native of Cochinchina, on the banks of rivers. Much reſembling *C. grandis*, and differing from it principally in its ternate leaves.

17. This is a large tree, with ſpreading, unarmed branches. Leaves ovate-lanceolate, the lateral ones ſickle-ſhaped at the baſe, quite entire, ſmooth, petioled. Corolla white, reſembling that of the foregoing ſort. Stamens eighteen. Berry oblong, red, large, one-celled, pedicelled, with many neſtling ſeeds.

18. Stem ſhrubby, upright, branched. Leaves quite entire, ſmooth, alternate. Flowers white, axillary and terminating. Calyx five-leaved; leaflets oblong, concave, coloured. Petals five, oblong, ſpreading, equal to the calyx. Filaments long. Berry ovate, ſmall, brown, pedicelled, containing many ſeeds. This and the foregoing are natives of China near Canton[b].

19. This grows into a ſhrubby tree, and is a native of Jamaica[c].

20. This alſo is a native of Jamaica.]

21. This ſort I received from Carthagena in New Spain, near which place it grows naturally. This riſes with a woody ſtem to the height of twelve or fourteen feet, ſending out many lateral branches, covered with a ruſſet bark, garniſhed with oblong oval leaves, ſtanding upon long foot-ſtalks; the flowers are produced from the ſide of the branches, ſingle, ſtanding upon long peduncles, and are like thoſe of the Baducca.

22. This was ſent me from the ſame country. It riſes with a trunk about twenty feet high, ſending out many long ſlender branches, which are covered with a brown bark, and garniſhed with leaves like thoſe of the Bay-tree, but longer and deeply ribbed on their under ſide, ſtanding upon pretty long foot-ſtalks oppoſite. The flowers are produced upon long branching peduncles, which terminate the branches, each ſuſtaining two or three flowers, which are large, white, and are ſucceeded by pods two or three inches long, the thickneſs of a man's little finger, which are filled with large kidney-ſhaped ſeeds: theſe pods have a thick fleſhy cover.

23. This riſes with a ſhrubby ſtem to the height of twelve or fourteen feet, ſending out many ſtrong lateral branches, covered with a dark-brown bark, garniſhed with ſpear-ſhaped pointed leaves, placed alternately, having very ſhort foot-ſtalks; the leaves are of a thicker conſiſtence than thoſe of the Bay-tree; at the foot-ſtalk of each leaf comes out a ſingle flower, almoſt the whole length of the branches; they are ſmall, and ſtand upon ſhort peduncles; the anthers are of a purpliſh colour, but the ſtamens are white. This ſort was ſent me from Tolu.

24. This ſort riſes with a ſhrubby ſtalk to the height of ten or twelve feet, ſending out ſlender horizontal branches, which are covered with a reddiſh bark; the joints of theſe branches are far diſtant; at each of theſe come out ſeveral leaves in cluſters, without order, ſtanding upon pretty long foot-ſtalks; they are ſix inches long, and three broad in the middle, and as thick as thoſe of the Laurel, of a ſhining green, ſmooth on their upper ſide, but have many tranſverſe ribs on their under ſide, which are prominent. I received this ſort from Tolu, with the former.

25. This has ſlender ſhrubby ſtalks, which riſe ſeven or eight feet high, ſending out many woody branches, with very long, nerved, ſpear-ſhaped leaves. The flowers come out at the ends of the branches, three ſtanding upon each peduncle; they are ſmall, white, and are ſucceeded by oval fruit.

PROPAGATION AND CULTURE.

1. The plants of the firſt ſort are with difficulty preſerved in England, for they delight to grow in crevices or rocks, and the joints of old walls or ruins, and always thrive beſt in an horizontal poſition; ſo that when they are planted either in pots, or the full ground, they rarely thrive, though they may be kept alive for ſome years. They are propagated by ſeeds in the warm parts of Europe, but it is very difficult to get them to grow in England. I have ſeveral times ſowed theſe ſeeds without ſucceſs, as have many other perſons; I never had raiſed any of the plants from ſeeds, excepting in the years 1738 and 1765. In 1738 I had three plants come up in an old wall, which being young and tender, were deſtroyed in the year 1740; but in the year 1765, I raiſed a good number of plants from ſeeds, which were ſown the year before.

The roots of this plant are annually brought from Italy, by the perſons who import Orange-trees, ſome of which have been planted in walls, where they have lived a few years, but have not continued long.

[In order to have them flower here, they are now kept in a ſtove.]

The other ſorts being natives of hot countries will not live through the winter in England without the aſſiſtance of a ſtove. They are propagated by ſeeds, which muſt be procured from the countries where they grow naturally, for they do not produce any in England; theſe muſt be ſown in ſmall pots, filled with light ſandy earth, and plunged into a hot-bed of tanner's-bark; which ſhould be now and then refreſhed with water, but by no means ſhould have it given in too great plenty: theſe ſeeds frequently remain in the ground a year before they vegetate, therefore the pots in which they are ſown ſhould be protected in winter; and the ſpring following they muſt be plunged into a freſh hot-bed of tanner's-bark, which will bring up the plants, if the ſeeds were good; when the plants appear they muſt have little water, but much air in warm weather: when they are large enough to remove, they muſt be each tranſplanted into a ſeparate ſmall pot; filled with the ſame earth, and then plunged into the hot-bed again, obſerving to ſhade them until they have taken freſh root; after which they muſt have freſh air admitted to them every day, in proportion to the warmth of the ſeaſon. In the autumn they muſt be removed into the ſtove, and plunged into the bark-bed, where they ſhould conſtantly remain, and will require the ſame treatment as other tender exotic plants from the ſame countries; with this difference only, that they require little water, eſpecially in winter, for the roots of theſe plants are very ſubject to rot with wet.

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[u] Swartz.

[z] Swartz obſ. 211.

[x] Swartz obſ. 211.

[a] Linn. ſuppl.

[c] Browne.

[y] Spec.

[b] Loureiro.

If the ſeeds are brought over in their capſules, they will keep much better than without them; but theſe ſhould be ſecured from inſects, by wrapping them in tobacco leaves which are well dried; without this precaution, the ſeeds will be deſtroyed before they arrive.

[The ſeeds in general germinate immediately, and therefore cannot well be ſent dry to Europe. This, with the difficulty of preſerving the plants, accounts for the preſent ſcarcity of them in our ſtoves, although many of them were cultivated by Mr. Miller.]

Capparis Fabago. See *Zygophyllum.*

CAPRARIA. (*From Caper, a Goat. Goat-weed.*)
Lin. gen. n. 768. *Reich.* 827. *Schreb.* 1030. *Gærtn. t.* 53. *Juſſ.* 118.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ. Scrophulariæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted, oblong; *diviſions* linear, erect, diſtant, permanent, ſhorter than the corolla.

Cor. monopetalous, bell-form, five-cleft, nearly equal; *diviſions* oblong, acute; the two upper ones more erect.

Stam. *Filaments* four, ſubulate, inſerted into the baſe of the corolla, ſhorter by half than the corolla, the two lower ones rather ſhorter than the others. *Anthers* cordate.

Pist. *Germ* conical. *Style* filiform, longer than the ſtamens. *Stigma* cordate, bivalve, equal (bilamellate, *G.*)

Per. *Capſule* oblong-conical, compreſſed at the tip, bilocular, bivalve, with a contrary partition, (which is doubled by the bending in of the edge of the valves.)

Seeds very many, roundiſh.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* bell-form, five-cleft, acute. *Capſ.* bivalve, bilocular, many-ſeeded.

SPECIES.

1. Capraria biflora. *Shrubby Goat-weed,* or *Sweet-weed.*
Lin. ſpec. 875. *Reich.* 3. 168. *Hort. cliff.* 320. *Jacqu. amer.* 182. *t.* 115. *pict.* 90. *t.* 174. *Brown. jam.* 268. *Gærtn. fruct.* 1. 250. *Swartz obſ.* 239.
C. curaſſavica. *Herm. par. t.* 110.
Gratiolæ affinis, &c. *Comm. hort.* 1. 79. *t.* 40.
Lyſimachiæ peruvianæ affinis, &c. *Pluk. alm.* 237. *t.* 98. *f.* 4.
Leaves alternate; flowers in pairs.

[2. Capraria durantifolia.
Lin. ſpec. 876. *Reich.* 3. 169. *amæn.* 5. 399.
Stemodia durantifolia. *Swartz obſ.* 240.
Phelypæa erecta, &c. *Brown. jam.* 269.
Veronica caule hexangulari, &c. *Sloan. jam.* 1. 196. *t.* 124. *f.* 2.
Leaves in threes toothed, peduncles ſolitary, branches alternate.

3. Capraria cruſtacea.
Lin. ſyſt. 567. *Reich.* 3. 169. *mant.* 87. *Burm. ind.* 133.
Caraniſi minus. *Rumph. amb.* 5. 461. *t.* 170. *f.* 3.
Creeping; leaves oppoſite ovate ſubpetioled crenated.

4. Capraria lanceolata. *Willow-leaved Capraria.*
Lin. ſyſt. 567. *ſuppl.* 284. *Ait. hort. kew.* 2. 354.
Leaves oppoſite linear-lanceolate quite entire; racemes terminating compound.

5. Capraria undulata. *Waved-leaved Capraria.*
Lin. ſyſt. 567. *ſuppl.* 284. *L'Herit. ſert. angl. t.* 25. *Ait. hort. kew.* 2. 354.
Leaves oppoſite, ovate-oblong quite entire waved; the upper ſubcordate verticilled; racemes ſpike-form.

6. Capraria lucida. *Shining Capraria.*
Ait. hort. kew. 2. 353.
Leaves oppoſite oblong acute finely ſerrulate gloſſy; petioles winged; peduncles three-flowered.

7. Capraria humilis. *Dwarf Capraria.*
Ait. hort. kew. 2. 354.
Pubeſcent; leaves oppoſite or in threes ovate ſerrate petioled; peduncles axillary ſhorter than the petiole.

DESCRIPTIONS, *&c.*

1. This is a ſhrub, ſeldom exceeding four feet in height. Branches long, ſomewhat woody, erect, roundiſh, ſometimes ſlightly hirſute. Leaves oblong, acuminate to both ends, ſerrate above, ſmooth, ſeſſile, an inch and half long, in the ſhade near five inches in length; on ſandy coaſts ſucculent, thick and brittle, as are alſo the calyxes. Peduncles one-flowered, ſlender, axillary, one or two very ſeldom three, much ſhorter than the leaves. Flowers without ſcent; calyx ſmooth, very deeply five-parted; corolla white, the diviſions hirſute at the baſe; anthers twin; germ ovate, furrowed; ſtigma headed, acute. Capſule furrowed on both ſides, the length of the calyx. Seeds very ſmall.

It is very common in Jamaica: in all the Caribees, and the neighbouring continent. It is one of the plants which was ſuppoſed to be the Tea of the Chineſe, and is called in the French iſlands *Thée du pays*[a]. Cultivated 1759, by Mr. Miller[b].

2. Stem about a foot high, obtuſely hexangular. Leaves two, three or four together, ſeſſile, lanceolate, ſerrate, quite entire towards the baſe, but toothed at the baſe itſelf. Branches ſhorter than the ſtem, ſimple. Flowers axillary. Peduncles the length of the flower. Calyx five-parted, leaflets lanceolate, acuminate. Corolla ringent, tube the length of the calyx, upper lip erect, broader, emarginate, lower, three-parted, equal. Stamens twin, the length of the calyx. Stigma obtuſe, two-lobed. Capſule ovate, acute, two-celled. Seeds many, roundiſh[c]. Native of Jamaica, in ſloughs where mud has been worked up by carriages.

3. It much reſembles *Capr. gratioloides* (which is now removed into the genus *Lindernia*) but the leaves are more ovate and petioled. It is a native of Amboina and China[d].

4. Shrubby. Found at the Cape of Good Hope, by Thunberg and Maſſon. Introduced in 1774[e].

5. Shrubby. Leaves ſcattered, in a ſort of whorl, unequally approximating. Flowers in an almoſt ſimple terminating raceme[f]. Obſerved at the Cape of Good Hope, by Thunberg and Maſſon. Introduced in 1774. It flowers from march to july[g].

6. Smooth. Stems quadrangular. Leaves an inch and half long, with petioles one-third of their length. Peduncles axillary, oppoſite, a little longer than the petioles, quadrangular, three-flowered: the outer pedicels ſometimes three-flowered. Bractes ſubulate, the length of the pedicels. Segments of the calyx ſubulate, three lines in length. Corolla ſalver-form, tube cylindric, pale purple, a little longer than the calyx, gibbous on the outſide at the baſe, above that a little bent, then erect, a little elongated

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[a] Jacquin.
[b] Hort. kew.
[c] Linn. amoen. See Stemodia.
[d] Linn. mant.
[e] Linn. ſuppl. and Hort. kew.
[f] L'Herit. ſert.
[g] Hort. kew.

on the outſide, ſo that the border is entirely horizontal; ſegments ovate, obtuſe, equal, reddiſh purple with a dark purple ſpot near the throat, which is hairy. Anthers oblong, compreſſed. Germ roundiſh: ſtyle ſhorter than the ſtamens: ſtigma large, convex, oblique. Biennial. Native of the Cape; obſerved by Maſſon. It flowers in april and may; and was introduced in 1774.

7. This is an annual. Found in the Eaſt-Indies, by John Gerard Koenig, M. D. Introduced 1781, by Sir Joſeph Banks, Bart.[h]].

PROPAGATION AND CULTURE.

The firſt ſort is propagated by ſeeds, which muſt be ſown upon a hot-bed in the ſpring of the year, and the plants muſt be brought forward by planting them upon a ſecond hot-bed: about the middle or end of june they may be tranſplanted either into pots of rich earth, or a warm border, and may then be expoſed to the open air, where they will perfect their ſeeds in autumn.

[The Cape ſorts may be increaſed by cuttings, and are not ſo tender as the foregoing.

Capraria. See *Lechea*, *Lindernia*, and *Scoparia*.

Caprificus. See *Ficus*.]

Caprifolium. See *Lonicera*.

CAPSICUM. (*From* Κάπτω, *mordeo, to bite: on account of the biting heat of the ſeed and pericarp. Some derive it from Capſa, a cheſt.*)

Engl. *Guinea Pepper.*
Fr. *Poivre d'Inde* ou *de Guinée.*

Lin. gen. n. 252. *Reich.* 269. *Schreb.* 338. *Tourn.* 66. *Juſſ.* 126. *Gærtn. t.* 132.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Luridæ*. *Solaneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cleft, erect, permanent.

Cor. monopetalous, rotated; *tube* very ſhort. *Border* half-five-cleft, ſpreading, plaited; *diviſions* broad, acute.

Stam. *Filaments* five, ſubulate, very ſmall. *Anthers* oblong, converging.

Pist. *Germ* ſuperior, ovate. *Style* filiform, longer than the ſtamens. *Stigma* obtuſe.

Per. *Berry* without pulp, approaching to an ovate figure, bilocular, hollow, coloured. *Receptacles* growing to the diſſepiment, exſuccous.

Seeds very many, reniform, compreſſed.

Obs. *The figure of the pericarp is indeterminate; the genus differs from its congeners in having a baccated exſuccous pericarp.*

ESSENTIAL CHARACTER.

Corol. rotated. *Berry* exſuccous.

SPECIES.

1. Capſicum annuum. *Annual Capſicum,* or *Guinea Pepper.*
Lin. ſpec. 270. *Reich.* 521. *mat. med.* 66. *hort. cliff.* 59. *upſ.* 47. *fl. zeyl. n.* 92. *Gærtn. fruct.* 2. 241. *Lour. cochinch.* 127. *Woodv. med. bot.* 391. *t.* 144. *Plenck, ic. t.* 107.
α. Piper indicum vulgatiſſimum. *Bauh. pin.* 102. *Raii hiſt.* 676. *Blackw. t.* 129. *Beſl. eyſt. aut.* 1. *t.* 6—13.
Capſicum longioribus ſiliquis. *Ger.* 392. *f.* 1. *emac.* 364. *f.* 1. *Park. theat.* 356.
C. ſiliquis longis propendentibus. *Tournef. inſt.* 152. *Long-podded Capſicum.*
β. C. cordiforme. *Mill. dict. n.* 2. *Heart-ſhaped Guinea Pepper.*
C. ſiliqua propendente oblonga & cordiformi. *Tourn. inſt.* 152.
γ. C. tetragonum. *Mill. dict. n.* 3. *Bell Pepper.* See n. 4.
δ. C. anguloſum. *Mill. dict. n.* 4. *Bonnet Pepper.*
C. ſil. ſurrectis cordiform. angulatis. *Tourn. inſt.* 153.
ε. C. ceraſiforme. *Mill. dict. n.* 5. *Cherry Pepper.*
C. ſil. ſurr. Ceraſi forma. *Tourn. inſt.* 153.
ζ. C. olivæforme. *Mill. dict. n.* 6. *Olive Pepper.*
C. ſil. olivæ forma. *Tourn. inſt.* 153.
Stem herbaceous, peduncles ſolitary.

2. Capſicum baccatum. *Small-fruited Capſicum,* or *Bird-Pepper.*
Lin. ſyſt. 226. *Reich.* 521. *mant.* 47. *Plenck, ic. t.* 108. *Lour. cochinch.* 127.
C. fruteſcens β. *Lin. ſpec.* 271. *Mill. dict. n.* 9, 10.
C. fructu minimo conico rubro. *Brown. jam.* 176.
C. rubrum minimum. *Rumph. amb.* 5. *t.* 88. *f.* 2.
C. minus, fr. parvo pyramidali erecto. *Sloan. jam.* 1. 240. *t.* 146. *f.* 2.
C. braſilianum. *Cluſ. exot.* 340. *f.* 2.
Piper ſiliquoſum magnitudinis baccarum aſparagi. *Bauh. hiſt.* 2. 944.
P. braſilianum. *Cluſ. cur.* 55.
Stem ſhrubby ſmooth and even, peduncles in pairs.

3. Capſicum ſinenſe. *Chineſe Capſicum.*
Lin. ſyſt. 226. *Jacqu. hort.* 3. *t.* 67.
Stem ſhrubby, flowers and fruits pendulous.

4. Capſicum groſſum. *Heart-ſhaped Capſicum;* or *Bell Pepper.*
Lin. ſyſt. 226. *Reich.* 522. *mant.* 47. *Thunb. jap.* 93.
C. fructu longo, ventre tumido, per ſummum tetragono. *Tourn. inſt.* 152. C. tetragonum. *Mill. dict. n.* 3.
Piper indicum, ſiliquis ſurrectis rotundis, maximum. *Bauh. pin.* 103. *Raii hiſt.* 677.
P. ind. *Beſl. eyſt. aut.* 1. *t.* 11. *f.* 1.
β. C. fructu bifido. *Tourn. inſt.* 152. *mant.*
Stem underſhrubby, fruits thickened various.

5. Capſicum fruteſcens. *Shrubby Capſicum.*
Lin. ſpec. 271. *ſyſt.* 227. *Reich.* 522. *hort. cliff.* 60. *Lour. cochinch.* 128.
C. indicum. *Rumph. amb.* 5. 247. *t.* 88. *f.* 1, 3, 4.
Capo-molago. *Rheed. mal.* 2. *t.* 56.
Stem ſhrubby roughiſh, peduncles ſolitary.

DESCRIPTIONS, *&c.*

1. [Stem herbaceous, annual, two feet high, upright, branched: branches ſhort, aſcending. Leaves ovate-lanceolate, quite entire, ſmooth, dark green. Flowers white, lateral, ſolitary[a]. The fruit is a berry, varying much in ſize and ſhape; extremely ſmooth and ſhining on the outſide, ſcarlet or yellow, inflated or hollow, two-celled, ſometimes three-celled; the partitions at top commonly failing towards the axis. Receptacle at the bottom of the berry ſolid, ovate-conical, intimately connected with the partitions, ſo that ſome of the ſeeds are ſometimes fixed to the partitions themſelves. Seeds kidney-ſhaped or round, beaked, ſmooth, whitiſh or pale ſtraw-coloured. Two ſeems to be the natural number of the cells; for berries which are three-celled, become two-celled towards the top[b].

Capſicum varies extremely in its fruit; hence Gerard, Parkinſon, Ray, Cluſius, Tournefort, and others have many varieties. Parkinſon has twenty; Ray has fixteen, beſides many from Marcgraaf and Hernandez. Long ſays that there are fifteen varieties cultivated in Jamaica.

Mr. Miller has ten ſpecies, beſides varieties, but ſeveral of his ſpecies are nothing more than varieties; and indeed ſome of Linneus's ſpecies ſeem to be nothing more.]

α. The common long-podded Capſicum is frequently cultivated in our gardens. It varies, 1. with oblong fruit growing erect; 2. with a divided fruit; 3. with oblong and ſhort pods growing erect; 4. with a taper fruit a ſpan long. And of all theſe there is both red and yellow fruit.

β. The Capſicum with heart-ſhaped pods has alſo ſeveral varieties: 1. with round hanging pods; 2. with larger and rounder pods; 3. with the largeſt round pods; 4. with upright heart-ſhaped pods; 5. with upright round pods. Theſe alſo have both red and yellow fruit.

γ. [See n. 4. The *Capſicum tetragonum* however of Miller ſeems to be a variety of *Capſicum annuum*, although it has this ſingularity, that the fruit is conſtantly obſerved to be three-celled[c].

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[h] Hort. kew.

[a] Loureiro. [b] Gærtner. [c] Retz. obſ. 1, 13. n. 21.

δ. Bonnet Pepper has broad wrinkled leaves. The fruit is alſo furrowed and wrinkled, generally growing upright, and of a beautiful ſcarlet colour. Some of the fruits have their tops compreſſed like a bonnet, whence the name; others are bell-ſhaped.

ε. Cherry Pepper was ſent from the Spaniſh Weſt Indies. It does not grow ſo tall as the others, but ſpreads near the ground. The leaves come out in cluſters, are of a ſhining green, and ſtand on long foot-ſtalks. The fruit is round, ſmooth, of a beautiful red, and the ſize of a common cherry.

ζ. Olive Pepper came from Barbadoes. This is like the firſt in ſtalk and leaves, but the fruit is oval, and about the ſize of a French Olive. Theſe are all annual with us, whatever they may be in their native countries; their ſtalks decaying ſoon after the fruit is ripe.

2. [The Capſicum commonly called Bird Pepper differs but little from *C. frutefcens*. The ſtem is more tender, more ſhrubby, and not roughiſh. The berries are very ſmall, of an ovate form, and of the ſize of currants. The branches are divaricated, not ſpreading out at a right angle with the ſtem. The calyxes have ſpreading ſubulate teeth, not obſcure as in that[d].

According to Loureiro, the ſtem is three feet high, ſmooth and upright; with longiſh, ſcattered, ſlender branches. Leaves lanceolate, quite entire, ſmooth, ſcattered, ſmall, petioled. Peduncles one or two-flowered. Berry roundiſh very red, the ſize of a common cherry. The lower leaves are oppoſite, and the upper alternate.

Cluſius informs us, that it was cultivated abundantly in Moravia, in 1585[e]; and it was cultivated here in 1731, by Mr. Miller[f].

The Bird Pepper is gathered when ripe, dried in the ſun, pounded and mixed with ſalt. It is then kept ſtopped in bottles, and is commonly known by the name of *Cayan-butter.*

A mixture of ſliced cucumbers, eſchalots or onions cut very ſmall, a little lime juice and Madeira wine, with a few pods of this or bonnet pepper well maſhed, and mixed with the liquor, ſeldom fails to provoke the moſt languid appetite in the Weſt Indies. It is called there *Man-dram.* The pods gathered freſh from the buſh are alſo liberally uſed in the Weſt Indies, to aſſiſt digeſtion, and correct flatulencies.

Both this and the common Guinea Pepper are given internally to horſes and mules, to cure the dry gripes, occaſioned by rank and four graſs. They are likewiſe applied externally in cataplaſms[g].

Miller has four ſorts with perennial ſhrubby ſtalks.] 1. *Capſicum pyramidale,* n. 7.—2. *C. conoides,* commonly called *Hen Pepper,* n. 8.—3. *C. frutefcens,* commonly called *Barberry Pepper,* n. 9.—4. *C. minimum,* commonly called *Bird Pepper.* They riſe four or five feet high, and are not ſo hardy as the annual ſort.

1. I received the ſeeds of C. pyramidale from Egypt. The leaves are much narrower than thoſe of any other; the pods always grow erect, and are produced in great plenty, ſo that the plants make a good appearance for three months in the winter, and they may be preſerved two or three years; but the young plants being moſt fruitful, few perſons preſerve the old ones longer than till they have perfected their fruit, when they begin to loſe their beauty.

2. *Capſicum conoides* came from Antigua with the title of Hen Pepper. It riſes with a ſhrubby ſtalk three or four feet high, ſending out many branches toward the top. The fruit is about an inch long, in form of an obtuſe cone, of a bright red, and grows erect. This ripens its fruit in winter, when it makes a pretty appearance.

3. *Capſicum frutefcens* grows about the ſame height as the foregoing, but differs in the ſhape and ſize of the fruit, which is about the bigneſs of a Barberry, and nearly of the ſame form.

4. *Capſicum minimum,* commonly known by the title of Bird Pepper in America. This riſes with a ſhrubby ſtalk four or five feet high. The leaves are broad, and rounder at the ends than thoſe of the others, and of a lucid green. The fruit grows at the diviſions of the branches, and ſtands erect; it is ſmall, oval, of a bright red, and much more ſharp and biting than the others. From this ſort not only Cayan butter, but Pepper-pot is made. The latter from the ripe pods, dried in the ſun, and then in an oven after bread is baked, in an earthen or ſtone pot, with flour between the ſtrata of pods. When quite dry they are cleaned from the flour, and beaten or ground to fine powder. To every ounce of this a pound of Wheat flour is added, and it is made into ſmall cakes with leaven; theſe are baked, cut into ſmall pieces, baked again that they may be as dry and hard as biſcuit, and then are beaten into powder and ſifted. This powder is uſed for all the ſame purpoſes with common Pepper, and is uſually called Cayan Pepper.

[I have kept theſe four ſhrubby ſorts of Capſicum, from Miller, together, under the Weſt-Indian ſort, to which they ſeem to belong, rather than to the Eaſt Indian ſhrubby ſort, or *Capſicum frutefcens* of Linneus: but whether that be ſpecifically different from this may be doubted.

3. Trunk perennial, woody, with an aſh-coloured bark. The whole plant is ſmooth. Leaves ovate, acuminate, quite entire, alternate, on long petioles. Peduncles one-flowered, ſolitary or twin, ſhort. Calyx ſmall, ſharp, green. Border of the corolla deeply cut into lanceolate ſegments, whitiſh with a tinge of yellow. Anthers dark violet, erect. Fruit ſhining, ovate, obtuſe, obſcurely angular, yellow. Seeds pale. It is cultivated in Martinico, and uſed there for culinary purpoſes[h].

4. This bears a great reſemblance to the annual Capſicum, and indeed ſeems to be the connecting link between the herbaceous and ſhrubby ſorts. The ſtem is perennial, a ſpan in height, and ſomewhat branching. The fruit, in proportion to the plant is very large, being almoſt as big as an apple, but differing in ſhape; it is ſolitary and erect[i]:] from an inch and half to two inches long, ſwelling and wrinkled, flatted and angular at top. [Cultivated in 1759, by Mr. Miller. *C. baccatum* (n. 2.) was cultivated by him in 1731[k].]

Bell Pepper is the ſort moſt proper for pickling, the ſkin being fleſhy and tender, whereas in the others it is thin and tough. The fruit ſhould be gathered before it arrives at the full ſize, whilſt the rind is tender: it ſhould be ſlit down on one ſide, to get out the ſeeds; after which it ſhould be ſoaked two or three days in ſalt and water. When drained from this, it muſt be covered with boiling vinegar, and cloſely ſtopped down for two months, and then boiled in vinegar to make it green. It wants no addition of ſpice.

If the ripe fruit of this or any of the Capſicums be thrown into the fire, it will raiſe ſtrong and noiſome vapours, which occaſion vehement ſneezing and coughing, and often vomiting. The powder taken up the noſe will occaſion violent and dangerous fits of ſneezing.

[Thunberg relates, that a pretty little dwarf variety of Bell Pepper is much in favour with the Japoneſe, who are very fond of any thing ſtrange or minute.

5. Stem three feet high and rugged; branches diffuſed, frequently ſcandent. Leaves lanceolate, quite entire, waved, ſmall, ſmooth, petioled, alternate or ſcattered. Flowers axillary, ſmall, white, five or ſix-cleft. Fruit at firſt green, but when ripe golden or ſaffron-coloured, crooked and ſhaped like a horn, an inch long, uſually ſolitary[l].

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[d] Linn. mant. [e] Exot. [f] Hort. kew.
[g] Long's Jamaica, 3. 722.

[h] Jacquin. [i] Linn. mant. [k] Hort. kew.
[l] Loureiro.

This was cultivated in 1656, by Mr. John Tradeſcant, jun.[m]]

Moſt of the ſorts of Capſicum are natives of both the Indies, but they have been chiefly brought to Europe from America, where they abound in all the Caribbee iſlands, and are greatly uſed in ſauces, eſpecially by the negroes, whence the fruit is called Negro and Guinea Pepper.

[The well-known preparation called Cayenne Pepper, made from the pods of the ſmaller ſorts of Capſicum, when uſed in moderation is conſidered as by no means unwholeſome, eſpecially to thoſe of cold, lencophlegmatic habits.

In ſuch temperaments, as well as in paralytic caſes, it is uſed medicinally in ſmall quantities as one of the higheſt ſtimulants. It has alſo been exhibited in combination with aloetic medicines and the deobſtruent gums in uterine diſorders.

A ſmall quantity of the powder of Capſicum has ſometimes given almoſt immediate relief in the tooth-ach, when ariſing from a caries: it is to be applied to the part affected, by introducing it into the cavity of the carious tooth.]

PROPAGATION AND CULTURE.

The annual Capſicums are propagated by ſeeds, which muſt be ſown upon a hot-bed in the ſpring; and when the plants have ſix leaves, they ſhould be tranſplanted on another hot-bed, at four or five inches diſtance, ſhading them in the day time from the ſun, until they have taken root, after which, they muſt have a large ſhare of air admitted to them in warm weather, to prevent their drawing up weak. Toward the end of may, the plants muſt be hardened by degrees to bear the open air; and in june they ſhould be carefully taken up, preſerving as much earth about their roots as poſſible, and planted into borders of rich earth, obſerving to water them well, as alſo to ſhade them until they have taken root; after which time, they will require no other management, but to keep them clean from weeds, and in very dry ſeaſons to refreſh them three or four times a week with water. They will flower the end of june and in july, and their fruit will ripen in autumn. Theſe directions are for the culture of the common ſorts of Capſicum, which are generally planted by way of ornament. But the plants of the fourth ſort, which are propagated for pickling, ſhould be planted in a rich ſpot of ground, in a warm ſituation, about a foot and a half aſunder, and ſhaded till they have taken root, and afterward duly watered in dry weather; which will greatly promote their growth, and cauſe them to be more fruitful, as alſo enlarge the ſize of the fruit. By this management, there may be at leaſt two crops of fruit for pickling obtained the ſame year, provided the ſeaſon proves not too cold; but there ſhould be one plant, whoſe pods are large and forward, choſen to ſave ſeeds; and the firſt fruits on this ſhould be ſuffered to remain, that they may have time to perfect their ſeeds before the froſt comes in autumn, for the early froſt generally deſtroys theſe plants. When the fruit is fully ripe, it ſhould be cut off, and hung up in a dry room till the ſpring, when the ſeeds are wanted.

The varieties δ, ε, ζ, being tender, the plants ſhould be put into pots, and placed in an old hot-bed under a deep frame, where they may have room to grow; or if they are planted in the full ground, the plants ſhould be each covered with a bell-glaſs to ſcreen them from cold. Theſe glaſſes may be ſet off every day in warm weather, and placed over them in the evening again; and at ſuch times as the weather is not favourable, the glaſſes ſhould be raiſed on the contrary ſide to the wind, to admit the freſh air. With this care, the fruit of theſe ſorts will ripen in England, which without it, rarely come to maturity, but in very warm ſeaſons.

The beauty of theſe plants is in their ripe fruit, which being of different forms and colours, intermixed with the green leaves, and white flowers at the ſame time, make a pretty appearance in the latter part of the ſummer, when they are properly diſpoſed in the borders of the flower-garden; or if they are planted in pots, for the decoration of courts, *&c.* being intermixed with other annual plants, which are in beauty at the ſame ſeaſon, they will make an agreeable variety; eſpecially, if as many of the different ſhaped fruits, of both the red and yellow colours as can be procured, are propagated.

The ſorts with perennial ſhrubby ſtalks, are not ſo hardy as the other, therefore when the plants have been brought forward in the hot-bed, as was directed for the common ſorts, they ſhould be each planted in a pot filled with rich earth, and plunged into a very moderate hot-bed, under a deep frame, where they may have room to advance; and in warm weather, they ſhould have a large ſhare of air admitted to them, but muſt be covered with glaſſes every night, or in cold weather, and frequently watered. With this management they will produce plenty of fruit in autumn, which ripen in winter; but they muſt be removed into the ſtove, on the firſt approach of froſt, and placed where they may have a temperate warmth, in which they will thrive better than in a greater heat; and the fruit will continue in beauty moſt part of winter, making a pretty appearance in the ſtove during that ſeaſon.

In Spain and Portugal this fruit is much cultivated for the ſame purpoſe as in America, but in England chiefly for ornament.

[The annual Capſicum was cultivated by Gerarde in 1597. He ſays, "the cod doth not come to that "bright red colour which naturally it is poſſeſſed "with, which hath happened by reaſon of theſe "unkindly years that are paſt: but we expect better "when God ſhall ſend us a hot and temperate "year."

He recommends it to be "ſowne in a bed of "hot horſe-dung as Muſk-Melons are, to be re"moved into a pot, and toward autumn to be "carried into ſome houſe." And adds, "that it "is very well known in the ſhops at Billingſgate "by the name of Ginnie Pepper, where it is uſually "to be bought."]

[CAPŪRA.

Lin. gen. Reich. 477. *Schreb.* 599. *Juſſ.* 437.
Claſſ. 6. 1. Hexandria Monogynia.

GENERIC CHARACTER.

CAL. none.

COR. monopetalous, tubular. *Tube* cylindric; *border* ſix-parted; *diviſions* rounded; the exterior alternate ones narrower.

STAM. *Filaments* hardly any. *Anthers* ſix, oblong, within the tube; the alternate ones ſuperior.

PIST. *Germ* ſuperior, triangularly-roundiſh, truncate. *Style* cylindrical, very ſhort. *Stigma* nearly globoſe.

PER. *Berry?*

SEED.

ESSENTIAL CHARACTER.

Cal. none. *Cor.* ſix-cleft. *Stam.* within the tube. *Germ* ſuperior. *Stigma* globular. *Per.* Berry.

SPECIES.

1. Capura purpurata.
Lin. ſyſt. 343. *Reich.* 2. 107. *mant.* 225.

DESCRIPTION, &c.

A tree with brachiate purpliſh branches. Leaves oppoſite, ſubpetioled, ovate, like thoſe of *Lonicera Xyloſteum,* quite entire, ſharpiſh, annual. Bunches of flowers axillary, ſhorter than the leaves, purple. Native of the Eaſt-Indies[n].]

CAPUT GALLINACEUM. See *Hedyſarum.*

[CAPUT MEDUSÆ. See *Elymus* and *Euphorbia.*

CARA. See *Dioſcorea.*

CARACA. See *Dolichos.*

CARACALLA. See *Phaſeolus.*]

CARAGANA. See *Robinia.*

[CARAGUATA. See *Bromelia.*

CARAMBOLA. See *Averrhoa.*

CARAMBU. See *Juſſieua.*

CARANASI. See *Capraria.*

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[m] Hort. kew.

[n] Linn. mant.

Carandas. See *Cariſſa.*

Carapichea. See *Callicocca.*

Cararu. See *Amaranthus.*

Caraschulli. See *Barleria.*

Caraway. See *Carus.*

Caraxeron. See *Gomphrena.*

Carcapuli. See *Cambogia.*

Cardamindum. See *Tropæolum.*

CARDAMINE. (*So called from its having the taſte of Cardamum, that is Naſturtium or Creſs.*)

Lin. gen. n. 812. *Reich.* 876. *Schreb.* 1088. *Tourn.* 109. *Juſſ.* 239. *Gærtn. t.* 143.

Claſſ. 15. 2. Tetradynamia Siliquoſa.

Nat. order of *Siliquoſæ* or *Cruciform flowers.*

GENERIC CHARACTER.

Cal. *Perianth* four-leaved; *leaflets* ovate-oblong, obtuſe, ſomewhat ſpreading, gibbous, ſmall, deciduous.

Cor. four-petalled, cruciform. *Petals* oblong-obovate, ſpreading much, ending in erect claws of twice the length of the calyx.

Stam. *Filaments* ſix, ſubulate; of theſe the two oppoſite ones are twice the length of the calyx, but the reſt a little longer. *Anthers* ſmall, cordate-oblong, erect.

Pist. *Germ* ſlender, cylindric, length of the ſtamens. *Style* none. *Stigma* obtuſe-headed, entire.

Per. *Silique* long, cylindric-compreſſed, bilocular, bivalve; the valves on opening, rolling ſpirally backwards.

Seeds. Very many, roundiſh.

Obs. *There is a ſpecies which is often deſtitute of the two ſmaller ſtamens; and another is deſtitute of petals. In* Card. petræa *the valves of the ſilique open from the baſe, but are not rolled back.*

ESSENTIAL CHARACTER.

Silique opening elaſtically, the valves revolute. *Stigma* entire. *Calyx* rather gaping. [Two nectareous glands, one on each ſide, between the ſhorter ſtamens and the calyx. *Hudſ.*]

SPECIES.

* *Leaves ſimple.*

1. Cardamine bellidifolia. *Daiſy-leaved,* or *alpine Creſs.*

Lin. ſpec. 913. *ſyſt.* 593. *Reich.* 3. 244. *fl. lapp. n.* 260. *t.* 9. *f.* 2. *ſuec. n.* 590. *Hudſ. angl.* 293. *With.* 685. *Crantz. auſtr.* 43. *cruc.* 128. *Jacqu. miſc.* 1. 148. *t.* 17. *f.* 2. *Hall. helv. n.* 476. *Fl. dan. t.* 20. *Allion. pedem. n.* 949. *t.* 18. *f.* 3. *Villars dauph.* 3. 357. *Krock. ſileſ. n.* 1048.

Arabis bellidifolia. *Scop. carn. n.* 836.

Card. pumila, Bellidis fol., alpina. *Raii ſyn.* 300.

Naſturtium alp., Bell. folio, minus. *Bauh. pin.* 105. *Raii hiſt.* 817.

Not Plantula cardamines alterius æmula. *Cluſ. hiſt.* 2. 129. 2.

Leaves ſimple, ovate, quite entire; petioles long.

[2. Cardamine aſarifolia. *Aſarabacca-leaved Creſs.*

Lin. ſpec. 913. *ſyſt.* 593. *Reich.* 3. 245. *Allion. pedem. n.* 948. *Crantz. cruc.* 128.

Naſturtium montanum, aſari fol. *Bocc. ſic.* 5. *t.* 3. *Herm. par. t.* 203. *Raii hiſt.* 816.

N. alpinum, paluſtre rotundifolium, rad. repente. *Mor. hiſt.* 2. 224.

Leaves ſimple ſubcordate.

3. Cardamine nudicaulis. *Naked-ſtem'd Creſs.*

Lin. ſpec. 913. *Reich.* 3. 245. *Gmel. ſib.* 3. 273. *n.* 43. *Crantz. cruc.* 128.

Leaves ſimple lanceolate ſinuate-toothed; ſtems naked.]

4. Cardamine petræa. *Rock Creſs,* or *Alpine Ladies Smock.*

Lin. ſpec. 913. *ſyſt.* 593. *Reich.* 3. 245. *fl. ſuec. n.* 591. *Hudſ. angl.* 293. *With.* 685. *Lightf. ſcot.* 347. *t.* 15. *Fl. dan. t.* 386. *Dill. elth.* 70. *t.* 61. *f.* 71. *Crantz. cruc.* 128. *Krock. ſileſ. n.* 1049.

Naſturtium petræum. *Pluk. alm.* 261. *t.* 101. *f.* 3. (bad.) *Pet. herb. t.* 50. *f.* 3. (bad.) *Raii ſyn.* 300.

Leaves ſimple oblong toothed.

** *Leaves ternate.*

[5. Cardamine reſedifolia. *Rocket-leaved Creſs.*

Lin. ſpec. 913. *ſyſt.* 593. *Reich.* 3. 245. *Hall. helv. n.* 476. β. *Gouan. fl. monſp.* 163. *n.* 4. *Jacqu. auſtr.* 5. *app. t.* 21. *Allion. pedem. n.* 950. *t.* 57. *f.* 2. *Raii hiſt.* 817. *n.* 8. *Park.* 827. *f.* 2. *Crantz. crac.* 129. *Villars dauph.* 3. 358.

Naſturtium alpinum minus, Reſedæ foliis. *Bauh. pin.* 104. *prodr.* 45. *f.* 2. (good). *Bocc. muſ.* 2. 41. *t.* 46.

Lower leaves undivided, upper three-lobed and pinnate.]

6. Cardamine trifolia. *Three-leaved Creſs.*

Lin. ſpec. 913. *Reich.* 3. 246. *fl. lapp. n.* 259. *ſuec. n.* 589. *hort. cliff.* 336. *n.* 4. *Hall. helv. n.* 475. *Scop. carn. n.* 815. *Jacqu. vind.* 120. *auſtr.* 1. *t.* 27. *Crantz. auſtr.* 43. *cruc.* 129. *Cluſ. hiſt.* 2. 127. *Ger.* 202. *f.* 2. *emac.* 259. *f.* 4. *Park.* 827. *f.* 1. *Raii hiſt.* 817.

Naſturtium alpinum trifolium. *Bauh. pin.* 104.

Leaves ternate obtuſe, ſtem almoſt naked.

[7. Cardamine africana. *African Creſs.*

Lin. ſpec. 914. *Reich.* 3. 246. *Crantz. cruc.* 129.

Naſturtium afr. &c. *Herm. par. t.* 202. *Pluk. alm.* 152. *t.* 101. *f.* 5. *Raii ſuppl.* 414. 16.

Leaves ternate acuminate, ſtem very branching.]

*** *Leaves pinnate.*

8. Cardamine chelidonia. *Celandine-leaved Creſs.*

Lin. ſpec. 914. *Reich.* 3. 246. *Barr. ic.* 156. *Pall. it.* 3. 34. *Crantz. cruc.* 130. *Lour. cochinch.* 398.

Leaves pinnate, leaflets in fives gaſhed.

9. Cardamine impatiens. *Impatient Ladies Smock.*

Lin. ſpec. 914. *ſyſt.* 594. *Reich.* 3. 246. *hort. cliff.* 336. *n.* 3. *fl. ſuec. n.* 588. *Hudſ. angl.* 294. *With.* 685. *Sowerby engl. bot. t.* 80. *Lightf. ſcot.* 348. *Hall. helv. n.* 471. *Scop. carn. n.* 816. *Crantz. auſtr.* 44. *cruc.* 130. *Leers herb. n.* 522. *Pollich pal. n.* 619. *Krock. ſileſ.* 1050. *Villars dauph.* 3. 359. *Fl. dan. t.* 735. (a different ſpecies. *With.*) *Allion. pedem. n.* 956. *Raii hiſt.* 815. 4. *ſyn.* 299. *Ger. emac.* 260. *f.* 7.

Siſymbrii cardamines ſpecies quædam inſipida. *Bauh. hiſt.* 2. 886. 1. *Barr. ic.* 155.

Sium minimum, &c. *Park.* 1241. *f.* 4.

Naſturtium. *Mor. hiſt.* 2. *ſ.* 3. *t.* 4. *f.* 1. *Pet. herb. t.* 47. *f.* 7.

Leaves pinnate gaſhed ſtipuled, flowers without petals. [ſometimes with.]

10. Cardamine parviflora. *Little-flowered Ladies-Smock.*

Lin. ſpec. 914. *Reich.* 3. 247. *With.* 686. *Neck. gallob.* 277. *Leers herb. n.* 523. *Crantz. cruc.* 130. *Krock. ſileſ. n.* 1051. *Villars dauph.* 3. 360.

C. hirſuta β. *Hudſ. angl.* 295.—minor arvenſis. *Llwyd in Raii ſyn.* 300. *n.* 4.

Naſturtium pratenſe parvo fl. *Bauh. prodr.* 44.

Leaves pinnate without ſtipules, leaflets lanceolate obtuſe, flowers corolled.

11. Cardamine græca. *Greek Creſs* or *Ladies-Smock.*

Lin. ſpec. 915. *Reich.* 3. 247. *mant.* 427. *hort. upſ.* 188. *Gærtn. fruct.* 2. 295.

Naſturtium montanum nanum, &c. *Bocc. muſ.* 2. 171. *t.* 116. *ſic.* 84. *t.* 44. & 45. *f.* 2.

Leaves pinnate, leaflets palmate equal petioled.

12. Cardamine hirſuta. *Hairy Ladies-Smock.*

Lin. ſpec. 915. *Reich.* 3. 248. *hort. cliff.* 336. 2. *ſuec. n.* 587. *Hudſ. angl.* 295. *With.* 688. *Curtis lond.* 4. 48. *Lightf. ſcot.* 348. *Hall. helv. n.* 472. *Scop. carn. n.* 817. *t.* 38. *Pollich pal. n.* 620. *Leers herborn. n.* 524. *Gron. virg.* 99. 1. *Fl. dan. t.* 148? *Crantz. cruc.* 131. *Villars dauph.* 3. 361. *Krock. ſileſ. n.* 1054.

Naſturtium aquaticum minus. *Bauh. pin.* 104. *Mor. hiſt. ſ.* 3. *t.* 4. *f.* 11. *Pet. herb. t.* 47. *f.* 4.

Card. impatiens altera hirſutior. *Raii ſyn.* 300.

Siſymbrium Cardamine hirſutum minus, fl. albo. *Bauh. hiſt.* 2. 888.

Leaves pinnate; flowers four-ſtamened [and ſix-ſtamened.]

13. Cardamine pratenſis. *Common Ladies-Smock,* or *Cuckow-flower.*

Lin. ſpec. 915. *Reich.* 3. 248. *fl. ſuec. n.* 585. *Hudſ. angl.* 294. *With.* 688. *Curt. lond.* 3. 40. *Lightf.*

Lightf. ſcot. 349. *Hall. helv. n.* 473. *Scop. carn. n.* 819. *Villars dauph.* 3. 361. *Krock. ſileſ. n.* 1051. *Crantz. auſtr.* 44. *crucif.* 131. *Neck. gallob.* 278. *Pollich pal. n.* 621. *Blackw. t.* 223. *Woodv. med. bot.* 89. *t.* 30. *Fl. ruſt. t.* 95.

Cardamine. *Ger.* 201. *emac.* 259. *Raii ſyn.* 299. *hiſt.* 814.

Naſturtium pratenſe magno flore. *Bauh. pin.* 104. *Mor. hiſt. ſ.* 3. *t.* 4. *f.* 7. *Pet. herb. t.* 47. *f.* 5.

C. altera minor. *Park.* 826. 2. & 1239. 4.

Iberis Fuchſii, (325.) ſ. Naſt. prat. ſylveſtre. *Bauh. hiſt.* 2. 889. 1.

β. C. fl. pleno.—*With a double flower.*

Leaves pinnate; the radical leaflets roundiſh, thoſe on the ſtem lanceolate.

14. Cardamine amara. *Bitter-Creſs*, or *Ladies-Smock.*

Lin. ſpec. 915. *Reich.* 3. 248. *fl. ſuec. n.* 586. *Hudſ. angl.* 294. *With.* 689. *Curt. lond.* 3. 39. *Lightf. ſcot.* 350. *Hall. helv. n.* 474. *Neck. gallob.* 278. *Pollich pal. n.* 622. *Crantz. cruc.* 131. *Allion. pedem. n.* 954. *t.* 56. *f.* 1. *Villars dauph.* 3. 362. *t.* 39. *Krock. ſileſ. n.* 1053.

C. fl. majore elatior. *Tourn. inſt.* 224. *Raii ſyn.* 299.

Naſturtium pyrenaicum aquaticum latifolium, purpuraſcente fl. *Herm. par. t.* 203.

N. aquat. majus & amarum. *Bauh. pin.* 104. *prodr.* 45. *f.* 1. *Park.* 1239. 3. *Pet. herb. t.* 47. *f.* 1. *Raii hiſt.* 814. 1.

Siſymbrium Cardamine, ſ. Naſt. aquat. fl. majore, elatius. *Bauh. hiſt.* 2. 885.

Leaves pinnate, axillas ſtoloniferous. (leaflets of the ſtem angular, ſeſſile. St. in With.)

[15. Cardamine virginica. *Virginian Creſs.*

Lin. ſpec. 915. *Reich.* 3. 249. *Gron. virg.* 99. 2. *Pet. gaz. t.* 105. *f.* 18.

Naſturtium. *Pluk. alm. t.* 101. *f.* 4.

Leaves pinnate; leaflets lanceolate, one-toothed at the baſe.

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16. Cardamine thalictroides.

Allion. pedem. n. 951. *t.* 57. *f.* 1.

C. Plumierii. *Vill. dauph.* 3. 359. *t.* 38.

C. fol. trifidis acutis, laciniis integris vel inciſis, caule erecto. *Gmel. ſib.* 3. 272. *t.* 65.

Naſturtium montanum nanum rotundo thalictri fol. cyrnæum. *Bocc. muſ.* 171. *t.* 116.

Leaves ternate, pinnate and ſimple; leaflets obliquely lobed, roundiſh; petals thrice the length of the calyx.

17. Cardamine ſtolonifera.

Scop. carn. n. 818. *t.* 39.

Siſymbrium. *Hall. opuſc.* 101–103. fig.

Naſturtium 7. *Bauh. prodr.* 46.

Stem-leaves oblong, ſinuate-toothed: runners from the root, and baſe of the ſtem.

18. Cardamine ſcutata.

Thunb. in Linn. tranſ. 2. 339.

C. trifolia, *ejuſd. fl. japon.* 260.

Leaves ternate ſcutate curled, ſtem almoſt naked.

DESCRIPTIONS, *&c.*

1. [Root ſimple, white, very long. Leaves oval, ſmooth, juicy, acrid, dark green, veined, quite entire, ſometimes a little ſinuated, on petioles equal to the leaves or longer; often unequal, ſome being twice as long as others; ſome reclining, others erect. Stem filiform, ſtriated, flexile, an inch high, with one or two ſmall leaves, oblong-ovate, ſometimes ſemipinnate next the petiole. Flowers white, ſometimes purpliſh, with claws the length of the calyx. Siliques half an inch in length[a].—This is not N. alpinum, Bellidis folio minus, C. B. according to *Allioni.* His figure is not at all like that in the Flora Danica, Flora Lapponica, and Jacquin's miſcellany.

Jacquin, who takes it to be diſtinct from *C. reſedifolia*, thus deſcribes it.—It divides from the root into ſome ſimple ſtems, which are erect, round, ſtriated, ſmooth, from an inch to half a ſpan in height, leafy. Radical leaves copious, bluntiſh, and rather firm: ſtem-leaves ſcattered, petioled except the upper, which are ſeſſile; oblong-ovate, ſometimes repand; all of them flat and ſmooth. Raceme terminal, few-flowered. Flowers peduncled erect; but the fruits ſometimes all look one way. Calycine leaves at firſt green, next pale violet, and finally yellowiſh. Petals white, longer than the calyx, entire, deciduous. Stamens not longer than the corolla. Germ, even while the corolla remains, elongated; ſtyle hardly any; ſtigma yellowiſh. Silique an inch in length, linear, flat, but ſwelling where the ſeeds are; the valves when ripe dark purple and ſhining. Seeds lens-ſhaped. The plant has no ſmell. It flowers in july and auguſt.

Linneus ſays, that it is the ſize of *Draba vernalis*; but with long ſiliques after the flower is gone[b].

Scopoli makes it an Arabis, becauſe the valves of the ſiliques do not curl up in opening. It varies very much in the leaves.

On the higheſt Alps at firſt it appears with a ſtem ſcarcely two inches high, yet with ſome leaves on it. Radical leaves on long petioles, ovate-acuminate, rather firm; thoſe on the ſtem like them. Flowers few, terminal; calyx erect, hollow, lanceolate, brown at the end; petals white, gradually dilated, roundiſh. Stigma emarginate. Silique an inch long, compreſſed, many-ſeeded, often cyaneous. Seeds flat. The firſt leaves of *C. reſedifolia* are entire. This plant, when it grows old, has the radical leaves ſemitrilobate or trilobate, with two or four pinnas: the ſtem puts out branches, with a broad nerve, on which are diſtant, confluent, expanding pinnas, the firſt roundiſh, the upper ones narrower. The flower ſeems larger, as might be expected on a ſtronger plant, but the calyx is tipped with brown, and the ſiliques are the ſame; hence I conclude that *C. reſedifolia* is not ſpecifically different from this[c].

On the mountains of Lapland, frequent. Norway. Sileſia. Alps of Switzerland, Dauphiné, Auſtria, and Carniola. Higheſt Alps between Savoy and Piedmont.—Doubtful whether it be a native of Britain. On St. Vincent's rock near Briſtol. Turritis hirſuta, or Arabis ſtricta, has probably been miſtaken for it[d]. Denbighſhire ſhould be ſearched for it. Perennial. Biennial, according to *Allioni*: flowering in april and may.

2. Leaves round, like thoſe of Aſarum, a little ſinuated. Corolla white. Siliques long, many, burſting at the leaſt touch when ripe[e].

All the ſpecies of Cardamine are mild antiſcorbutics, as the taſte ſufficiently indicates, but they are not received in practice. This however has all the qualities of Scurvy-graſs, and is ſubſtituted for it, where it grows in abundance[f].

It is found at Barga in Tuſcany; in the Modeneſe; at the foot of Mont Cenis; in the Vaudois alps; above Tende, *&c.*—Introduced in 1779, by Anthony Chamier, Eſq.[g]

3. Stems about nine inches high. Leaves ſmooth, firm, about three inches long. Siliques with from one to four cells compreſſed, between the ſeeds ſlender, ſtriated, ſmooth[h]. According to Linneus, the ſiliques are lanceolate like thoſe of Lunaria. He ſays, that he had not ſeen the flowers. It was obſerved in Siberia by Steller.

4. Root perennial. Stems from three to ſix inches high, reclining at the baſe, and increaſing by offſets. The radical leaves are ſometimes only indented on the edges, but are more frequently deeply ſinuated with two pair of oval acute lobes, and an odd one at the extremity: the ſtem-leaves are leſs indented, and the uppermoſt are elliptic and entire: the flowers are either white or a little tinged with purple[i]. The valves of the ſiliques gape at the baſe, but are not rolled back[k].

Sweden, Denmark, Sileſia, Wales, Scotland: on lofty moiſt rocks; flowering in may and june. Perennial.

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[a] Allioni.

[b] Fl. ſuec. [c] Haller. [d] Stokes in Withering. [e] Boccone. [f] Allioni. [g] Hort. kew. [h] Gmelin. [i] Lightfoot. [k] Mygind. in Linn. ſyſt.

5. Lower-leaves ovate; upper ones three-lobed haſtate, or ſubternate with the ſide-lobes ſmaller. Stature of *C. bellidifolia*, to which Haller unites it[l].

Root biennial. The root-leaves reſemble thoſe of *C. bellidifolia*; the ſtem-leaves are pinnate, but the lower ones are ſometimes pinnatifid. Leaflets of the calyx linear, green with a white edge: corolla white, twice as large as the calyx; petals almoſt ſquare, ſlightly emarginate. The ſtem-leaves being conſtantly pinnate, it ought not to be confounded with *C. bellidifolia*[m]. Native of the South of France, the Swiſs Alps and the Pyrenees, Germany, Auſtria, Piedmont; on the higheſt rocks; flowering in july.

6. Root creeping. Stem branched cicatrized with the fallen petioles. Radical leaves often continuing to another year, ternate, on long reddiſh ſemicylindric petioles; leaflets rounded above the middle, with repand or ſubcrenated edges: the notches ending in a point. One leaf on the ſtem. Calyx erect, not gibbous. Petals expanding, ovate, white, waved and wrinkled about the edge. Stigma truncated, flat. Silique an inch long, flat. Seeds in one cell (one to three) ovate, flat[n].

According to Haller, the radical leaves ſmooth, firm, ſhining, with two pairs of pinnas, and an odd one larger. Stem a long ſpan in height, unbranched, purple, with a few leaves which are narrower. Corolla pale purple. Six glands, four between the lower ſtamens and the higher ones, two between the latter and the calyx.

Native of Lapland and Weſtrogothia, Switzerland, Carniola, and Auſtria. Cultivated 1629, by Parkinſon[o].

7. Leaflets ſtiff, large, roundiſh, with ſinuated edges, the terminating one very large. Stems a ſpan or more in height, round, ſomewhat hairy, and ſtriated toward the top. Flowers in ſpikes, purple. Siliques long. Native of Africa. Perennial; flowering in may[p].

8. Stem herbaceous, eight inches high, with many aſcending branches. Leaflets ſeven, lanceolate, ſmooth. Flowers white, in ſimple, terminating ſpikes. Leaflets of the calyx curved, gaping a little. Corolla bell-ſhaped, ſpreading. Silique longiſh, cylindric, with the valves rolled back; ſeeds ovate[q]. Native of Italy, Siberia, and China.

9. Root annual. Stems from ſix to twelve or eighteen inches high, angular, hollow, ſtiff, erect, ſomewhat flexuoſe, ſimple, or but little branched. Radical leaves have five pairs or more of ovate pinnas obtuſely lobed. Stem-leaves very numerous, growing without order, ſhorteſt toward the bottom of the ſtem, pinnate; pinnas nine pairs or more, oval-lanceolate or lanceolate, deeply and acutely lobed or indented, eſpecially on the lower edge; ſmalleſt toward the ſtem, and gradually larger; odd leaflet uſually three-lobed. Flowers in erect ſpikes. Siliques numerous, almoſt parallel to the ſtem, long, ſtiff, ſwelling a little[r].] It has the title of *Impatient* from the elaſticity of theſe ſiliques, which, if touched when they are ripe, ſpring open, and caſt out their ſeeds with violence to a conſiderable diſtance.

[Linneus ſays, that the flowers in Sweden have no petals, in both wild and cultivated plants: that however in 1764 he found one flower with white petals. Leers affirms that they never have petals with them. Pollich and Woodward remarked none in what they examined. Hudſon ſays, that the flowers ſometimes have no petals; but that at other times they have oblong ones, ſcarcely longer than the calyx, but extremely fugacious: and his remark is certainly juſt. Scopoli affirms that his ſpecimens from Gorizio had no petals, but that the plants which he collected about Idria had. Others, as Ray, Crantz, Allioni, Reichard, Krocker, Villars, *&c.* ſay that the flowers have petals, though they are very ſmall, and deciduous.

On the Swiſs mountains, Sweden, Denmark, Germany, the South of France, Auſtria, Carniola, Piedmont, the Pyrenees. With us in Derbyſhire, Yorkſhire, Weſtmoreland, Worceſterſhire, Somerſetſhire. Flowering in may and june.

Johnſon, in Gerard, ſays it was firſt introduced into our gardens by John Tradeſcant: and that he found it about Bath, and in other places.

10. Very much reſembling *C. impatiens*, but differs as follows: ſtem ſhorter, with angles not ſo ſharp; leaves without ſtipules; leaflets lanceolate, obtuſe, ſcarcely toothed; the loweſt not palmate, but ovate and ſmooth; ſtamens ſhorter than the corolla; ſiliques only half the ſize, erect on horizontal pedicels[s].

It is an annual plant. The petals are never wanting, as they are ſometimes in the *C. impatiens*. The ſiliques are ſhorter and thicker[t]. Native of many parts of Europe.

Haller looks upon this as a variety of *C. hirſuta*, and in this he is followed by Hudſon and Curtis. See n. 12.

11. Root annual. Height leſs than a ſpan. Stems ſlender, jointed, branched. Leaflets nine, ſmall, ovate, ſemipalmate, obtuſe, reſembling thoſe of *Thalictrum aquilegifolium*, divided about the edge like thoſe of *Fumaria*. Flowers few at the tops of the branches. Calyx erect. Corolla white. Native of Sicily, Corſica, and the Greek iſlands[u].

12. Root annual, fibrous. Stem a ſpan high or more (in wet ditches eighteen inches) ſolid, upright, flexuoſe, grooved or angular, purple near the baſe and commonly very hairy, above nearly ſmooth, branched, ſometimes very much ſo. Radical leaves numerous, forming a circle, pinnate; leaflets petioled, round-angular, generally five-lobed, hirſute, roughiſh with little prominent points; the lobes unequal, blunt or pointed: ſtem-leaves narrower, and more deeply indented, with fewer lobes. Calyx has a few white hairs: corolla almoſt twice the length of the calyx, ſmall, white; petals entire, obtuſe. Silique about an inch in length, upright: ſeeds (twelve) flattened, ſmooth, yellowiſh-brown. Early in the ſpring, when the weather is cold, it has only four ſtamens, but as the ſummer advances, it has conſtantly ſix. In a wet ſituation and luxuriant ſoil, it loſes in a great degree its hairineſs; in expoſed places it ſeldom reaches more than ſix or eight inches, and is generally much more hairy; when it grows ſingly, it is much more branched. The leaflets vary much in ſhape[x].

The ſpecific character given by Mr. Hudſon, who unites it with *C. parviflora*, is this: leaves pinnate; radical leaflets roundiſh-cordate; thoſe on the ſtem ovate, toothed, petioled. He ſays that in the *parviflora*, the leaflets of the upper leaves are naked. Dr. Stokes thinks that to be clearly diſtinct from *C. hirſuta*, and ſays that it comes into flower as the *hirſuta* is going out. Haller however has no doubt of its being a variety; and Mr. Curtis aſſures us that repeated obſervation and culture have convinced him that theſe are both the ſame ſpecies.

Native of moſt parts of Europe, in wet ſhady places. I found it quite ſmooth on mont Saleve in Savoy, near Geneva, early in april. Hairy it is common in Warwickſhire; not ſo near London, but near Chelſea water-works, Highgate, Hampſtead, *&c.* It flowers in april and may.

The young leaves are a good ſalad in the ſpring[y].

13. Root perennial. Stem nine inches or a foot high, upright, at top a little branched, round, ſcarce perceptibly angular, ſmooth, ſtiffiſh, with a purpliſh tinge at bottom. Radical leaves on petioles from an inch to two inches in length, having three or four pairs of leaflets; frequently imperfect, after the ſtem is advanced; the pinnas roundiſh, running out into three unequal angles or teeth, the outermoſt largeſt, and having for the moſt part five angles. On the

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[l] Linn. ſpec. [m] Allioni. [n] Scopoli.
[o] Hort. kew. [p] Herman. [q] Loureiro.
[r] Haller, Lightfoot, Woodward Mſſ.

[s] Linn. ſpec. [t] Villars. [u] Boccone and Linn. mant.
[x] Curtis. [y] Lightfoot.

lower ſtem-leaves there are frequently ſix or ſeven pairs of ovate leaflets, placed alternately; higher up they become oblong, and finally linear: they are commonly ciliate round the edge; and the ſtem-leaflets often terminate in a point. The radical leaflets are on ſhort petiolules; the lower ſtem-leaflets are ſubſeſſile; and the upper ones are quite ſeſſile. A ſingle corymb of about ten flowers terminates the ſtem. Calyx yellowiſh green. Corolla large, pale purple; lamina ovate, emarginate, deeply veined; claws yellowiſh. Nectary of four glands, two ſurrounding the baſe of the ſhort filaments, and two on the outſide of the baſe of the long filaments. Shorter filaments hid, the anthers juſt emerging; the four longer ones ſtand conſiderably above the corolla. Silique an inch long. Seeds ſixteen in one cell.

Moſt authors ſpeak of the corolla as being purple, it is ſingular therefore that our poets ſhould allude to the ſilvery whiteneſs of it, when it is generally more or leſs tinged with purple till it has been bleached by the ſun. It is very general in moiſt meadows, and by the ſides of ditches and ſtreams, flowering in april and may. From its early appearance, the name of *Cuckow-flower* has been given to this, among many other ſpring plants.]

The young leaves of this, and ſome of the other ſorts, are gathered in the ſpring, and put into ſalads, inſtead of Creſs, of which they have the flavour, and the antiſcorbutic quality. [Kine ſeldom touch it; but ſheep will eat it, at leaſt when they are firſt turned into a meadow or marſh.

The virtue of the flowers in hyſteric and epileptic caſes, was firſt mentioned by Ray and Dale, from Dr. Tancred Robinſon; and ſince by Dr. Baker, (*Med. tranſ.* 1.) The doſe is from twenty to ninety grains twice a day, of the powder of the dried flowers. Do they not act like *Eryſimum cheiranthoides* in the epilepſies of children, and cure the diſeaſe by deſtroying the worms in the ſtomach and inteſtines? I have accounts of their ſucceſs in young epileptics, from good authority; but have never been fortunate enough to ſee them of much uſe in hyſterical caſes[z].

From the diſuſe into which this medicine has fallen, it ſhould ſeem that it had not anſwered the expectations of practitioners[a].

Caſes however have ſometimes occurred in the practice of very eminent phyſicians, in which epilepſies, and obſtinate headachs, even in old people, after yielding to no other remedies, have been cured by this medicine given in the quantity before mentioned about twice a day or oftener. It commonly operates by inducing a degree of hæmorrhage per anum, and ſometimes from the other emunctories.

It ſeems particularly ſerviceable in thoſe kinds of epilepſies which are brought on by the receſs or want of the menſes.

It has alſo been conſidered as uſeful in ſcorbutic caſes, like many other plants of the ſame natural order.

14. Mr. Curtis has admirably well diſtinguiſhed this, from the foregoing common ſort. The ſtem-leaflets are large, broad, and very angular, reſembling thoſe of Water-Creſs. It is in every reſpect a larger plant than that, its bloſſoms excepted, which are nearly of the ſame ſize. Theſe are always perfectly white: the anthers, which in the *pratenſis* are yellow, are in this of a deep purple; the tips of them are alſo more curled up: the ſtyle, which in the *pratenſis* is upright, in the *amara* has an unuſual obliquity. Towards the bottom of the ſtalk, this is more diſpoſed to throw out runners: it is alſo more local, and rather affects the edges of ſtreams, than the open meadow.

Native of Sweden, Switzerland, Germany, France, Piedmont. With us, near London, at Chelſea, Batterſea, Lewiſham, Uxbridge, Harefield; Dorking in Surry; Braintree in Eſſex; Middleton in Warwickſhire; Aſton near Birmingham; above Worceſter; and Great Comberton in Worceſterſhire; near Norwich; Bungay, Suffolk: and in Scotland. Near rivulets, on the banks of rivers, in boggy places, and moiſt meadows: flowering in april and may. Perennial.

The young leaves are acrid and bitteriſh, but do not taſte amiſs in ſalads[b]. They are pungent, bitter and aromatic, in ſuch a degree as to promiſe very conſiderable medical uſes[c].

15. Radical leaves in a circle, pinnate; leaflets numerous, almoſt imbricate, ſublanceolate, with one ſhort toothlet from the hinder ſide near the baſe. Stem with few leaves, generally linear and entire. Habit of Shepherd's purſe. Native of Virginia[d].

16. Stem ſtriated, branching, procumbent, the extreme branches bearing flowers on a ſhort umbel. Leaves tender juicy, not hirſute, pinnate; the radical ones have often two pinnas. Stem-leaves have two pairs of pinnas; pinnules petiolate, the ſide ones two or three-lobed, the lower one more remote. Leaflets of the calyx linear-elliptic concave. Petals pale yellow, cordate, emarginate, claws greeniſh, double the length of the calyx and more. Siliques a little flatted, acuminate. Seeds gloſſy, flat, lemon-coloured, grooved on one ſide. Native of mont Cenis, St. Bernard, the Grand Chartreuſe, &c. Biennial[e].

It ſeems doubtful whether Villars's plant be the ſame with Allioni's, the petals being white and not emarginate. His figure however agrees with it; and ſo does Ambroſini's, *phytogr.* p. 374. Villars adds, that it produces ſeveral weak ſtems, which are only a few inches in height, and lie on the ground; the leaves are ſlightly villoſe, tender, rounded but frequently irregular; the ſiliques ſlender and few in number.

17. Stem ſix inches high, erect, branching, moderately hirſute. Radical leaves on long petioles, obtuſe, repand, with one pinnule beneath, a line in length. Leaves of the runners ſmall, petioled, ſharpiſh, with acuminate angles behind. Stem-leaves ſimple, on ſhort petioles, ſharpiſh. Branches with few leaves and flowers. Calyx greeniſh. Petals white with greeniſh claws. A gland ſupporting the ſhorter ſtamens, and another between the calyx and the taller ſtamens. Anthers yellow. The calyx inclining to expand makes it approach to *Siſymbrium.* It is ſufficiently diſtinct from C. amara[f]. Native of Carniola, Auſtria, and the borders of Bohemia.

18. Root fibrous, fibres very cloſe, capillary. Scapes naked, a finger's length. Root-leaves very many, petioled, ternate, erect, looſe; lower ſtem-leaves often ſolitary, ſometimes oppoſite in pairs, ovate, ſubpetioled, very ſmall; the terminating one round, curled, ſmooth, dotted. Native of Japan[g].

Forſter mentions a ſpecies, which he calls *Cardamine ſarmentoſa*, to be found in the iſland of Teautea, in the South Seas[h].]

PROPAGATION AND CULTURE.

Few of theſe plants are admitted into gardens. The double varieties of the common ſort (n. 13.) with white and purple flowers, deſerve a place in ſhady moiſt borders of the flower-garden, where they will thrive, and make a pretty appearance during their continuance in flower. They are propagated by parting their roots in autumn; at which time they ſhould be tranſplanted annually.

The others are moſtly low plants, growing in wet or alpine ſituations. The perennial ſorts may be propagated by parting their roots in the autumn; they require a ſtrong ſoil and ſhady ſituation. [Some of them alſo (as n. 13, 14, 17.) produce offſets or runners, by which they may be increaſed.] There is a variety of the Bitter Creſs (n. 14.) with double flowers, which may be propagated by parting the roots.

All the ſorts will grow from ſeeds ſown in the au-turn on a ſhady border, where they require no care but to be kept clean from weeds, and will flower early in the following ſeaſon. Being very prolific in ſeeds, and their pods being provided with a particular mode of diſperſing them, by means of the twiſting of the valves in opening; when once introduced theſe plants will propagate themſelves in plenty; but they will thrive beſt in the ſhade.

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[z] Withering.
[a] Curtis.
[b] Lightfoot.
[c] Withering.
[d] Linn. ſpec.
[e] Allioni.
[f] Scopoli.
[g] Thunberg.
[h] Fl. auſtral. n. 529.

Cardamine. See *Lepidium, Ricotia.*

Cardamomum. See *Amomum.*

Cardiaca. See *Galeopſis, Leonurus, Phlomis, Stachys.*

Cardinal Flower. See *Lobelia.*

CARDIOSPERMUM. (*From* καρδία *Heart, and* σπέρμα *Seed; the ſeed being marked with a heart-ſhaped ſcar or ſpot.*)

Engl. *Heart Pea.* Amer. *Wild Parſley.*
Fr. *Pois de Merveille.*

Lin. gen. 498. *Reich.* 540. *Schreb.* 680. *Gærtn. t.* 79. *Juſſ.* 246. Corindum. *Tourn.* 246. Veſicaria. *Riv. tetr.* 144.

Claſſ. 8. 3. Octandria Trigynia.

Nat. order of *Tribilatæ. Sapindi* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved; *leaflets* obtuſe, concave, the alternate interior ones the ſize of the corolla, permanent.

Cor. *Petals* four, obtuſe, alternate with the larger leaflets of the calyx.

Nectary four-petalled, coloured, incloſing the germ; *leaflets* obtuſe, growing upon the petals, two upon the erect lip, callous at the tip, hooked at the ſide; the reſt upon the cloſed lip; with equal ſides.

Stam. *Filaments* eight, ſubulate, equal with the nectary. *Anthers* ſmall.

Pist. *Germ* three-ſided. *Styles* three, ſhort. *Stigmas* ſimple.

Per. *Capſule* roundiſh, trilobate, inflated, trilocular, gaping at the tip.

Seeds ſolitary, globular, marked at the baſe with a cordate ſcar.

ESSENTIAL CHARACTER.

Cal. four-leaved. *Pet.* four. *Nect.* four-leaved, unequal. *Capſ.* three, connate, inflated.

SPECIES.

1. Cardioſpermum Halicacabum. *Smooth-leaved Heart Pea* or *Heart-ſeed.*
Lin. ſpec. 525. *Reich.* 2. 220. *hort. cliff.* 151. *upſ.* 97. *fl. zeyl. n.* 142. *Gærtn. fruct.* 1. 381. *Lour. cochinch.* 239. *Brown. jam.* 213.
Halicacabum. *Rumph. amb.* 6. 60. *t.* 24. *f.* 2. *Ger.* 271. *f.* 2.
H. peregrinus. *Dod. pempt.* 455.
Piſum veſicarium, fr. nigro, alba macula notato. *Bauh. pin.* 343. *Sloan. jam.* 1. 238.
P. cordatum. *Beſl. eyſt. æſt.* 13. *t.* 11. *f.* 1.
β. Corindum ampliore fol., fructu maximo. *Tourn. inſt.* 431.
γ. C. fr. & fol. minori. *Tourn. inſt.* 431. [This ſynonym Miller gives to his firſt ſpecies, which is the ſecond in Linneus.]
Leaves ſmooth and even.

2. Cardioſpermum Corindum. *Woolly-leaved Heart Pea,* or *Parſley-leaved Heart-ſeed.*
Lin. ſpec. 526. *Reich.* 2. 220. *Lour. cochinch.* 239.
Leaves tomentoſe underneath.

[3. Cardioſpermum grandiflorum. *Great-flowered Heart-ſeed.*
Swartz prodr. 64.
Leaves pubeſcent, capſules acuminate, very large, ſmooth and even.

DESCRIPTIONS, &c.

1. Stem herbaceous, twining, ſtriated, unarmed, ſlender, long, branched. Leaves broad-lanceolate, ſinuate-gaſhed, ſmooth, biternate. Flowers axillary, ſolitary, ſmall, white, on long peduncles[a]. Calyx five-leaved. Capſules three, inflated, membranaceous, netted-veined, winged with a very narrow membranaceous dorſal rim, coadunate, and ſo connected at the axis as to ſeem a ſingle three-lobed capſule; they are each one-celled and valveleſs. The receptacle is a white fungous tubercle, faſtened to the middle of the inner angle of the capſules, and the ſeed is faſtened to it by a broad umbilical ſcar. Seeds ſolitary, globular, black, marked with a white heart-ſhaped umbilical ſcar: cover ſingle, hard; no albumen; embryo globular-beaked, white: cotyledons fleſhy, thick, unequal, the larger having a deep ſinus for the reception of the ſmaller; plume two-horned, very ſmall; radicle conical, compreſſed, beaked, centripetal[b].]

Miller ſays, that this differs from the ſecond in having taller ſtalks, and the leaves firſt divided into five, and again into three parts. The footſtalks are ſhorter; the ſeeds, and the bladders in which they are contained, are much larger, and the whole plant is ſmoother.

Native both of the Eaſt and Weſt Indies, and the Society iſles in the South Seas.

[Gærtner obſerves, that the ſeeds from the former are little more than half the ſize of thoſe from the latter country, and that the cotyledons are flatted into a thick fleſhy lamina, and are rolled up ſpirally. Loureiro remarks, that Rumphius's figure does not agree very well with his plant, either in the ſtem or the many-flowered peduncles.

This ſpecies was cultivated by Gerarde, in 1594. It flowers here in july[c].]

2. The ſecond ſort riſes with a ſlender, channelled, climbing ſtalk, to the height of four or five feet, ſending out many ſide branches, with leaves, upon very long foot-ſtalks, coming out oppoſite at the lower part of the ſtalk; but upward the leaves come out on one ſide, and the peduncle at the oppoſite; the petioles are divided into three, each of which ſuſtains ſmall leaves, which are again divided into three parts, that are ſharply cut on their edges, and end in ſharp points. The peduncles are long, naked, and toward the top, divided into three ſhort ones, each ſuſtaining a ſingle flower. Immediately under theſe diviſions, come out tendrils or claſpers, like thoſe of the Vine, but ſmaller; theſe faſten themſelves to whatever plants grow near them, and are thereby ſupported. The flowers are ſmall, white, and compoſed of four ſmall concave petals, two of which ſtanding oppoſite, are larger than the others; when theſe fall away, the germ becomes a large inflated bladder, having three lobes, in each of which is contained one, two, and ſometimes three ſeeds, which are round, hard, and the ſize of ſmall Peas, each being marked with a black ſpot in ſhape of a heart.

[This reſembles the former ſpecies, but the capſules and under ſurface of the leaves are tomentoſe. The peduncles ſupporting ten or eleven flowers, among the tendrils, are ſtiff and remain after the fructification is paſt. The capſules are narrower[d].

Native of Braſil, and according to Loureiro, of the ſuburbs of Canton in China. Cultivated in 1759, by Mr. Miller. It flowers in july and auguſt[e].

3. Native of Jamaica.]

PROPAGATION AND CULTURE.

In the Indies theſe plants climb upon whatever ſhrubs are near them, and riſe to the height of eight or ten feet; but in England they are ſeldom much above half ſo high; they ſend out many ſide branches, which ſpread to a conſiderable diſtance; and, if permitted, they will faſten themſelves to the neighbouring plants by their ſmall tendrils.

They are annual, and periſh ſoon after they have perfected their ſeeds; and being natives of hot countries, they will not thrive in England but in a ſtove. They are propagated by ſeeds, which ſhould be ſown upon a hot-bed in the ſpring; and when the plants are two inches high, they ſhould be each tranſplanted into a pot filled with light ſandy earth, not too rich, then plunged into a very moderate hot-bed, where they muſt be carefully ſhaded until they have taken freſh root; after which they muſt have a large ſhare of air, to prevent their being drawn up tall and weak; and when their roots have filled the pots, they ſhould be carefully ſhaken out, preſerving all the earth to their roots, and put into pots which are a little larger, filling them up with the ſame light earth, and placing them either under a deep frame, or behind the plants in the ſtove, where they may be ſcreened from the ſun till they are well ſettled in the pots; after which they may be removed into a glaſs-caſe, where they may have room to grow and be ſcreened from the cold of the nights, but in warm weather they will require much air. With this management they will flower in july, and their ſeeds will ripen in autumn.

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[a] Loureiro.

[b] Gærtner.

[c] Hort. kew.

[d] Linn.

[e] Hort. kew.

[CARDISPERMUM. See *Calendula.*

CARDOON. See *Cynara.*

CARDUNCELLUS. See *Carthamus.*

CARDUNCULUS. See *Cynara.*

CARDUO-CIRSIUM. See *Cnicus* and *Serratula.*]

CARDŬUS. (*A carere; quia aptus carendæ lanæ; being fit to teaſe wool.*)

Engl. *Thiſtle.* Fr. *Chardon.*

Lin. gen. 925. *Reich.* 1004. *Schreb.* 1254. *Gærtn. t.* 162. *Juſſ.* 173. *Vaill. A. G.* 1718. Polyacantha & Silybum. *Vaill. A. G.* 1718. *Gærtn. t.* 162. Cirſium. *Tourn.* 255. *Vaill. A. G.* 1718. *Gærtn. t.* 163. Eriocephalus. *Vaill. A. G.* 1718.

Claſſ. 19. 1. Syngeneſia Polygamia æqualis.

Nat. order of *Compoſitæ Capitatæ. Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* ventricoſe, imbricate, ſcales very numerous, lanceolate, acuminate, ſpiny.

Cor. *Compound,* tubular, uniform. *Corollules* hermaphrodite, ſubequal, reflected. The *proper* one monopetalous, infundibuliform; *tube* very ſlender; *border* erect, ovate at the baſe, quinquefid; *diviſions* linear, equal, one more deeply ſeparated than the reſt.

Stam. *Filaments* five, capillary, very ſhort. *Anthers* cylindrical, tubular, length of the corollule, five-toothed at the mouth.

Pist. *Germ* ovate. *Style* filiform, longer than the ſtamens. *Stigma* ſimple, ſubulate, naked, emarginate.

Per. none. *Calyx* converging a little.

Seeds ſolitary, obovate, four-cornered, the two oppoſite corners obliterated; *down* ſeſſile, very long.

Rec. hairy, flat.

ESSENTIAL CHARACTER.

Calyx ovate, imbricate with ſpiny ſcales. *Receptacle* hairy.

SPECIES.

[1. Carduus leucographus.

Lin. ſpec. 1149. *Reich.* 3. 674. *Jacqu. hort.* 3. *t.* 23. *Willich. illuſt. n.* 69. *Allion. pedem. n.* 529. *t.* 73. *Gærtn. fruct.* 2. 377.

Leaves decurrent toothed ſpiny; peduncles naked very long, one-flowered; calyxes ſpiny inclined.

2. Carduus lanceolatus. *Spear Thiſtle.*

Lin. ſpec. 1149. *Reich.* 3. 674. *hort. cliff.* 392. 5. *fl. ſuec. n.* 716. *Hudſ. angl.* 350. *With.* 868. *Lightf. ſcot.* 450. *Sowerby engl. bot. t.* 107. *Hall. helv. n.* 169. *Scop. carn. n.* 1007. (Cirſium). *Neck. gallob.* 337. *Pollich pal. n.* 762. *Leers herborn. n.* 625. *Villars dauph.* 3. 4. *Krock. ſileſ. n.* 1330. *Tabern.* 699. *Ger.* 1011. 6. *emac.* 1174. 6. *Raii hiſt.* 310.

C. lanc. latifolius. *Bauh. pin.* 385. *Mor. hiſt.* 3. *ſ.* 7. *t.* 31. *f.* 7. *Park.* 982. 9. *Pet.* 21. 7.

C. lanc. ſ. ſylveſtris Dodonæi. *Bauh. hiſt.* 3. 58.

Leaves decurrent pinnatifid hiſpid; diviſions divaricate; calyxes ovate ſpiny villoſe; ſtem hairy.

3. Carduus arabicus. *Arabian Thiſtle.*

Lin. ſyſt. 724. *Jacq. miſc.* 3. 56. *icon. rar. t.* 166.

Leaves decurrent pinnatifid, lanuginouſly villoſe, diviſions divaricate; calyxes oblong ſpinuloſe ſeſſile aggregate.

4. Carduus nutans. *Muſk Thiſtle.*

Lin. ſpec. 1150. *Reich.* 3. 675. *ſuec. n.* 717 *hort. cliff.* 393. 7. *Hudſ. angl.* 350. *With.* 869. *Lightf. ſcot.* 450. *Hall. helv. n.* 167. *Scop. carn. n.* 1011. *Neck. gallob.* 336. *Pollich pal. n.* 763. *Villars dauph.* 3. 5. *Krock. ſileſ. n.* 1331. *Fl. dan. t.* 675. *Bauh. hiſt.* 3. 56. 3. *Raii ſyn.* 193. *hiſt.* 308. *Mor.* 7. 31. 6. *Pet.* 21. 1.

C. ſpinoſiſſimus latifolius ſphærocephalus vulgaris. *Bauh. pin.* 385.

Leaves ſemidecurrent ſpiny; flowers drooping; ſcales of the calyx ſpreading at top.

5. Carduus acanthoides. *Pricklieſt Thiſtle.*

Lin. ſpec. 1150. *Reich.* 3. 675. *ſuec. n.* 718. *With.* 871. *Allion. pedem. n.* 531. *Krock. ſileſ. n.* 1332. *Villars dauph.* 3. 7. *Pollich pal. n.* 764. *Jacqu. auſtr.* 3. *t.* 249. *Bauh. hiſt.* 3. 50. *Raii ſyn.* 194. 3. *hiſt.* 309. 3. *Mor.* 153. 7. 30. 11. *Pet.* 21. 3. *With.*

C. criſpus. *Hudſ. angl.* 350. *Lightf. ſcot.* 452. See n. 39.

C. polyacanthos. *Curtis lond. n.* 67. *Schreb. lipſ. p.* 15.

Conf. C. nigreſcens. *Villars dauph.* 3. 5. *t.* 20.

Leaves decurrent ſinuate, ſpiny about the edge; calyxes peduncled ſolitary erect villoſe.

6. Carduus criſpus. *Curled Thiſtle.*

Lin. ſpec. 1150. *ſyſt.* 724. *Reich.* 3. 676. *mant.* 461. *hort. cliff.* 393. *ſuec. n* 719. *Hall. n.* 165. *Pollich pal. n.* 765. *Leers herborn. n.* 627. *Villars dauph.* 3. 9. *Krock. ſileſ. n.* 1333. *Fl. dan. t.* 621. *Bauh. hiſt.* 3. 59. 1.

Leaves decurrent ſinuate, ſpiny about the edge; flowers aggregate terminal; ſcales of the calyx unarmed ſubariſtated expanded.

7. Carduus polyanthemus.

Lin. ſyſt. 724. *Reich.* 3. 676. *mant.* 109.

C. pycnocephalus paluſtris. *Triumf. obſ.* 103. *fig.*

Cirſium paluſtre lanceolatum, alato caule, polyanthemum. *Vaill. act.* 1718. *p.* 159.

Leaves decurrent ſinuate ciliate, naked beneath; flowers peduncled heaped.

8. Carduus paluſtris. *Marſh Thiſtle.*

Lin. ſpec. 1151. *Reich.* 3. 677. *ſuec. n.* 720. *Hudſ. angl.* 352. *With.* 873. *Lightf. ſcot.* 453. *Relh. cantabr. n.* 590. *Curtis lond.* 62. *Neck. gallob.* 337. *Pollich pal. n.* 766. *Leers herb. n.* 628. *Villars dauph.* 3. 8. *Krock. ſileſ. n.* 1334. *Bauh. pin.* 377. *prodr.* 156. (*Fl. dan. t.* 621? With.) *Park.* 983. *Raii ſyn.* 104. *hiſt.* 309.

Cirſium. *Hall. helv. n.* 170. *Scop. carn. n.* 1004. *Gmel. ſib.* 2. 57. *t.* 23. *f.* 2.

Card. ſpinoſiſſimus erectus anguſtifolius paluſtris. *Mor. hiſt.* 3. 153. *n.* 12. *ſ.* 7. *t.* 32. *f.* 13. *Petiv.* 21. 4.

Leaves decurrent toothed, prickly at the edge; flowers in racemes, upright, peduncles unarmed.

9. Carduus pycnocephalus. *Italian Thiſtle.*

Lin. ſpec. 1151. *ſyſt.* 724. *Reich.* 3. 677. *Jacqu. hort.* 1. *t.* 44. *Gouan. illuſt.* 62. *Barr. obſ.* 925. *t.* 417. *Triumf. obſ.* 100. *t.* 101. *Krock. ſileſ. n.* 1335.

Leaves decurrent pinnatifid-ſinuate pubeſcent ſpiny, peduncles naked tomentoſe, calyxes deciduous.

10. Carduus argentatus.

Lin. ſyſt. 725. *Reich.* 3. 678. *mant.* 280. *Jacqu. hort.* 2. *t.* 192.

Leaves decurrent runcinate ſpiny; peduncles ſubtomentoſe one-flowered; calyxes ovate mucronate unarmed.

11. Carduus auſtralis.

Lin. ſyſt. 725. *ſuppl.* 348. *Villars* 6.

Leaves decurrent runcinate ſpiny; calyxes ſubſeſſile terminal.

12. Carduus diſſectus. *Meadow Thiſtle.*

Lin. ſpec. 1151. *Reich.* 3. 678. *hort. cliff.* 392. *n.* 4. *Villars dauph.* 3. 15. v. n. 40.

Cirſium anglicum. *Lob. ic.* 583. *Dalech. hiſt.* 584.

C. majus, ſingulari capitulo magno, ſ. incanum varie diſſectum. *Bauh. pin.* 377.

Leaves decurrent lanceolate; toothlets unarmed: calyxes ſpiny.

13. Carduus cyanoides. *Blue-bottle-leaved Thiſtle.*
Lin. ſpec. 1152. *Reich.* 3. 679.
α. C. monoclonos. *Gmel. ſib.* 2. 42. *t.* 15.
β. C. polyclonos. *Gmel. ſib.* 2. 44. *t.* 16.
Leaves decurrent pinnatifid linear quite entire unarmed petioled tomentoſe beneath.

14. Carduus canus. *Hoary Thiſtle.*
Lin. ſyſt. 725. *Reich.* 3. 679. *mant.* 108. *Jacqu. auſtr.* 1. *t.* 42, 43. *Krock. ſileſ. n.* 1337.
Cirſium montanum maximum. *Park.* 960. *Raii hiſt.* 305.
C. tomentoſum rad. bulboſa. *Bauh. hiſt.* 3. 44.
C. max. aſphodeli rad. *Ger. emac.* 1181. 1.
Carduus tuberoſus. *Jacqu. vind.* 280.
Leaves decurrent lanceolate eroſe-toothed ciliate-prickled, cobwebbed-ſubvilloſe on both ſides.

15. Carduus pectinatus.
Lin. ſyſt. 725. *Reich.* 3. 679. *mant.* 279.
Leaves decurrent lanceolate pinnatifid-pectinate, peduncles very long; heads when paſt flowering drooping.

16. Carduus defloratus. *Various-leaved Thiſtle.*
Lin. ſpec. 1152. *ſyſt.* 725. *Reich.* 3. 680. *Jacqu. vind.* 277. *auſtr.* 1. *t.* 89. *Hall. helv. n.* 164. *t.* 4. *Krock. ſileſ. n.* 1336.
C. cirſioides. *Villars dauph.* 3. 12.
Cirſium defloratum. *Scop. carn. n.* 1003. *ann.* 2. 61.
Cirſ. anguſtifolium. *Bauh. pin.* 377. *prodr.* 155.
Cirſ. ſingularibus capitulis parvis. *Bauh. pin.* 377.
Cirſ. 3. montanum. *Cluſ. hiſt.* 2. 149. *f.* 1.
Leaves decurrent lanceolate ſerrate ſubſpinoſe-ciliate naked, peduncles very long lanuginous one-flowered.

17. Carduus monſpeſſulanus. *Monpellier Thiſtle.*
Lin. ſpec. 1152. *Reich.* 3. 680. *Villars dauph.* 3. 18. *Bauh. hiſt.* 3. 44. *fig.* 45. 1.
Cirſium 7. *Bauh. pin.* 377?
Cirſion. *Dod. pempt.* 737. 2?
Leaves decurrent lanceolate ſubrepand ſmooth unequally ciliate; peduncles alternate, calyxes unarmed.

18. Carduus pannonicus.
Lin. ſyſt. 725. *ſuppl.* 348. *Krock. ſileſ. n.* 1348.
Cirſium pannonicum. *Cluſ. hiſt.* 2. 148. *Bauh. hiſt.* 3. 1. 46. See n. 32.
Leaves ſemidecurrent naked undivided ciliate, flower ſubſolitary.

19. Carduus tuberoſus. *Tuberous Thiſtle.*
Lin. ſpec. 1154. *Reich.* 3. 681. *mant.* 461. *Pollich pal. n.* 768. *Villars dauph.* 3. 16. *Krock. ſileſ. n.* 1338.
Cirſium. *Hall. n.* 177.
Card. pratenſis, aſphodeli radice, latifolius. *Bauh. pin.* 377. *Mor. hiſt.* 3. *ſ.* 7. *t.* 29. *f.* 27, 28. *Raii hiſt.* 305. 2.
C. bulboſus monſpelienſium. *Lob. ic.* 2. *t.* 10.
β. C. prat. aſph. rad., fol. profunde & tenuiter inciſis. *Bauh. pin.* 377. *Tabern. ic.* 154. Jacea aculeata, ſ. tuberoſa.
Leaves ſubdecurrent petioled ſubpinnatifid ſpiny, ſtem unarmed, flowers ſolitary.

20. Carduus chius.
Lin. ſyſt. 725. *Jacqu. hort.* 3. *t.* 5.
Leaves ſtem-claſping, the lower ones ſemidecurrent ſemipinnatifid ciliate-ſpinuloſe; ſtem unarmed; peduncles one-flowered.

21. Carduus parviflorus. *Small-flowered Thiſtle.*
Lin. ſyſt. 725. *Reich.* 3. 681. *mant.* 279.
Leaves adnate at the baſe lanceolate naked eroſe ciliate-ſpinulous unarmed.

22. Carduus linearis.
Lin. ſyſt. 726. *Thunb. jap.* 305.
Leaves ſeſſile linear ciliate-ſpiny ſmooth; flowers terminal ſolitary.]

23. Carduus Caſabonæ. *Fiſh-Thiſtle.*
Lin. ſpec. 1153. *Reich.* 3. 681. *hort. cliff.* 393. 10.
Acarna major, caule non folioſo. *Bauh. pin.* 30.
A. Theophraſti Anguillaræ. *Lob. ic.* 2. 16. *f.* 1. *Dalech. hiſt.* 1484.
Polyacanthus Caſabonæ, Acarnæ ſimilis. *Bauh. hiſt.* 3. 92. *Raii hiſt.* 315. 4.
Leaves ſeſſile lanceolate quite entire, the edge with ternate ſpines.

24. Carduus ſtellatus. *Starry Thiſtle.*
Lin. ſpec. 1153. *Reich.* 3. 682.
C. humilis aculeatus, &c. *Triumf. obſ. t.* 96.
C. ſtellatus leucoii fol. *Dodart. mem.* 4. 261.
C. ptarmicifolius. *Mill. dict. n.* 1.
Leaves ſeſſile entire lanceolate unarmed tomentoſe beneath; ſpines branched axillary; flowers ſeſſile lateral.

25. Carduus marianus. *Milk Thiſtle,* or *Ladies Thiſtle.*
Lin. ſpec. 1153. *Reich.* 3. 682. *hort. cliff.* 393. 9. *mat. med.* 130. *Hudſ. angl.* 353. *With.* 874. *Curt. lond.* 3. 54. *Light. ſcot.* 454. *Gouan. monſp.* 422. *Neck. gallob.* 337. *Leers herb. n.* 629. *Allion. pedem. n.* 535. *Krock. ſileſ. n.* 1342. *Blackw. t.* 79. *Dalech. hiſt.* 1475. *fig. Trag. hiſt.* 850. *Fuchſ.* 56. *Ger.* 989. *emac.* 1150. *Dod.* 722. 1. *Lob. obſ.* 479. 1. *ic.* 2. 7. 2. *Park.* 976. 1. *Matth.* 676. *Raii hiſt.* 312. *Bauh. hiſt.* 3. 52. 2.
Silybum nervis fol. albis. *Hall. helv. n.* 181.
Cirſium maculatum. *Scop. carn. n.* 1009.
Leaves ſtem-claſping haſtate-pinnatifid ſpiny, calyxes leafleſs; ſpines channelled doubly ſpined.

[26. Carduus ſyriacus. *Syrian Thiſtle.*
Lin. ſpec. 1153. *ſyſt.* 726. *Reich.* 3. 682. *hort. cliff.* 393. 8. *upſ.* 250. 3. *Gron. orient. n.* 252. *Bauh. pin.* 380. (Acanus.) & 381. (Silybum, 2.)
C. luteus ſyriacus. *Cam. hort.* 35. *t.* 10.
Leaves ſtem-claſping angular-ſpiny; flowers ſolitary ſubſeſſile fortified with about five leaflets.]

27. Carduus eriophorus. *Woolly-headed Thiſtle.*
Lin. ſpec. 1153. *Reich.* 3. 683. *hort. upſ.* 249. 1. *Hudſ. angl.* 354. *With.* 875. *Lightf.* 455. *Gouan. monſp.* 423. *Neck. gallob.* 335. *Pollich pal. n.* 767. *Jacqu. auſtr.* 2. *t.* 171. *Villars dauph.* 3. 2. *Krock. ſileſ. n.* 1339. *Mill. fig. t.* 293.
C. eriocephalus. *Dod. pempt.* 723. *Cluſ. hiſt.* 2. 154. *Ger. emac.* 1152. *Bauh. hiſt.* 3. 57.
C. tomentoſus. *Lob. obſ.* 482. 1. *ic.* 2. 9. 2. *Park.* 978. *Raii hiſt.* 311.
Cirſium. *Hall. helv. n.* 168.—eriophorum. *Scop. carn. n.* 1008.
β. C. ſpurius. *Lin. upſ.* 249. *obſ.*
Leaves ſeſſile pinnatifid in two rows, diviſions alternate erect; calyxes globular villoſe.

[28. Carduus altiſſimus. *Giant Thiſtle.*
Lin. ſpec. 1154. *Reich.* 3. 683.
Cirſium altiſſimum. *Dill. elth.* 8. *t.* 69. *f.* 80.
Leaves ſeſſile pinnatifid ſinuate, ſerrate unarmed, ſtem very branching, calyxes villoſe ſubſerrate.

29. Carduus virginianus. *Virginian Thiſtle.*
Lin. ſpec. 1154. *Reich.* 3. 683. *Gron. virg.* 117. 1. *Jacqu. obſ.* 4. 13. *t.* 99.
Cirſium minus virginianum, &c. *Mor. hiſt.* 3. 150. *Raii ſuppl.* 197.
Leaves lanceolate ſpinulous, tomentoſe beneath; ſtem unarmed leafy one-flowered.

30. Carduus heterophyllus.
Lin. ſpec. 1154. *ſyſt.* 726. *Reich.* 3. 684. *hort. cliff.* 392. 2. *ſuec. n.* 721. *lapp. n.* 192. *Villars dauph.* 3. 19. *Krock. ſileſ. n.* 1343. *Fl. dan. t.* 109.
C. helenioides β. *Hudſ.* 352. *With.* 876.—diſſectus. *Hudſ. edit.* 1.
Cirſium britannicum, caule multifloro, fol. infer. laciniatis. *Scop. ann.* 2. 60. 6.
C. *Hall. helv. n.* 180. β. *Allion. pedem. n.* 554. *t.* 34.
Leaves ſtem-claſping lanceolate ciliate entire and laciniate, ſtem with one or two flowers, calyx unarmed.

31. Carduus helenioides. *Melancholy Thiſtle.*
Lin. ſpec. 1155. *ſyſt.* 726. *Reich.* 3. 684. *hort. cliff.* 392. 3. *upſ.* 250. 4. *Hudſ.* 352. *With.* 876. *Lightf.* 457. *Krock. ſileſ. n.* 1344.
Cirſium. *Hall. helv. n.* 180. α. *t.* 7. *Scop. ann.* 2. 60. α. *Mill. dict. n.* 5. *fig. t.* 94. *Bauh. hiſt.* 3. 46. 2. *Ger. emac.* 1183. 2. *Park.* 961. 5. *Raii ſyn.* 193. 2. *hiſt.* 306. 8. *Allion. pedem. n.* 553. *t.* 13.
Leaves ſtem-claſping lanceolate toothed, ſpinules unequal ciliate, ſtem unarmed.

32. Carduus ſerratuloides. *Saw-wort Thiſtle.*
Lin. ſpec. 1155. *Reich.* 3. 685. *Jacqu. vind.* 281. *auſtr.* 2. *t.* 127. *Gmel. ſib.* 2. 52. *t.* 22. & 23. *f.* 1. *Krock. ſileſ. n.* 1345.
Serratula. *Lin. hort. upſ.* 248.
Cirſium. *Scop. carn. n.* 1002. *Bauh. pin.* 377. 8. *Cluſ. hiſt.* 2. 148. 1. See n. 18.

Leaves rather ſtem-claſping lanceolate entire, ſerratures ſpiny-ſetaceous, peduncles one-flowered.

33. Carduus tataricus. *Tartarian Thiſtle.*

Lin. ſpec. 1155. *Reich.* 3. 685. *Jacqu. auſtr.* 1. *t.* 90.

Leaves ſtem-claſping lanceolate, ſerratures ſpiny-ſetaceous, flowers three-leaved.

34. Carduus ciliatus. *Ciliate Thiſtle.*

Lin. ſyſt. 726. *Murr. in comm. gott. vol.* 6. 1784. *p.* 35. *t.* 5.

Leaves half-ſtem-claſping pinnatifid laciniate ſpiny-tomentoſe beneath, ſcales of the calyx ciliate reflex at the baſe.

35. Carduus flaveſcens.

Lin. ſpec. 1156. *ſyſt.* 727. *Reich.* 3. 686. *Cavan. hiſp.* 35. *n.* 52. *t.* 46. *Krock. ſileſ. n.* 1346.

Leaves lanceolate entire unarmed toothed ſmooth, flowers leafleſs weak-ſpiny.

36. Carduus rivularis.

Lin. ſyſt. 727. *Jacqu. auſtr.* 1. *t.* 91.

Cirſium carniolicum. *Scop. carn. n.* 1005. *t.* 54. *Allion. pedem.* 543.

Leaves at bottom pinnatifid into oblong diviſions, at top entire and ſerrate weak-ſpiny ſeſſile, ſtem unarmed, flowers in heads.

37. Carduus mollis.

Lin. ſpec. 1156. *Reich.* 3. 686. *amæn.* 4. 328. *Jacqu. vind.* 276. *auſtr. t.* 18. *Scop. carn.* 1000. (Cirſium) *Pollich pal. n.* 769. *Gouan. illuſtr.* 63. *Cluſ. hiſt.* 2. 151.

Leaves pinnatifid linear tomentoſe beneath, ſtem one-flowered unarmed.

38. Carduus acaulis. *Dwarf Carline Thiſtle.*

Lin. ſpec. 1156. *Reich.* 3. 686. *ſuec. n.* 722. *Hudſ.* 354. *With.* 877. *Lightf.* 458. *Relh. n.* 594. *Jacqu. ic. vol.* 2. *Villars dauph.* 3. 15. *Krock. ſileſ. n.* 1347. *Pollich pal. n.* 770. *Leers herb. n.* 630. *Park.* 969. 4.

Cirſium. *Hall. helv. n.* 178.—acaulos. *Scop. carn. n.* 1010.

Card. acaulos, minore purpureo fl. *Bauh. pin.* 380. *Ger. emac.* 1158. *Raii hiſt.* 310. *Mor. ſ.* 7. *t.* 32. *f.* 12.

Chamæleon exiguus. *Bauh. hiſt.* 3. 63. 1. *Trag.* 852.

Carlina minor. *Cluſ. hiſt.* 2. 156. 1. *Lob. obſ.* 480. 3. *ic.* 2. 5. 1.

Stemleſs; calyx ſmooth.

Other Species.

39. Carduus inclinans. *Thiſtle upon Thiſtle.*

With. bot. arr. 870. *Hall. n.* 167. γ.

C. criſpus. *Hudſ.* 350. *Lightf.* 452. *Raii ſyn.* 194. *hiſt.* 309. 2. *Dod.* 739. 1. *Ger. emac.* 1173. 3. *Mor. hiſt.* 3. 153. *n.* 11.

Leaves decurrent thorny at the edge, calyxes roundiſh, lax, ſcales of the calyx ſubulate ſtraight, the innermoſt unarmed coloured.

40. Carduus pratenſis. *Engliſh ſoft* or *gentle Thiſtle; ſingle-headed,* or *Meadow Thiſtle.*

Hudſ. 353. *With.* 877. *Jacqu. auſtr.* 1. *t.* 42.

C. heterophyllus. *Lightf.* 456.

Cirſium. *Cluſ. hiſt.* 2. 148. 1. *Bauh. pin.* 377. 8. *Ger. emac.* 1183. 3. 5. *Park.* 961. 4. *Mor.* 7. 29. 12, 13. *Bauh. hiſt.* 3. 45. 2. *Raii ſyn.* 193. *hiſt.* 306. 7. *Lob. ic.* 583. 1. *Pet.* 22. 1. *Bauh. hiſt.* 3. 45. 2.

Leaves ſeſſile half-ſtem-claſping lanceolate ſomewhat toothed fringed with ſmall unequal thorns, ſtem moſtly one-flowered.

41. Carduus carniolicus.

Cirſium carniolicum. *Scop. carn. n.* 1005. *t.* 54.

C. rivularis. *n.* 36.

Lower leaves pinnatifid on ſhort petioles, upper ones ſtem-claſping, heads (three or four) terminal, heaped.

42. Carduus carlinoides. *Pyrenean Thiſtle.*

Allion. pedem. n. 536. *Gouan. illuſtr.* 62. *t.* 23. *Ait. hort. kew.* 3. 139.

C. pyrenaicus tomentoſus, fl. purpureis glomeratis. *Tourn. inſt.* 441.

Leaves decurrent decurſively pinnate, pinnules palmate-quadrifid aculeate woolly, ſtem corymbed many-flowered, flowers glomerate.

43. Carduus medius.

Gouan. illuſtr. 62. *t.* 24. *Conf. fl. aragon.* 790.

Cirſium medium. *Allion. pedem. n.* 542. *t.* 49. *f.* 2.

Leaves decurrent pinnatifid thorny about the edge, ſtem one-flowered, peduncle very long, ſcales of the calyx unarmed ſpreading briſtle-ſhaped.

44. Carduus ochroleucus.

Cirſium ochroleucum. *Allion. pedem. n.* 546. *Hall. helv. n.* 174.

Leaves pinnate, pinnas ciliate, ſcales of the calyx recurved.

45. Carduus pyrenaicus.

Jacqu. obſ. 4. 11. *Ger. prov.* 179. *n.* 13.

Cirſium pyrenaicum. *Allion. pedem. n.* 549. *t.* 12.

Leaves decurrent oblong-lanceolate ciliate at the edge, ſpiny and tomentoſe on both ſides, flowers ſubſeſſile.

46. Carduus paniculatus. *Panicled Thiſtle.*

Ait. hort. kew. 3. 143.

Leaves ſemidecurrent oblong-lanceolate unequal ciliate ſmooth, the lower lyrate waved; flowers panicled.

47. Carduus rigens. *Upright Alpine Thiſtle.*

Ait. hort. kew. 3. 144. *La Chenal act. helv.* 4. 294. *t.* 16. *Hall. helv. n.* 176. (Cirſium.)

Leaves oblong-lanceolate, ſmooth, thorny at the edge, pinnatifid; ſegments oblique lobed; calyxes oblong bracted.

48. Carduus Diacantha.

Billard. ic. ſyr. 2. 7. *t.* 3.

Leaves ſeſſile lanceolate, tomentoſe underneath, ſpines in pairs, flowers corymbed.

49. Carduus pinnatifidus.

Cavan. hiſp. 58. *n.* 91. *t.* 83.

Leaves pinnatifid tomentoſe, nerves woolly, ſtem one-flowered.

50. Carduus gnaphaloides.

Cyrill. rar. neap. 1. 27. *t.* 9.

Leaves ſeſſile in a ſort of whorl, lanceolate, quite entire, tomentoſe beneath.

51. Carduus tenuiflorus. *Slender-flowered Thiſtle.*

Curtis lond. n. 67.

C. acanthoides. *Hudſ. angl.* 351. *Lightf. ſcot.* 451. *Hall. helv. n.* 166. *Bauh. hiſt.* 3. 516.

C. ſpinoſiſſimus capitulis minoribus. *Phyt. brit. Raii hiſt.* 309. *ſyn.* 194.

C. polyacanthos, capit. longioribus & tenuioribus, fol. albicantibus. *Mor. hiſt.* 3. 153.

Leaves decurrent prickly about the edge, branches ſtiff, calyxes aggregate ſeſſile oblong-conical, ſcales upright ſpreading at top and prickly at the end.

DESCRIPTIONS, *&c.*

Thiſtles are known by their prickly leaves, in ſome ſpecies however the prickles are ſoft and harmleſs: they are ſeſſile, and in many ſpecies decurrent. This genus is by ſome authors divided into two, from the *pappus*, egret or down of the ſeed. Such as have a ſimple or hairy down they call *Carduus*; and ſuch as have a plumoſe or feathered down, *Cirſium*. Others unite ſeveral ſpecies of *Cnicus* to this genus. *Carduus marianus* having the ſcales of the calyx ſpiny about the edge, is more properly a *Carthamus*; according to Monſ. Lamarck. Our common Way-thiſtle (*Carduus viarum* or *arvenſis*) is removed by Linneus into the genus Serratula.

1. Root annual. Stem three feet high. Radical leaves ſcarcely petioled, cloſe to the ground. Stem-leaves ſmooth, ſhining green with white ſpots; beneath paler and hairy, half-ſtem-claſping. A triple membranous wing runs uninterrupted along the ſtem. Peduncles woolly, one-flowered, generally naked, or with only a ſmall leaf or two, grooved and tomentoſe. The leaves are pinnatifid nearly to the middle, ſinuate-plaited, having many ſhort lobes ending in harmleſs ſpines, with a longer ſpine at the end of each lobe; the whole form is oblong-ovate: the leaves on the branches are more ſhining, have the teeth or ſmall lobes more produced, with a longer and firmer ſpine; and the form is rather lanceolate. Flowers upright. Calyxes ovate-conic, lanuginous; ſcales erect, green, not hooked or reflex, terminating in a harmleſs ſpine. Corolla purple or white. Down ſimple[a]. Native of the county of Nice, and Campania.

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[a] Allioni.

Retzius has a ſpecies, which he received under the name of *C. leucographus*, but he takes it to be different, and has given it the name of *Carduus peregrinus*. He ſays it is well deſcribed by Ray, under the name of *C. lacteus peregrinus Camerarii*, in the 312th page of his hiſtory. He thus deſcribes it himſelf (*Obſ.* 1. 27. *n.* 92.) Root annual. Stem three feet high, branched, ſtriated, winged, naked, but the terminating branches tomentoſe. Leaves ſinuate-toothed, ſpiny, ſeſſile, decurrent, above naked ſpotted with white, beneath tomentoſe. Peduncles terminating and axillary; the firſt branched, tomentoſe, winged, long, with from three to ſix flowers; the latter very ſhort. Calyxes ſeſſile and pedicelled, oblong, almoſt cylindric, with ſoft ſpines, ſomewhat tomentoſe, deciduous. Corollules few, red, ſcarcely longer than the calyxes. Seeds few, white, gummy, and adhering to the down.

2. Root biennial. Stem upright, three or four feet high, angular, downy, frequently purple. Leaves half-ſtem-claſping, decurrent to the next, downy and ſea-green underneath, hairy and deep green above, pinnas lanceolate, the terminating one long, the ſide ones moſtly divided to the baſe into two ſegments, one pointing upwards, the other downwards, terminating as do alſo the wings of the part running down the ſtem, in ſharp ſtiff white thorns, which are extenſions of the ribs. Calyx with numerous ranges of lanceolate ſcales, ſomewhat tomentoſe, ending in ſharp, ſtiff, white thorns. Corolla purple, ſometimes white. Down plumoſe, almoſt as long as the bloſſom[b]. The inner ſcales of the calyx are unarmed, briſtle-ſhaped, and as it were dried up[c].

It is ſometimes found of the height of a man, with heads twice the ſize of the common: as alſo with ſmaller heads, in all reſpects a leſs plant[d].

Road ſides, hedges, and fallows; flowering in july. In Yorkſhire it is called Bur-thiſtle.

This, in common with moſt of the Thiſtles, is looked upon merely in the light of a noxious weed; and yet Linneus remarks very judiciouſly that it preſerves annual plants, by protecting them with its ſpines, and giving them an opportunity of feeding in quiet. If a heap of clay be thrown up, ſays Dr. Withering, nothing would grow upon it for ſeveral years, did not the ſeeds of this plant, wafted by wind, ſix and vegetate thereon. Under the ſhelter of this, other vegetables appear, and the whole ſoon becomes fertile. The flowers, like thoſe of the Artichoke, *&c.* have the property of curdling milk[e]. The ſeeds are eaten by ſmall birds.

3. Root annual, fuſiform, white. Stem erect, about a foot high, ſcarcely branched, lanuginous and hoary. Leaves ſquarroſe, ciliate-ſpiny, dirty green above, pale beneath; ſtem-leaves ſeſſile, radical petioled, leſs cut and more obtuſe. Flowers oblong, ſeſſile, erect, aggregate at the end of the ſtem, and the very ſhort axillary branchlets. Calyxes green and ſomewhat ſquarroſe; ſcales lanceolate-acuminate, ending in a yellowiſh ſharp prickle. Corollules purpliſh. Anthers dark purple. Pappus hairy, ſeſſile, brown. Seeds ſmooth[f].

4. Stems two to three feet high, overſpread, as are alſo the leaves, peduncles and calyxes with a cottony down. Leaves decurrent, not to the next leaf, but ending midway: pinnas ovate, armed with ſtrong prickles. Peduncles one-flowered. Flower hanging down, ſmelling very ſweet, particularly in the evening. Styles bent back towards the ſide. Pappus ſimple, nearly as long as the florets. The ſcales of the calyx are lanceolate and woolly, commonly of a dull red colour, and end in ſtrong ſpines; the outer ones ſtanding wide and open, the inner erect, and unarmed[g]. Scopoli affirms that the heads are more often erect than pendulous in Carniola. This is certainly not ſo with us. It is well known to entomologiſts on account of the moths, which feed copiouſly on it[h].

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[b] Woodw. Mſſ. [c] Linn. ſpec. [d] Ray, and Bauh. hiſt. f. 2, 3. [e] Linn. ſuec. [f] Jacquin. [g] Lin. ſpec. & ſuec. Woodw. Mſſ. Lightf. [h] Linn. ſuec.

The dried flowers of this ſpecies, as well as the former, are ſometimes uſed to curdle milk.

Paſtures in a calcareous ſoil. Road ſides in a ſandy or gravelly ſoil. Common on moſt of the fallows about Cambridge.—Biennial. It flowers in june, the firſt of the Thiſtles.

5. Differs from *C. nutans* in having erect calyxes; from *C. criſpus* in having the calyxes ſolitary and villoſe: the inner ſcales are ſpreading. Corollules ſemiquinqueſid, but the lower ſegment ſeparated nearly to the baſe, ſo that it is almoſt bilabiated, the upper-lip being quadrifid, the lower ſimple, which is not the caſe in n. 4. 6. Styles double the length of the floſcules. Leaves haſtate-pinnate, with white upright hairs ſprinkled underneath as in *C. criſpus*. Stem ſcored with white, elevated and as it were bony ſtreaks. Peduncles thorny with curled wings, in which it differs from *C. criſpus*. The flowers are ſmaller than in *nutans*, larger than in *criſpus*[i].

Radical leaves at firſt have ſome reſemblance to thoſe of *C. marianus*. Flowers ſmall, pale purple, crowded on the top of the ſtem, which is as high as in the *criſpus*, but more ſlender, and with fewer, ſtraighter branches, the wings broader, the ſpines fewer. Heads much ſmaller. The colour of the whole plant aſh or gray[k]. Leaves pinnatifid. Root-leaves blunt; pinnas broad, ſomewhat pentangular, with five obſolete lobes, the nerves terminating in acute yellow ſpines, tomentoſe beneath, above ſmooth, except a few ſhort hairs ariſing from glands. Stem-leaves acute, pinnas triangular, confluent, with wings running down the ſtem, armed with numerous rigid yellow ſpines of various lengths. Scales of the calyx lanceolate, yellowiſh green; the upper ones ſpreading, the inner ones chaffy, all tipped with ſharp ſpines. Segments of the corolla ſomewhat longer than the anthers. Down ſimple, nearly as long as the corolla[l].

It is called by Gerarde (p. 1010.) Thiſtle upon Thiſtle; by Parkinſon (p. 981. n. 5.) the moſt prickly Thiſtle.—On ditch-banks, road ſides, waſte places, borders of corn fields in moſt parts of Europe; flowering from june to ſeptember.

There is much confuſion in this and the following ſpecies, and it is very doubtful whether our *acanthoides* be the ſame with that of many foreign authors. Haller received our plant both from Dillenius and Hudſon, and determines it to be the *acanthoides* of John Bauhin, but not of Linneus: the latter he takes to be only a variety of *C. criſpus*, with the ſpines of the leaves ſtronger; the flowers larger, ſolitary and erect. Pollich alſo deſcribes the flowers of the *acanthoides* as being ſolitary. The late Mr. Lightfoot ſays poſitively that *C. acanthoides* of Linneus is a different plant from ours, though he retains the name. Mr. Curtis however, who has taken much pains to aſcertain this Thiſtle, is of opinion, that the *C. criſpus* of Hudſon and Lightfoot, is the ſame with the *acanthoides* of Linneus, which he names *polyacanthos*, after Moriſon, Parkinſon (theat. 981. 5.) and Schreber. To the *acanthoides* of John Bauhin, Hudſon and Lightfoot, he gives a new name *tenuiflorus*.

He deſcribes this ſpecies thus. *Root* annual, ſimple, whitiſh, furniſhed with numerous fibres. *Stalk* from two to four feet high or more, upright, very ſlightly grooved, hirſute, furniſhed with four or five wings, which are jagged and extremely prickly; branched, often to the bottom: branches very long, ſpreading, producing flowers at the extremities. *Leaves* ſeſſile, decurrent, lanceolate, cut into lobes which are oppoſite, ſcalloped, toothed, and a little curled, ſpiny on the edge, above green, beneath whitiſh and ſomewhat woolly. *Flowers* middle-ſized, terminating, for the moſt part cluſtered, purple, odoriferous, ſeſſile, or ſtanding on ſhort peduncles, upright or ſomewhat nodding. Common calyx nearly round, looſely imbricate; ſcales ſpreading and ſomewhat reflex, ſlightly tomentoſe and harmleſs. Corolla as long again as the calyx. *Seeds* oblong, ſmooth, pale brown, ſlightly ſtriated, blunt at both ends: down ſimple.

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[i] Lin. ſpec. & ſucc. [k] Ray. [l] Woodw. Mſſ.

It is ſometimes found with white flowers, and in different ſituations varies from two to five feet in height, is more or leſs hairy, and has its flowers more or leſs cluſtered.

In its general appearance it approaches near to the *paluſtris*, from which it may be diſtinguiſhed by growing in dry places; being more branched, and the extreme flowering branches being uſually more bowed downwards; theſe are however ſometimes perfectly upright; the moſt certain mark is, that the calycine ſcales are looſe, as in Burdock, and almoſt as harmleſs, whereas in the *paluſtris*, as in *arvenſis*, *acaulis*, &c. they are cloſely imbricate: the flowers alſo are more odoriferous.

6. Stem green. Leaves totally decurrent, harmleſs, but rather pungent on the ſtem. Pedicels white-cottony. Calyx ſquarroſe, the ſize of a hazel nut, ſcales wrinkled above[m].

C. criſpus of Linneus does not agree with our plant (n. 39.) either in the character or deſcription. They are nearly allied in habit and ſtructure; but the peduncles and under ſurface of the leaves in the *criſpus* are covered with a white cotton; the calyxes are ſmaller[n]. *See n.* 39.

It grows wild in the ſame ſoil and ſituations with the foregoing; flowers about the ſame time; and like that is annual.

7. This ſo much reſembles *C. criſpus*, as not to be diſtinguiſhed from it without difficulty; but neither the petioles nor leaves are tomentoſe underneath. Stem loftier. Leaves deeply runcinate, not rigid, bluntiſh, ciliate with weak ſpines, hollow-veined, paler beneath but not white. Upper ſtem-leaves lanceolate, eroſe, decurrent without interruption, curled, and a little pungent. Peduncles curled, ſcarcely cobwebbed. Flowers uſually three or four at the top, ſubſeſſile. Corollas in the outſide purple, in the diſk red. Anthers violet. Styles white. Stigmas purple. Native of Rome. Biennial[o].

8. *Root* biennial. *Stem* four, five or ſix feet in height, in woods frequently ten or twelve, upright, branched, multangular, hirſute with numerous long white hairs, winged, prickly, variegated longitudinally with green and purple. *Leaves* ſeſſile, bent downwards, lanceolate, pointed, jaggedly toothed, ſegments horizontal, oppoſite, together with the teeth broad and ſomewhat blunt, the lowermoſt tooth of each-ſegment curled and elevated, veiny, hirſute with hairs ſtanding remotely, above of a deep green colour, glaucous on the under ſide, the midrib pale green, and extremely hairy underneath, the margin of the leaf prickly, the prickles purpliſh at the baſe and white at the end; the uppermoſt ſtem-leaves elongated and linear at the extremity. Five or ſix rows of prickly rudiments of leaves run interruptedly down the ſtem, rendering it winged and prickly. Flowers purple, ſeſſile, in cluſters on the top of the ſtem and branches. Calyx ovate, ſmooth, a little woolly; ſcales cloſely imbricate, ovate, convex, green tipped with deep purple, without any rib, but ending in a ſhort ſpreading prickle not pungent, beneath which is a gloſſy linear prominence: the inner ſcales are pointed only without prickles. Corolla twice as long as the calyx. Seeds whitiſh and ſhining. Down ſhorter than the corolla, having the rays fringed with long hairs.

Being never found but in wet places, it is not likely to be miſtaken for any other Thiſtle; it has uſually more purple about it than the reſt of its kindred; and formidable as its ſtems and leaves are from their numerous prickles, the heads of flowers and peduncles are perfectly harmleſs[p].

It is wild in moſt parts of Europe in marſhes, boggy woods, and moiſt heaths, commons, and meadows; flowering in july.—It varies with a white flower, as moſt of the Thiſtles occaſionally do.

In Yorkſhire it is called Red Thiſtle.

The tender ſtalks of this (and moſt of the ſorts) are eſculent, being firſt peeled and boiled. They are thus eaten, as Linneus informs us, by the inhabitants of Smoland.

9. This is a ſort of intermediate plant between *C. criſpus* (n. 6.) and the *Onopordon* (or Cotton-thiſtle). Stem a foot high or more, white with hairs; the edges of the leaves uninterruptedly decurrent on each ſide, alternately flexuoſe and thorny. Radical leaves ſublanceolate, ſubſinuate; ſtem-leaves oblong, ſemipinnatifid, toothed, pubeſcent on both ſides, whiter underneath, cottony or woollyiſh. Peduncles ſhort, cottony-white. Pedicels with three or four flowers. Floſcules generally three or four. Calyxes the ſize of a hazel-nut, oblong, imbricate with ſubulate, erect, ſpreading, ſubſpinous ſcales. Corolla purple with an erect border, the ſize of *Serratula tinctoria*. It differs from the *acanthoides*, in having naked not winged peduncles. The calyxes when ripe fall off whole[q].

According to Gouan: The ſtem-leaves are obliquely ſemidecurrent, one lobe of the baſe being continued down longer than the other, but the other next the ſtem between leaf and leaf being naked. The upper leaves and thoſe of the branches ſcarcely decurrent, rather ſtem-claſping; hence the branches and peduncles are naked; only with a looſe nap. Flowers glomerate, ſubſeſſile, from one to ſix. Calyx the ſame ſize as in *C. criſpus*, but ſhorter; ſcales ovate, the outer ſhorter, pubeſcent towards the end and terminating in a ſpine, the inner longer, without ſpines, and more flexible[r].

Native of the ſouthern parts of Europe. Linneus, Gouan, *&c.* make it perennial: according to Allioni it is annual. It was cultivated in 1739, by Mr. Miller[s].

10. Stem a foot high, flexuoſe, even, alternately branched. Leaves uninterruptedly decurrent with a flexuoſe thorny edge, toothed with pungent ſpines, ſprinkled eſpecially towards the ſinuſes with ſilvery ſpots. Peduncles terminal, the length of the whole plant, with hardly any leaves, erect. Calyx the ſize of a hazel-nut; ſcales cloſely imbricate, the tips ſubulate, unarmed, erect; when ripe it falls entire with the ſeeds. Corolla very ſmall, purple, mixed with the down, ſcarcely gaping. Anthers blue. Down aſh-coloured. It approaches to the foregoing by its milky-ſpotted leaves, and one-flowered peduncles. It is remarkable that many Egyptian plants are ſpotted with white, as this and three other ſpecies of Thiſtle—*marianus*, *ſyriacus*, and *peregrinus*. *Centaurea galactites*: and *Aſperugo ægyptiaca*. This is an annual plant[t].

11. Stem a foot high, round, ſtriated, woolly-villoſe. Leaves alternate, remote, ſeſſile, decurrent but ſcarcely to the next, oblong, ſubſinuate at the ſides, rather cobweb-villoſe, the veins of the ſides running out into white thorns. Calyxes many (the lateral ones ſolitary) ovate, ſmall, imbricate; ſcales lanceolate, acuminate with a ſpine, erect, rather ſpreading. Corolla conſiſting of about eight purple floſcules. It is like the foregoing, but the flowers are not peduncled. Native of ſouthern Europe[u].

Villars refers to this *C. auſtralis*, with a mark of doubt, under his *C. auroſicus*, n. 6. See more under *Carduus deſloratus*, n. 16.

12. The leaves are wholly void of prickles; it is different therefore both from *C. heterophyllus* and *helenioides*[x].

Villars has a plant under this name, which he aſſerts to be that of the environs of Paris, of *Lobel*, *obſ.* 314. *ic.* 583. *Bauh. hiſt.* 3. 45. *Park. theat.* 961. *Raii hiſt.* 306. &c. Cirſium anglicum: but he doubts whether it be the *C. diſſectus* of Linneus, becauſe that author ſays that the ſtem is winged, and compares it with *C. heterophyllus* and *helenioides*, which have more affinity with *C. monſpeſſulanus* than with this. According to Villars, the root is perennial and creeping; the ſtem from a foot and a half to two feet in height, ſtraight, grooved, whitiſh, and terminated by one or two flowers; the leaves oblong, lanceolate and ſeſſile, cut about the edge, and white beneath: calyx a little open, but not prickly; the flower red. See n. 40.

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[m] Linn. mant.

[n] Woodw. & Stokes in With.

[o] Linn. mant.

[p] Curtis lond.

[q] Linn. ſpec.

[r] Gouan.

[s] Hort. kew.

[t] Linn. mant.

[u] Linn. ſuppl.

[x] Linn. ſpec.

13. The leaves have a white cotton underneath without ſerratures or briſtles: in α. they are almoſt like thoſe of *Sorbus*—in β. they are very narrow and linear. The ſcales of the calyx are linear, acuminate, ſubvilloſe; in α. the ſize of the Scabious; in β. of *Cyanus*, or Blue-bottle. It has the air of Jacea moſchata. *Bauh. hiſt.* 3. 34.[y] According to Pallas (itin. 3. 594.) Centaurea amplexicaulis. *Gmel. it.* 1. *t.* 24. is a ſingular variety of this; which grows wild in Tartary. Introduced 1778, by Mr. William Malcolm[z].

14. Roots fuſiform, aggregate, fleſhy, white, like Skirrets. Stem four feet high, green, angular, cobwebbed. Leaves ſubſinuate-toothed, ciliate with little white ſpines ſcarcely pungent, keeled, uninterruptedly decurrent, with wings ſtanding out. Peduncles terminal, elongated, with ſmall, green floral leaves. Flowers ſolitary, purple. Calyxes unarmed, with a white line on the outſide of the ſcales. Native of Auſtria and Tende. Perennial[a].

Cultivated in the gardens of Parkinſon, Tuggye and Ray. It flowers in july.—Introduced 1775, by Joſ. Nich. de Jacquin, M. D.[b]

15. Stem two feet high, erect, even, unarmed, as is the whole plant. Leaves uninterruptedly decurrent, with a pale keel beneath, pinnatifid or very deeply toothed; teeth equal, lanceolate, large, quite entire, ſubciliate, terminating in a weak ſpine, marked at the baſe before with a ſmall tooth bending down. Peduncles terminal, one-flowered, almoſt without leaves, a little tomentoſe. Scales of the calyx linear, ſpreading. Flowers the ſize of Burdock, purple with a long piſtil; filaments white, erect. Biennial. It came up from ſeeds ſent from Penſylvania[c].

16. Stems many, angular, ſmooth, leafy, generally ſimple. Peduncles leafleſs, ſomewhat woolly, very few. Flower ſolitary erect. Scales of the calyx mucronate, ſoft, green, narrow, ſmooth, ſpreading. Seeds pale brown and ſhining. Pappus ſimple. The heads, when the flowers are ripe, or when in ſeed ſometimes hang down, and are ſometimes erect[d].

Villars obſerves, that this plant varies remarkably in the form of its leaves, but that the ſpecific characters may eaſily be eſtabliſhed on its creeping, blackiſh, rape-like roots; on the ſtem winged at bottom, naked at top, terminated by one or two flowers; on its oblong, prickly leaves, more or leſs cut and fringed, but always of a dark green; on its lengthened woolly peduncles; on its ſmooth, green calyx, without prickles; and on its flowers of a fine red colour, and often nodding.

His *C. auroſicus* has an affinity to the moſt prickly varieties of this, but it is ſmaller, and ſtill more prickly: the flowers alſo are very much alike. He has another ſpecies, C. Roſenii, n. 13. t. 21. which perhaps may be only a variety of *defloratus*.

Linneus ſays that it reſembles *C. ſerratuloides* (n. 32.), but the calyxes are narrower, the leaves decurrent, and the heads not nodding.

According to Haller, it is a variable plant, having moſt uſually a naked ſtem, and many firm, ſhining, ſmooth leaves next the ground, either entire or ſemipinnate. Flower ſpecious, purple, often nodding when advanced. It is frequently found with the whole ſtem branching, and the flowering branches ſhorter: and ſometimes with the leaves ſo prickly, as to reſemble the Carline Thiſtle.

Native of Montpellier, Switzerland, Carniola, Gorizia. Perennial. Introduced 1775, by J. N. de Jacquin, M. D.[e]

17. This alſo has the air of *C. ſerratuloides*. Leaves ſmooth on both ſides, glaucous, entire; radical ones repand. A few heads at the top of the ſtem on ſhort peduncles[f]. About Montpellier, county of Nice, &c. Perennial. Cultivated 1570, by Mr. Hugh Morgan[g].

18. Unarmed. Leaves ſmooth and even, with ſoft briſtles. Heads the ſize of *Serratula arvenſis* (Way-thiſtle) unarmed; the ſcales marked with a white line. Corolla pale purple.—Auſtria. Perennial[h].

19. Leaves unarmed, green on both ſides, even. Root-leaves pinnatifid, in other reſpects like the ſtem-leaves, which are cordate-lanceolate, toothed, ciliate with inert, unequal little prickles. It has the flower of *C. heterophyllus*, only ſmaller[i].

According to Pollich, the ſtem is erect, two feet high and more, grooved-angular, rough, moſtly unarmed. Branches long, ſubtomentoſe. Calyx roundiſh, imbricate, unarmed, contracted at the neck; ſcales lanceolate, a little reflected at the tip, ending in a ſoft ſpine. Corolla purple. Down ſimple.

The leaves, ſays Haller, above are a little hairy, below ſubtomentoſe: in the Montpellier plant hoary all over.

According to Pollich they are pubeſcent on both ſides and roughiſh.

Villars has a ſpecies, (n. 17.) *Carduus pumilus*, which he ſays reſembles this; it is only three or four inches high, and has not tuberous roots: there is only one purple flower, in an oblong calyx, the ſcales of which are not prickly: the leaves are lanceolate, ſinuate, ciliate, and beneath hoary.

Montpellier, Leipſic, Bohemia, the Palatinate, Auſtria, Geneva, Switzerland, county of Nice: flowering in july and auguſt. Perennial.—Cultivated in 1683, by Mr. James Sutherland[k].

20. Stems the height of a man, branching from top to bottom, angular, villoſe, erect. Leaves lanceolate-oblong, the upper ſurface almoſt ſmooth and deep green, the lower ſomewhat villoſe and paler, but no where woolly; acuminate and pinnatifid; ſegments lanceolate, ciliate-ſpiny, almoſt harmleſs; radical leaves a foot and half long; lower ſtem-leaves ſemidecurrent, upper half-ſtem-claſping or ſeſſile. The branchlets end in one-flowered peduncles, having one or two ſmall leaves on them, below the flower a little woolly and aſh-coloured, always erect. Calyxes ovate, not hirſute; the ſcales have an oblong glutinous bump on the back, and end in a ſhort, harmleſs, dark purple ſpine. Corollules and ſtyles purpliſh fleſh colour. Anthers whitiſh. Seeds ſhining. Pappus plumoſe. Hairs on the receptacle browniſh. Jacquin received it from Marſigli of Padua, about the year 1770. It is a native of Chios[l].

21. Stem erect. Leaves repand-toothed, green on both ſides. Flowers terminal, peduncled, the ſize of *Serratula tinctoria*, white, with very long ſtyles. Calyx ovate, imbricate with ſcales having a white keel, and a weak ſpine at the tip. Native of the ſouthern ſubalpine mountains. Perennial[m]. Introduced in 1781, by M. Thouin[n].

22. Stem herbaceous, erect, round, ſtriated, ſmooth, unarmed, a foot high and upwards. Branches alternate, ſpreading, like the ſtem, a little tomentoſe at the end. Flowers ſmall. Calyxes ſubtomentoſe at the baſe, ſmooth at the top[o].]

23. This is a biennial plant, which riſes with an upright ſtalk ſix feet high. The leaves are long, and armed with triple ſpines at every indenture of the edge. The flowers come out in cluſters from the top of the ſtalk; they are purple, and are ſucceeded by ſmooth, oval, black ſeeds. [The nap on the under ſurface of the leaves is thick and ſaffron-coloured; but in ſome plants it is hardly apparent[p]. It has the trivial name from Caſabona, herbariſt to the Grand Duke of Tuſcany, who ſent the ſeed to John Bauhin.—Native of the South of Europe. Cultivated 1714[q].

24. Stem a foot high, ſtraight, round, cottony. Leaves three inches long, very narrow at the baſe, and about half an inch wide from the middle to the end. At every axil, except towards the bottom are

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[y] Linn. ſpec.
[z] Hort. kew.
[a] Linn. mant.
[b] Hort. kew.
[c] Linn. mant.
[d] Jacquin.
[e] Hort. kew.
[f] Linn. ſpec.
[g] Hort. kew. from Lobel.

[h] Linn. ſuppl.
[i] Linn. mant.
[k] Hort. kew.
[l] Jacquin.
[m] Linn. mant.
[n] Hort. kew.
[o] Thunberg
[p] Linn. cliff.
[q] Hort. kew.

four thorns, two on each ſide. The ſtem divides at top into ſeveral branches, each ending in a ſpiny head, under which are three leaves. Floſcules purple. Annual[r]. Native of Sicily and the county of Nice. Introduced 1771, by John Earl of Bute[s]. But it muſt have been cultivated long before by Mr. Miller.

25. Radical leaves ſpread on the ground, from one to two feet or more in length, with white veins on the upper ſurface. Stem-leaves partly ſurrounding the ſtem, ſpreading; the uppermoſt bent back; the baſe of each preſſed cloſe to the ſtem: which is from three to ſix feet high, branched, tomentoſe, grooved; at top naked, ſtriated. Flowers ſolitary, large, purple. Calycine leaves—the lowermoſt roundiſh, edged with ſpines—middle ones edged with ſpines towards the bottom, and running out to a point, ſpreading, rigid, channelled on the upper ſide, and terminating in a yellowiſh ſpine—the upper and innermoſt lanceolate, without ſpines, purple at top and notched on the edges. Seeds ſhining, blackiſh, crowned with a ſtiffiſh, ſimple, white down, growing obliquely. The beautiful milky veins forming an irregular network on the leaves, would form an obvious character to diſtinguiſh this ſpecies, if they were not ſometimes found wholly green; we muſt then have recourſe to the ſtrong ſpines of the calyx[t]. On banks, by road ſides, and in waſte places; flowering from may and june to july and auguſt.

All the authors that I have conſulted mark our Ladies Thiſtle as an annual plant, except Mr. Miller and Mr. Relhan, who mark it as biennial. My conſtant obſervation agrees with theirs, and I believe moſt of the Thiſtles are biennial.

This is eaten, when young, as a ſalad, and is by ſome perſons blanched, and dreſſed as a curious diſh. The tender leaves ſtripped of their ſpines, are boiled and eaten as greens. The young ſtalks peeled and ſoaked in water to take out the bitterneſs, are excellent. The ſcales of the calyx are as good as thoſe of Artichokes. The root is good to eat early in the ſpring. The ſeeds are large, and contain a portion of oil, whence they have ſometimes been uſed in emulſions, to thin the blood, and to cure ſtitches and pleuriſies. With us theſe are not in uſe; and Ray ſays that it is a culinary rather than a medicinal plant, and that it is frequently ſown in the Engliſh gardens for ſalads and the uſe of the kitchen. An emulſion of the ſeeds is however ſtill preſcribed by the German phyſicians in the pleuriſy; the doſe from one dram to three: and the Italian phyſicians give the expreſſed juice in agues. Granivorous ſmall birds feed much on the ſeeds of this and other Thiſtles, particularly the Goldfinch; whence that bird has the name of *Carduelis*[u].

This plant occupies a conſiderable ſpace of ground in Apulia, to the excluſion of graſs, on account of the food which it adminiſters to their cattle[x].

26. Two larger, and two or three ſmaller ſpinous leaflets at the baſe of the calyx; ſcales ending in a ſpine. Receptacle villoſe. Pappus feathered. Flowers white; the Egyptian variety has purple flowers[y]. Native of Syria, Crete, and Spain. Annual. Cultivated in 1640[z].

27. Stem four or five feet high, angular, ſtriated, woolly, without thorns, much branched. Root-leaves one to two feet long, with diſtant pinnas and linear intervals; pinnas two-lobed unequal, alternately erect and ſpreading, the larger linear, the ſmaller lanceolate, very entire, but fringed with a few fine prickles; midrib ſtiff, extending out into a ſharp prickle; above green, with numerous ſhort ſtiff hairs preſſed cloſely; underneath with a thick, woolly, white down. The ſegments point alternately upwards and downwards. Stem-leaves embracing; but not at all decurrent; ſimilar to the root-leaves, but the lobes not regular, all lanceolate, the terminating one long. Peduncles ſlender, extremely cottony, tomentoſe. Heads very large, cluſtered, terminating the ſtem and branches. Scales of the calyx linear-lanceolate, terminated by a long, ſoftiſh, yellow prickle, covered and interwoven with a thick woolly down. Floſcules purple, ſometimes white. Style much longer than the anthers. Stigma ſlightly bifid, anthers longer than the corolla. Seeds large, whitiſh, without ridges. Down ſhorter than the corolla, fringed with long hairs[a].

Native of Britain, France, Switzerland, Germany, Auſtria, Carniola, Spain, and Portugal. In dry paſtures, by road ſides, and in waſte places: flowering from july to ſeptember. Biennial.

The receptacle is pulpy and eſculent, like that of the Artichoke[b]. It is much the moſt ſpecious of all our Thiſtles.

28. Stature ten and twelve feet. Diameter of the ſtem in the lower part near two inches. It divides from the bottom into many ſtrong branches. Leaves alternate, pendulous, tomentoſe underneath. Heads large, ſcales of the calyx ending in a ſhort harmleſs point and cobwebbed. Corolla pale purple. Down plumoſe. It flowered in the Eltham garden at the end of auguſt and beginning of ſeptember 1726, and the ſeeds came from Carolina[c].

It had probably been in the Oxford garden before, if it be the Carduus eriocephalus altiſſimus. *Cat.* 1658.

29. Stem ſlender, a foot or eighteen inches high. Leaves many (26. 28.): the lower three inches long and half an inch wide. Head rather oblong; ſcales ſharp. Corolla purple. Sent by Baniſter from Virginia[d].

30. Root perennial, creeping. Stem eighteen inches high or ſhorter. Leaves five to ten, not toothed, ciliate with very ſoft ſpines, quite white underneath with a very ſharp keel; ſome entire, others gaſhed. Very few however of the leaves are gaſhed, but by culture many of them become laciniate[e].

Stem erect, quite ſimple, ſtriated, tomentoſe. Leaves half-ſtem-claſping, ſerrate, the ſerratures ſpiny, the middle nerve white, alternate; the bottom ones petioled. Flower one, purple, terminal. Calyx ovate, ſcales acute ſomewhat ſpined[f].

According to Hudſon, the radical leaves are pinnatifid and toothed: lower ſtem-leaves pinnatifid; the middle ones toothed; the upper ones entire; all ſpinous-ciliate, tomentoſe beneath. Stems a little branching, bearing from one to ſix flowers. Hudſon affirms that he has ſeen both this and the *helenioides* from the ſame root. Haller alſo, Scopoli, Villars, and Withering make this a variety of the *helenioides*. See n. 40.

31. According to Linneus, this is very like the former, but double the height, and even as high as a man. Root ſcarcely creeping, all the leaves undivided, white underneath, but not, as in that, of a ſnowy whiteneſs. Stem grooved, the whole of it leafy, (forty to fifty). Leaves half-ſtem-claſping (with round, reflex, adnate ears,) toothed, not laciniate, ciliate with weak ſpines; floral leaves ſubulate.

Leaves lanceolate, entire and toothed[g]; or rather ſerrate than toothed; ſtem-leaves cordate at the baſe[h].

Radical leaves of a long elliptic form, petioled. Stem-leaves ſeven or eight inches long. Flower large, erect, purple, an inch and half long, and near two inches in diameter, terminating the ſtalk: one and ſometimes two more flowers grow below it on long peduncles from the axillas. Scales of the calyx lanceolate, erect, acute, but not pungent, and of a dull purple colour. Style much longer than the anther. Down plumoſe. A variety of this ſometimes occurs, having leaves near the top pinnatifid, as figured in *flor. dan. t.* 109[i].

Stem ſeldom above a foot high when wild; in gardens it is generally double that height, and the leaves ſo much larger, that it ſeems a different plant. Leaves ſhining green on the upper ſide. The roots creep far under the ſurface. It has been cultivated in the gardens of ſome quacks, who pretended to cure madneſs with it. Hence probably the name of Melancholy Thiſtle[k].

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[r] Dodart.
[s] Hort. kew.
[t] Curtis.
[u] Curtis, Lightfoot, Withering, Miller, Allioni.
[x] Symonds.
[y] Linn. cliff. and Forſk. in Linn. ſyſt.
[z] Hort. kew. from Park.

[a] Woodw. Mſſ.
[b] Ray.
[c] Dill. elth.
[d] Mor. hiſt.
[e] Linn. ſpec. ſyſt. and ſuec.
[f] Lyons in Relhan.
[g] Hudſon.
[h] Stokes in Withering.
[i] Lightfoot.

The former ſpecies is common in moiſt meadows and marſhy places. This is found in mountainous paſtures in Yorkſhire, Weſtmoreland, Cumberland, and Wales. Mulbarton near Norwich. Acton in Gloceſterſhire. A meadow near Highgate. Hounſlow-heath. Near Croydon. In Scotland. They are both perennial, and flower in july.

32. Differs from the foregoing, which it reſembles very much, in having a ſtem leſs by half, ſcarcely grooved: leaves narrower, the floral ones lanceolate, not ſubulate[l].

Stem ſolitary, from a foot and half to three feet in height, ſimple, one-flowered or divided into few elongated erect peduncles, ſtriated, frequently flexuoſe, woolly as if covered with a cobweb, leafy to about half the height, the reſt leafleſs, and of a duſky purple. Stem-leaves long lanceolate, half-ſtem-claſping, acuminate, erect, the upper ſurface green hairy and rough, the lower cobwebbed and paler, thickiſh, obſcurely ſerrulate and ciliate with harmleſs ſpines; the loweſt more obtuſe and ſubdecurrent, the higher gradually leſs, till the uppermoſt become very ſmall. Root-leaves ſimilar, but narrowed towards the baſe. Calyx ovate; ſcales acute, ſomewhat lanuginous at bottom, glutinous, dark green, with a glandulous purple riſing along them. Floſcules purple. Seeds pale and ſhining. Down plumoſe.

In a garden it acquires many ſtems, divided at top into five or ſix long peduncles, which are ſometimes ſubdivided; the leaves alſo are much larger, more toothed; and the lower ones more decurrent[m].

Native of Siberia, Switzerland, Auſtria, Carniola, Piedmont, and Montpellier. Introduced 1765, by John Earl of Bute[n].

33. Habit and height of the foregoing, of which it might be taken for a variety. But the leaves are twice as broad, more toothed, ſcarcely tomentoſe underneath. Heads fortified with three leaflets, ſeldom two, never one, as that is. Leaves pungent at the baſe. Calyx cylindric, not globular. Corolla white, not purple. This agrees with the former in having a plumoſe down, but eſpecially in the radical leaves being pinnatifid. It reſembles *Cnicus oleraceus* in theſe leaves; as alſo in the white keel to the ſcales of the calyx, and in having a faſtigiate, not a convex diſk: but the upper leaves are undivided, the flowers ſolitary and on long peduncles. Floral leaves ſmall, not broad concave or pale[o]. Native of Siberia. Perennial.—Introduced 1775, by Joſ. Nich. de Jacquin, M. D.[p]

34. This is a perennial plant, in habit much reſembling the Carduus lanceolatus, but the ſtem is not winged (as in that ſpecies.) The ſtems are many from the ſame root; and are about a finger's breadth in thickneſs, or ſcarce ſo much; narrow, round, furniſhed with prominent lines, hirſute with horizontal white hairs. They are about five or ſix feet high, and branched on the upper part. The branches are compoſite, alternate, aſcending, and about a foot long: dividing at the top into three others or branchlets, which are ſhort, and flexuoſe, but in other reſpects reſemble thoſe on the ſtem. The radical leaves of this plant are a foot and a half long, ſpreading in all directions, and furniſhed with either alternate or oppoſite laciniæ, of which the laſt or odd one is ſinuate-toothed: the lateral ones gradually decreaſe in ſize as they approach the baſe, and are ſinuate-bipartite: the legs or divarications of theſe leaves are linear and alternating with two ſmall rounded lobes with a purple channel towards the baſe. The ſtem-leaves are about a foot long, half-ſtem-claſping, horizontal, alternate; with divaricated linear-bipartite ſegments, of which the hithermoſt is the leaſt. They are rough and green above; beneath downy and white; the margins and tips of the ſegments have ſtraw-coloured ſubulate ſpines, formed from the continuations of the ſtraw-coloured veins of the leaves. The flower is terminal, and ſolitary on the top of each branchlet. Calyx globoſe, and ſquarroſe; the ſcales ending in a ſtraight ſpine; corolla purple-red: ſeeds ſcarcely four-cornered, and of a pale purple. The ſeeds of this plant were received from Siberia by Mr. Murray in the year 1779[q]. Introduced in 1787, by Chevalier Murray[r].

35. Stem eighteen inches high, upright, grooved, ſmooth, ſparingly branched. Leaves alternately ſcattered, attenuated to the baſe, ſometimes a little decurrent, unequally toothed, the teeth ending in a little evaneſcent briſtle, ſlightly channelled and ſomewhat rigid. Flowers terminating, ſolitary. Calyx cylindric, oblong, broader at the baſe; ſcales linear, all preſſed cloſe, not patulous, yellow, ending in a weak ſpine. Corolla yellowiſh white. Seeds turbinate, four-cornered. Down plumoſe, very abundant[s].

Found in Spain by Loefling, and in Sileſia by Krocker.

36. *Root* perennial. *Stem* uſually ſingle, two or three feet high, erect, round, hollow, a little villoſe, angular at bottom, ſtriated at top; generally quite ſimple, but ſometimes it puts forth ſhort one-flowering branches from ſome, ſeldom from all the axils: ſometimes, eſpecially towards the top, it is covered with a white wool, and ends either in one flower, or a few collected into a head; ſeldom five, ſix or more, and in that caſe the lower are peduncled. Radical *leaves* lanceolate, the baſe attenuated into the petiole and toothed; the others ſeſſile or ſtem-claſping, not decurrent; pinnatifid more or leſs deeply gaſhed, diviſions lanceolate or oblong, acuminate, ciliate-ſerrulate, harmleſs, the outmoſt larger: all ſubvilloſe, deeper green above, whitiſh underneath. Inſtead of leaves, the upper part of the ſtem has only a few very diſtant bractes, lanceolate and acuminate. Calyx ovate, ſomewhat glutinous but not villoſe; ſcales lanceolate-acuminate, harmleſs, the outer dark green, the inner dark purple and gradually longer. Corollules purple. Pappus ſomewhat feathered.—In moiſt meadows; beginning to flower the middle of may[t]. See n. 41.

37. Stem one, erect, a foot and a half or two feet high, round, a little angular, tomentoſe, ſometimes tinged with red, the ſize of a pen or rather larger. Radical leaves in a tuft. Stem-leaves alternate, petioled, near nine inches long and five broad, almoſt cut to the midrib, and ſubdivided, in the lower leaves, but thoſe on the ſtem ſimply pinnatifid. Branches alternate, one-flowered. Scales of the calyx unarmed, ſpreading, and a little reflected. Floſcules deep purple[u]. Calyx tomentoſe. Seeds four-cornered, attenuated to the baſe, wrinkled. The down conſiſts of little, hairy, unequal, attenuated, white chaffs[x]. The whole plant ſmells ſtrong of muſk. It flowers in may and june[y].—About Montpellier; in Germany, Auſtria, Carniola; flowering in july and auguſt.

38. Stem from one to three inches high. Leaves lying cloſe to the ground, with one purple flower in the midſt of them. Down long, plumoſe. Root-leaves ſpreading in a circle, on foot-ſtalks, pinnatifid, pinnas irregularly lobed and waved, angular, with ſharp ſpines at the edge, green on both ſides, hairy towards the baſe. Flowering heads one or more, rarely ſeſſile; peduncles one to two inches high, hairy. Lower ſcales of the calyx ſhort, oval-lanceolate; upper lanceolate, ſtiff, without ſpines. Segments of the corolla and anthers equal. Style longer: ſtigma deeply bifid. Seed very ſmall, with a ſimple down[z].

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[k] Miller fig.
[l] Linn.
[m] Jacquin.
[n] Hort. kew.
[o] Linn. ſpec.
[p] Hort. kew.
[q] Murray.
[r] Hort. kew.
[s] Cavanilles.
[t] Jacquin.
[u] Pollich.
[x] Scopoli.
[y] Jacquin.
[z] Woodward Mſſ.

Linneus obſerves very juſtly, that this dwarf plant occupies a foot in diameter, not ſuffering any plant to grow beneath it; and that it is therefore injurious to paſtures. It affects dry open ſituations, ſuch as heaths and downs; particularly where the ſoil is calcareous: is found in moſt parts of Europe: flowers in july: and is perennial.

39. This is our *C. criſpus:* and that being certainly not the *C. criſpus* of Linneus, nor deſcribed at all by him, Dr. Withering has made a new ſpecies of it. See n. 6.

Our plant is thus deſcribed by Ray. Stem four or five feet high, not ſo thick as in the *nutans*, with ſeveral (five) wings, laciniate and very ſpiny. Leaves many, and branches very long. Flowers ſeſſile, or on very ſhort peduncles, the ſize of common Knapweed. Scales of the calyx ſpreading, terminating in very long but harmleſs ſpines. Corolla purple. Leaves divided like thoſe of the common Way-thiſtle, dark-green, darker than in *C. paluſtris*, the ſpines ſmaller and ſhorter, not purple as in that: leaves not ſo frequent on the ſtem; branches larger and much longer; heads a little bigger; flowers more ſweet-ſcented. Seeds brown. It is more common than *C. acanthoides*.

It is thus diſtinguiſhed by Mr. Woodward. Leaves lanceolate, the lower ones toothed, the upper pinnatifid; teeth ſomewhat ſerrate, terminated by ſpines, beneath tomentoſe, above with a few hairs ariſing from glands. Wings of the ſtem more regular, ſpines more equal. Scales of the calyx downy, with a dorſal nerve ending in an awn; inner ſcales chaffy, tipped with purple, ending in an acute point, but not awned. Segments of the corolla a little longer than the anthers, but ſhorter than the piſtil. The rays of the down, when viewed with a glaſs, appear to be finely toothed, but not hairy.

And by Dr. Stokes. Stem upright, branched, three to five feet high and upwards. Peduncles ſhort, ſome with a prickly border, others cottony without prickles. Flowers ſomewhat nodding. Agreeing with *C. nutans* in the habit of the calyx: ſcales open, prickly at the end, of no great difference in length; the outer hairy at the edge, wrinkled within, with very fine cobweb hairs interwoven from one to another; the inner linear-ſubulate, ſmooth, not prickly, browniſh purple at the ends. The lower ſegments of the corolla gradually deeper.

The leafy border of the ſtem, which is continued all the way, is curled; and hence the name *criſpus* of this ſpecies, and of n. 6.

On ditch banks and road ſides, in hedges, among briars, in waſte places, and on the borders of corn fields; flowering in july. It is an annual plant.

40. Mr. Hudſon being of opinion that *C. heterophyllus* of Linneus, is nothing more than a variety of the *helenoides*; following Jacquin, has made a new ſpecies of our *Engliſh ſoft*, or *gentle Thiſtle*, which he thus deſcribes.—Root perennial, fibrous, creeping. Stem ſolitary, herbaceous, from a foot to two feet in height, erect, leafy, tomentoſe, ſimple, ſometimes with one branch. Radical leaves few, petioled, lanceolate, a little toothed, the edge unequally aculeate-ciliate, acuminate, a little hiſpid above, beneath tomentoſe. Stem-leaves from three to ſix or ſeven, alternate, half-ſtem-claſping, lanceolate, almoſt quite entire, in other circumſtances like the former. Flower terminal, purple. Calyx ovate, tomentoſe; the ſcales imbricate, ovate, acuminate, purpliſh. To this we may add from Mr. Woodward, that the upper ſtem-leaves are not thorny at the edge, but terminated by a long ſoftiſh thorn. Scales of the calyx thick and ſtrong, cottony at the edges, terminating in a ſoft thorn. Segments of the corolla bright purple. Anther with five horny, yellow, lanceolate points. Piſtil bright purple, ſlightly cloven; ſtigma cylindric, blunt, not notched, projecting much beyond the anther. Seed very ſhort. Down nearly as long as the corolla, plumoſe with long hairs.—Marſhy places, and ſwampy meadows.

41. Stem two feet high, ſtriated, ſimple, not winged, the thickneſs of the little finger. The leaves approach very much to Haller's figure in t. 3. (Arctium Perſonata). They are ſemipinnate and toothed; a little ſpiny about the edge. Stem-leaves never decurrent. Heads of flowers ſeſſile. Scales of the calyx ſublinear, white and ſhining at the baſe, in the other parts green and villoſe, awned. Floſcules pale yellow. Anthers ferruginous, putting out two little briſtles behind. Filaments brown. Down plumoſe[a]. Native of Carniola, Auſtria, Piedmont. See n. 36.

42. Root perennial. Radical leaves petioled, ſublanceolate, three or four inches long, very woolly; pinnules on each ſide, twelve to fifteen, imbricate, three or five-cleft, the lobes alternately ſmaller, each ſpinulous about the edge, ending in a ſtrong, yellow point, two or three lines long: ſtem-leaves crowded, very like the former; but as they approach the top of the ſtem their pinnules are narrower, leſs palmated, trifid or bifid, with narrower lobules. Stem a cubit high, ſometimes panicle-branched, woolly. Branches axillary, alternate, ſolitary, from half a palm to a foot in length. Flowers four to eight; pedicels woolly, ſcarcely one-third of an inch long. Calyxes, in flowering-time, very ſmooth, green, ovate-acuminate; ſcales looſely imbricate, but not ſquarroſe, ſubequal, ſubſpiny; the inner ſometimes violet-purple, more ſlender, flexible, and unarmed. Corollas purple. This is a very handſome ſpecies, and is a native of the Pyrenees[b], and of the mountains about Tende, &c.

Allioni ſays it is annual. According to others it is biennial. Introduced 1784, by Caſimir Gomez Ortega, M. D.[c]

43. Stem a cubit high, very ſimple, erect. Leaves lanceolate, an inch wide, three inches long, above very ſmooth and green, underneath ſhaggy-ſcabrous, the nerve eſpecially being rough with hairs; the edge ciliate with very frequent ſpines; pinnules on each ſide twelve to fifteen, palmate-three-parted, ſometimes with a fourth very ſmall at the baſe above, and alſo a fifth between the two longer ones. Upper ſtem-leaves narrower, leſs cut, pinnules bifid, and at length entire. Peduncle terminal, naked, tomentoſe. Flower nodding, purple or deep red. Calyx very ſquarroſe, ſcarcely pubeſcent; ſcales very lax, reflex-ſpreading, nearly equal, ending in a ſcarcely viſible pinnule. It differs abundantly from *C. tuberoſus*, in the ſtem being leafy from the baſe to the middle, and in the calyx[d]. On the Pyrenees, and on the mountains of Piedmont. Biennial.

44. Height two feet; radical-leaves like the ſtem-leaves, but larger; the upper ſurface rough but green, the lower whitiſh with ſhort hairs: pinnated beyond the middle; pinnas lanceolate, toothed, with two teeth on each ſide, or three larger ones, to which ſmaller ones are added, ending in a pungent little thorn: the largeſt leaves have ten pairs of pinnas, or even more, but the number gradually diminiſhes. The leaves embrace the ſtem with ſhort ears, ciliate but not hooked. Stems ſtrong, deeply ſtriated, reddiſh, leafy all over: on the top are four or five flowers, pale yellow, heaped, ſubſeſſile; and under the head is a ſmall leaf or two, not pinnate but lanceolate. Calyx viſcid roundiſh-conical: ſcales lanceolate yellowiſh-green, ending in a ſmall yellow ſpine. Head not lanuginous. Down plumoſe. Perennial[e]. Native of Col di Tende, M. Dolaz, M. Generoſo.

45. Stem three feet high, or more, ſtriated, green, ſmooth. Leaves alternately ſeſſile, and decurrent with ears, almoſt pinnate, being very deeply gaſhed, with few teeth ending in a longer ſpine; the whole edge ciliate with ſhort ſpines. Flowers at the top three or four, with a little leaf under each; peduncles cobwebbed. Top of the ſtem almoſt naked. Scales of the calyx unarmed linear, reflected at the end. Corolla purple. Down plumoſe. Perennial[f].——Native of Provence, Auſtria, and Piedmont.

47. This is a perennial plant, native of the South

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[a] Scopoli.
[b] Gouan.
[c] Hort. kew.
[d] Gouan.
[e] Allioni.
[f] Ibid.

of Europe, flowering in june and july. It was introduced in 1781, by Monſ. Thouin[g].

47. This alſo is perennial, a native of Switzerland, flowering in july and auguſt; and was introduced in 1775, by Doctors Pitcairn and Fothergill[h].

Monſ. Villars has deſcribed and figured a ſpecies under the name of *C. autareticus*, which he thus deſcribes. Root thick, oblique and fibrous. Stem from one to two feet high, thick, hollow, channelled. Leaves long, villoſe, cut and ſpiny. The ſtem is terminated by two three or four flowers, either together or on two naked and very ſhort peduncles, villoſe like the reſt of the plant. Calyx oval, with cloſe ſcales. Corollules yellowiſh white. The whole plant has an ill ſmell. It is biennial or perennial; and is a large, thick, ſtrong plant, but very low in proportion to the thickneſs of the ſtem, which is ſeldom more than a foot in height. Native of Dauphiné, in moiſt meadows expoſed to the north.

48. Stem two feet high, ſtraight, ſingle, ſtriated, tomentoſe. Leaves ſomewhat repand, with the edge reflex, ſmooth on the upper ſurface, with the nerves white, and white on the under ſurface; ſpines at the edge commonly in pairs, ſeldom ternate or ſolitary, unequal, diverging, yellow; the end ſpine ſingle. Flowers few, on ſingle, ſtriated, tomentoſe peduncles, ſometimes naked, ſometimes clothed with a leaf or two. Common calyx ovate, ſcales ovate-lanceolate, pubeſcent, ending in a ſubulate, rigid, long, thorny dagger-point; the lower ones reflex. Florets of a violet colour, with the ſegments ſubulate, upright, unequally cloven. Stigma jointed, ſubulate, ſingle, ſeldom bifid, or elſe two ſtigmas ſo cloſely united as to have the appearance of being one. Seeds obovate, very ſmooth, brown; with a whitiſh plumoſe-briſtly down. It is an annual plant, allied to *C. Caſabonæ*, but differing in having the ſpines in pairs and ſtouter; the flowers peduncled, corymbed and larger; the nerves of the leaves whitiſh-tomentoſe on the upper ſurface. Native of mount Libanus[i].

49. Root ſhort, fibrous, annual. Stem half a foot high, upright, ſolitary, very tomentoſe, as is the whole plant. Leaves alternate, pinnatifid, the terminating lobe larger than the reſt, in the root-leaves rounded, in the ſtem-leaves acute; all the lobes toothletted, and the teeth terminated by a very ſharp cuſp; the nerves covered with a white wool: petioles ſhorter than the leaf, channelled at the baſe, and half-ſtem-claſping. Flowers terminating ſolitary. The reſt as in *C. flaveſcens*. Native of Spain; flowering at the end of may and in june[k].

50. Root perennial, woolly, adhering to the clefts of rocks, whence the plant hangs. Stems branching very much, from a foot to two feet in height, round, white with a cloſe nap, clothed with leaves from top to bottom. Leaves lanceolate-linear, crowded, at bottom in a ſort of whorl, two or three inches long, a little rolled back on the ſides, the upper ſurface green and ſmooth, except the baſe, which is hoary even above: upper leaves alternate, ſhorter, all rolled back. The leaves of the former year continue dried on at the bottom of the ſtem. The branches, in the wild ſtate, are commonly one-flowered, but in gardens they are bifid or trifid at the end. Flowers terminating, purple, an inch in length. Common calyx ovate, contracted at top, glaucous green; ſcales ſimple, ſtiffiſh, acute but not prickly. Anther with the ſtyle purple, terminating at bottom in ten *cirrhi*: filaments at top very hairy. Seeds ovate, gray with darker ſpots, and a very long down.

It flowers early in the ſpring, and continues flowering through the ſummer to the autumn. The corolla ſmells ſweet. The leaves are dry and inſipid to the taſte. It has the habit of *Gnaphalium Stoechas*. Small, lanceolate, acute leaves placed immediately under the calyxes ſupply the place of bractes.

It is a native of the farther Calabria, where it was gathered in 1783, by Angelo Fuſani; before that, it was known to exiſt only in the herbarium of Ferrantes Imperati, under the name of *Jacea*. It grows very luxuriant in a garden; in its native ſoil, the leaves are only half the width, and much more tomentoſe[l].

51. Root annual. Stem from two to three feet high, upright, branched at the baſe; branches few, long, upright, perfectly ſtraight, roundiſh, ſlightly grooved, cottony, particularly towards the top, with broad ſpinous wings. Stem-leaves ſeſſile, decurrent, veiny; above ſmoothiſh, green, beſet with whitiſh hairs preſſed cloſe, beneath cottony, the midrib whitiſh, the edge ſcolloped, toothed and ſpinous; ſpines long and yellowiſh. Root-leaves ovate-oblong, obtuſe, divided into lobes, which are broad, obtuſe, and cloſing together. Flowers in cluſters on the tops of the branches, ſeſſile, ſmall, of a pale purple or fleſh-colour. Scales of the calyx long and linear, ſpinous, whitiſh at the baſe, green in the middle, terminating in yellow ſpines, the length of the florets. Seeds and down nearly the ſame as in n. 5.

John Bauhin appears to be the firſt writer who accurately determined this ſpecies; Ray afterwards gave an accurate deſcription of it; and Moriſon characteriſtically defined it. Linneus applied Bauhin's name to a very different Thiſtle (n. 5.), and referred to that the names of Ray and Moriſon alſo. Mr. Lightfoot, finding Linneus's deſcription not to accord with our plant, gave a new one, retaining the name *acanthoides*, and Mr. Hudſon did the ſame. It is probable Linneus never ſaw this Thiſtle, as it is not a Swediſh plant, nor a very general European one. It is very common in the neighbourhood of London, growing in the very ſuburbs; it affects warm ſheltered ſituations, and is frequently found under paling, walls, hedges and ditch-banks, and near the ſea-ſide; flowering from june to auguſt. It is known by its upright growth, the breadth of the wings on the ſtalks, the gray appearance of the foliage, and above all by its long cluſtered heads, producing ſmall flowers, of a pale purple or fleſh-colour, little longer than the very ſharp ſpines of the calyx[m].

PROPAGATION AND CULTURE.

We conſider Thiſtles as plants to be eradicated rather than cultivated; as weeds more than as uſeful or ornamental vegetables. Few of them indeed are found in gardens, and they have reſpect paid them only as being ſtrangers. The greater part of the ſpecies being biennial, muſt be raiſed from ſeeds. The perennial ſorts are alſo eaſily increaſed this way, or by the roots.]

23. The ſeeds of the twenty-third ſpecies ſhould be ſown where they are to remain, on a warm border in the ſpring, otherwiſe they will not live through the winter.

24. The ſeeds of this ſhould be ſown on a bed of light earth in the ſpring, where the plants are to remain, for they do not bear tranſplanting, unleſs it be performed when they are very young; for they ſend long ſlender roots deep into the ground, and if theſe be broken, the plant ſeldom ſurvives. The only care they require is to keep them clean from weeds, and to thin them where they are too cloſe.

[Some of our Engliſh Thiſtles are not unſightly plants, though they are not pleaſant to handle. Of theſe the twenty-fifth and twenty-ſeventh ſorts may be allowed a place in large gardens.]

25. The ſeeds of the Milk Thiſtle ſhould be ſown very thin, and when the plants are come up ſo as to be well diſtinguiſhed, the ground ſhould be hoed, to cut down all the young weeds, and the plants left a foot and half diſtant; and the following ſummer the plants ſhould be kept clean from weeds. In the autumn, if they are intended for ſalads, the leaves ſhould be tied up, and the earth drawn up

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[g] Hort. kew.

[h] Ibid.

[i] Billardiere.

[k] Cavanilles.

[l] Cyrilli.

[m] Curtis.

cloſe to blanch them; when they are properly whitened, they will be fit for uſe.

[This and the Woolly-headed Thiſtle (n. 27.) will maintain their ground, when once introduced into a garden, and ſow themſelves.] They do not flower till the ſecond year, and then the whole plant periſhes.

[Theſe confine themſelves to road ſides and waſte places; and are not common enough to be conſidered as noxious weeds.

The next to theſe in appearance is the *Muſk Thiſtle* (n. 4.), eaſily known by its nodding bright purple heads, and muſky ſcent. This does not confine itſelf to the borders, but takes poſſeſſion of the arable lands, in good ſoils, and does real injury to the farmer. But the ſpecies by far the moſt common is the *Spear Thiſtle* (n. 2.), a very large and ſucculent plant, ſufficiently known on all ſtrong lands. I have ſeen the air perfectly filled with the down of this thiſtle, for miles together, on a windy day, flying along, till it was intercepted by a hedge, bank, or riſing ground. The greateſt part of it indeed is down without ſeed; and for this the huſbandman is obliged to the goldfinches and other ſmall birds: they have however generally left enough to ſtock his grounds. And the misfortune is, that let a farmer be ever ſo neat himſelf, if he happens to live near a ſlovenly neighbour, he will be ſtocked annually, from the other's neglected banks, headlands, and fallows. Nothing is eaſier than to deſtroy theſe Thiſtles; for they are biennial plants, and require only to be mowed down before they perfect their ſeeds. It is better to do this while the plant is yet tender, for as it advances to maturity the ſtalk grows very hard; but if the operation has been neglected till the ſeeds are forming, it will be a proper precaution to rake the plants into heaps and burn them. The aſhes may be afterwards ſpread; and as they contain a conſiderable quantity of ſalts, will be of ſome advantage to the land, which while in a living ſtate they impoveriſhed. It is ſcarcely necſſary to mention the other Thiſtles as weeds, becauſe they are by no means ſo common on cultivated lands, and where they incommode the huſbandman may be deſtroyed in the ſame way. I muſt except the *Dwarf Carline Thiſtle* (n. 38.), which occupies ſo much room in paſtures, and is not to be deſtroyed but by ploughing. This however is common only in very dry light lands, but is the great peſt of the ſheep downs.

The great *Cotton Thiſtle* is an *Onopordum*, and the moſt deſtructive of all the tribe—the *Way Thiſtle* is a *Serratula*. See thoſe two genera.

CARDUUS. See *Acanthus*, *Arctium*, *Atractylis*, *Carlina*, *Carthamus*, *Cnicus*, *Cynara*, *Drypis*, *Gorteria*, *Onopordum*, *Serratula*, *Xeranthemum*.]

——— benedictus. See *Centaurea*.

[——— braſilianus. See *Bromelia*.]

——— fullonum. See *Dipſacus*.

[——— galactites. See *Centaurea*.

——— ſphærocephalus. See *Echinops*.

——— ſtellatus. See *Centaurea*.]

CARETTI. See *Guilandina*.

[CAREX. (*From Careo, not quia viribus careat, but becauſe from its roughneſs it is fit ad carendum, to card, teaze or pull.*)

Engl. *Sedge*.

Lin. gen. n. 1046. *Reich.* 1137. *Schreb.* 1407. *Gærtn. t.* 2. *Juſſ.* 26. Cyperoides. *Tourn.* 299. *Scheuch.* 10. 11. *Mich.* 32. Scirpoides. *Mont.* 17. Carex. *Dill. gen.* 13. *Mich.* 33.
Claſſ. 21. 3. Monoecia Triandria.
Nat. order of *Calamariæ*. *Cyperoideæ* Juſſ.

GENERIC CHARACTER.

* *Male flowers* diſpoſed in a ſpike.

CAL. *Ament* oblong, imbricate, conſtant. *Scales* one-flowered, lanceolate, acute, concave, permanent.
COR. none.
STAM. *Filaments* three, briſtle-ſhaped, erect, longer than the calyx. *Anthers* erect, long, linear.

* *Female flowers in the ſame plant.*

CAL. *Ament*, as in the male.
COR. *Petals* none. *Nectary* inflated, ovate-oblong, bidentated at the tip, contracted upwards, gaping at the mouth, permanent.
PIST. *Germ* three-ſided, within the nectary. *Style* very ſhort. *Stigmas* three or two, ſubulate, incurved, long, acuminate, pubeſcent.
PER. none. The *nectary* grown larger protects the ſeed.
SEED ſingle, ovate-acute, three-ſided, one angle being generally leſs than the others.
OBS. Scirpoides *Mont.* Carex *Rupp. Dill. Mich.* *bears the male and female flowers in the ſame ſpike.*
Cyperoides *Mont.* Carex *Rupp. Dill. Mich.* *bears male and female flowers on diſtinct ſpikes.*

ESSENTIAL CHARACTER.

Ament imbricate. *Cal.* one-leafed. *Cor.* none.
FEM. *Nectary* inflated, three-toothed. *Stigmas* three. *Seed* three-ſided, within the nectary.

SPECIES.

* *With one ſimple ſpike.*

1. Carex dioica. *Small Sedge.*
Lin. ſpec. 1379. *Reich.* 4. 98. *hort. cliff.* 438. 2. *fl. ſuec.* 833. *Hudſ. angl.* 401. *With.* 1026. *Lightf.* 541. *Relh. n.* 678. *Fl. dan. t.* 369. (male and female). *Gooden. in Linn. tranſ.* 2. 139. *Villars dauph.* 2. 193.
Cyperoides. *Mich. gen.* 56. *t.* 32. *f.* 1. & 2. *Mor.* 8. 12. 22. (male) 36. (female). *Raii ſyn.* 425. 15. 16.
Spike ſimple dioecous, margins of the capſules ſerrulate.

2. Carex capitata. *Round-headed Sedge.*
Lin. ſpec. 1379. *Reich.* 4. 98. *lapp.* 339.* *Hudſ.* 402. *With.* 1026. *Hall. helv. n.* 1351? *Fl. dan. t.* 372?
Spike ſimple androgynous ovate, upper part male, capſules imbricate-expanding, with entire margins.

3. Carex pulicaris. *Flea Sedge*, or *Flea-graſs.*
Lin. ſpec. 1380. *Reich.* 4. 99. *hort. cliff.* 438. 1. *fl. ſuec.* 834. *lapp. n.* 339. *Hudſ.* 402. *With.* 1026. *Lightf.* 543. *Relh. n.* 679. *Hall. helv. n.* 1350. *Scop. carn. n.* 1147. *Leers herb. n.* 705. *t.* 14. *f.* 1. *Mich. gen.* 66. *t.* 33. *f.* 1. *Fl. dan.* 166. *Gooden. in Linn. tranſ.* 2. 142.
Gr. cyperoides minimum, &c. *Mor.* 8. 12. 1. (good) *Pluk. phyt. t.* 24. *f.* 10. *Raii hiſt.* 1298. 12. *ſyn.* 424. 13.
G. cyp. pulicare. *Merr. pin.* 52.
Spike ſimple androgynous, upper part male, capſules divaricated bent back acuminate at both ends.

4. Carex ſquarroſa.
Lin. ſpec. 1380. *Reich.* 4. 99.
Spike ſimple androgynous, lower part male, capſules imbricated horizontal.

5. Carex uncinata.
Lin. ſyſt. 843. *ſuppl.* 413.
Spike ſimple androgynous linear, upper part male, awns of the females uncinated, males awnleſs.

6. Carex Cyperoides.
Lin. ſyſt. 843. *Reich.* 4. 99. *ſuppl.* 413.
C. bohemica. *Mich. gen.* 70. *t.* 33. *f.* 19. *Schreb. gram. t.* 28. *f.* 3.
Cyperus minor capitulis inflexis. *Buxb. cent.* 4. 34. *t.* 61.
Scirpus ſpica multipartita, femin. caudatis. *Gmel. ſib.* 1. 81.
Head terminal roundiſh, flowers very ſimple ſubulated, involucre long.

** *Spikes androgynous.*

7. Carex baldenſis.
Lin. ſpec. 1380. *Reich.* 4. 100. *amæn.* 4. 331. *Segu. ver.* 1. 125. *n.* 5. *Villars dauph.* 2. 196. *t.* 6.
Gr. junceum. *Bauh. pin.* 6. *n.* 12. *prodr.* 13. *n.* 36. fig.—e monte Baldo. *Bauh. hiſt.* 2. 509.
Spikes tern heaped ſeſſile ovate three-cornered androgynous, involucre two-leaved.

8. Carex arenaria. *Sand* or *Sea Sedge.*
Lin. ſpec. 1381. *Reich.* 4. 100. *ſuec. n.* 835. *Hudſ.* 404. *With.* 1029. *Lightf.* 545. *Mich. gen.* 67. *Hall. helv. n.* 1363? *Gooden. in Linn. tranſ.* 2. 153. *Villars dauph.* 2. 198.
Gr. cyp. ex monte Ballon ſimile, &c. *Pluk. alm.* 178. *t.* 34. *f.* 8. *Loeſ. pruſſ.* 116. *t.* 31. *Raii ſyn.* 423. 5. *hiſt.* 1297. 6.
Spike leafy oblong ſharpiſh, ſpikelets ſeveral, the terminating ones male; the lower ones female, culm incurved.

9. Carex uliginoſa.
Lin. ſpec. 1381. *Reich.* 4. 101. *ſuec. n.* 836. *mant.* 494. *Villars dauph.* 2. 198? *Reliqu. Rudb. t.* 1. *f.* 2?
Spike compound, ſpikelets androgynous, the lower ones more remote furniſhed with a longer leaflet; culm round.

10. Carex leporina.
Lin. ſpec. 1381. *Reich.* 4. 101. *ſuec. n.* 837. *lapp. n.* 322. See n. 65.
Spike compound, ſpikelets ovate ſeſſile approximate alternate androgynous naked.

11. Carex vulpina. *Great Sedge.*
Lin. ſpec. 1382. *Reich.* 4. 102. *ſuec.* 838. *Hudſ.* 404. *With.* 1030. *Lightf.* 547. *Relh. n.* 680. *Hall. helv. n.* 1364. *Scop. carn. n.* 1169. *Gmel. ſib.* 1. 146. *t.* 32. *Pollich pal. n.* 876. *Leers herb. n.* 708. *t.* 14. *f.* 5.—*f.* 3. is a variety. *Fl. dan. t.* 308. *Mich. gen.* 69. *t.* 33. *f.* 13. *Gærtn. fruct.* 1. 12. *Gooden. in Linn. tranſ.* 2. 161. *Villars dauph.* 2. 201.
Gr. cyper. paluſtre majus. *Park.* 1266. *Bauh. pin.* 6. *theat.* 87. *Mor.* 8. 12. 24. *Raii hiſt.* 1297. 8. *ſyn.* 423. 8.
Spike ſuperdecompound contracted-branched blunt, ſpikelets male at top, capſules diverging, angles of the culm very ſharp.

12. Carex brizoides. *Rough Sedge.*
Lin. ſpec. 1381. *Reich.* 4. 102. *amæn.* 4. 293. *Hall. helv. n.* 1358. *Scop. carn. n.* 1170. *Mich. gen.* 70. *t.* 33. *f.* 17. *Schreb. ſpicil.* 63. *n.* 675. *Villars dauph.* 2. 199.
Spike compound diſtich naked, ſpikelets androgynous oblong contiguous, culm naked.

13. Carex muricata. *Spiked Sedge.*
Lin. ſpec. 1382. *Reich.* 4. 102. *ſuec. n.* 839. *Gooden. in Linn. tranſ.* 2. 158. *Mich. gen.* 69. *t.* 33. *f.* R. & *f.* 14. *Mor. hiſt. ſ.* 8. *t.* 12. *f.* 27. *Scheuch. agr. t.* 11. *f.* 5. *Reliqu. Rudb. t.* 4. *f.* 2.
C. ſpicata. *Hudſ. angl.* 405. *With.* 1032. *Lightf.* 548. *Relh. n.* 686.
Spike oblong ſubdecompound, ſpikelets diſtinct, capſules diverging with a cloven mouth, root fibrous.

14. Carex loliacea.
Lin. ſpec. 1382. *Reich.* 4. 103. *ſuec. n.* 840. *Mich. gen.* 69. *t.* 33. *f.* 10.
Spikelets ſubovate ſeſſile remote androgynous, capſules ovate roundiſh awnleſs divaricate.

15. Carex remota. *Remote Sedge.*
Lin. ſpec. 1383. *ſyſt.* 844. *Reich.* 4. 103. *amæn.* 4. 293. *Hudſ.* 407. *With.* 1035. *Lightf.* 549. *Relh. cant. n.* 683. *Gouan. illuſt.* 75. *Hall. helv. n.* 1357. *Scop. carn. n.* 1165. *Pollich pal. n.* 878. *Leers herb. n.* 710. *t.* 15. *f.* 1. *Fl. dan. t.* 370. *Mich. gen.* 70. *t.* 33. *f.* 15, 16. *Thunb. jap.* 37. *Gooden. in Linn. tranſ.* 2. 150. *Villars dauph.* 2. 209.
Gr. cyper. *Raii hiſt.* 1295. 14. *ſyn.* 424. 11. *Mor.* 8. 12. 17. *Pluk. alm. t.* 34. *f.* 3. *Reliqu. Rudb. t.* 1. *f.* 1.
β. C. axillaris. *Lin. ſpec.* 1382. *Gooden. in Linn. tranſ.* 2. 151. *t.* 19. *f.* 1.
Spikelets axillary ſolitary ſubſeſſile remote, leaflets very long, capſules undivided at the tip.

16. Carex elongata.
Lin. ſpec. 1383. *Reich.* 4. 104. *ſuec. n.* 841. *Hall. helv. n.* 1359. *Pollich pal. n.* 879. *Mor.* 8. 12. 8. *Scheuch. t.* 11. *f.* 4.
Spikelets oblong ſeſſile remote androgynous, capſules ovate acute.

17. Carex caneſcens. *Gray Sedge.*
Lin. ſpec. 1383. *Reich.* 4. 104. *ſuec. n.* 842. *Leers herb. n.* 712. *t.* 14. *f.* 3. *Mich. gen.* 70. *n.* 5. *t.* 33. *f.* 18.
Spikelets roundiſh remote ſeſſile obtuſe androgynous, capſules ovate bluntiſh.

18. Carex paniculata. *Panicled Sedge.*
Lin. ſpec. 1383. *Reich.* 4. 105. *amæn.* 4. 294. *Hudſ.* 403. *With.* 1036. *Relh. n.* 685. *Hall. helv. n.* 1368. *Pollich pal. n.* 882. *Leers herb. n.* 713. *t.* 14. *f.* 4. *Villars dauph.* 2. 202. *Mich. gen.* 68. *t.* 33. *f.* 7. *Scheuch. t.* 8. *f.* 2. *Raii hiſt.* 1296. 2. *ſyn.* 422. 1. *Mor.* 8. 12. 23. *Gooden. in Linn. tranſ.* 2. 164.
β. *Hall. helv. n.* 1368. β. *Pollich, n.* 882. β. *Scheuch.* 501.
Spike ſuperdecompound panicled-branched acute, branches alternate ſomewhat remote, capſules ſpreading, culm three-ſided.

19. Carex indica. *Indian Sedge.*
Lin. ſyſt. 844. *Reich.* 4. 105. *mant.* 574.
Spikes androgynous cylindric panicled pinnate, a few of the lower floſcules female.

20. Carex brunnea. *Brown Sedge.*
Lin. ſyſt. 844. *Thunb. jap.* 38.
Spikes androgynous peduncled linear, in the upper part male.

*** *Male and female flowers on diſtinct ſpikes: females ſeſſile.*

21. Carex flava. *Yellow Sedge.*
Lin. ſpec. 1384. *Reich.* 4. 106. *ſuec. n.* 843. *Hudſ.* 407. *With.* 1037. *Lightf.* 551. *Relh. n.* 687. *Hall. helv. n.* 1380. *Scop. carn. n.* 1161. *Pollich pal. n.* 883. *Leers herb. n.* 714. *t.* 15. *f.* 6. *Mor.* 8. 12. 19. *Fl. dan.* 1047. *Bauh. hiſt.* 2. 498. 1. *Lob. ic.* 1. 15. 1. *Ger. emac.* 17. 1. *Park.* 1187. 2. *Raii ſyn.* 421. 18. *hiſt.* 1296. 15. *Gooden. in Linn. tranſ.* 2. 173. *Villars dauph.* 2. 206.
Sheaths ſhort nearly equalling the divaricate leaflet, male ſpike linear, females roundiſh, capſules roſtrate-acuminate.

22. Carex pedata.
Lin. ſpec. 1384. *Reich.* 4. 106. *lapp.* 338.* *Hall. helv. n.* 1375. *Bauh. pin.* 4. 3. *theatr.* 47. *prodr. n.* 22. *Mich. gen. t.* 32. *f.* 14. *Villars dauph.* 2. 203.
Females ſpikes ſeſſile oblong; the lower axillary; leaves ſubfiliform.

23. Carex digitata. *Digitated Sedge.*
Lin. ſpec. 1384. *Reich.* 4. 106. *ſuec. n.* 844. *Hudſ.* 409. *With.* 1041. *Hall. helv. n.* 1376. *Scop. carn. n.* 1149. *Pollich pal. n.* 884. *Leers herb. n.* 715. *t.* 16. *f.* 4. *Mich. gen.* 65. *t.* 32. *f.* 9. *Bauh. pin.* 4, *prodr.* 9. 2. *Scheuch.* 448. *t.* 10. *f.* 14. *Mor.* 8. 12. 15. *Loeſ. pruſſ.* 112. *t.* 27. *Gooden. in Linn. tranſ.* 2. 166. *Villars dauph.* 2. 204.
Spikes linear erect, male ſhorter, bractes membranaceous almoſt leafleſs, ſheathing halved, capſules diſtant.

24. Carex montana. *Mountain Sedge.*
Lin. ſpec. 1385. *ſyſt.* 844. *Reich.* 4. 107. *ſuec. n.* 845. *With.* 1038. *Hall. helv. n.* 1372? *Pollich pal. n.* 885. *Gouan. illuſtr.* 75. *Mich. gen.* 64. *t.* 32. *f.* 3. *Scheuch.* 419. *t.* 10. *f.* 8, 9. *Villars dauph.* 2. 211. See n. 28, 70, and 71.
Female ſpikes ſeſſile, ſubſolitary ovate approximating to the male; culm naked; capſules pubeſcent.

25. Carex tomentoſa.
Lin. ſyſt. 844. *Reich.* 4. 107. *mant.* 123. *Hall. helv. n.* 1373? *Schreb. ſpicil.* 65. *Leers herb. n.* 717. *t.* 15. *f.* 7. *Villars dauph.* 2. 210.
C. montana. *Scop. carn. n.* 1151.
Female ſpikes ſubpeduncled; capſules ſubglobular tomentoſe.

26. Carex globularis.
Lin. ſpec. 1385. *Reich.* 4. 108. *ſuec. n.* 846. *lapp. n.* 336. *Hall. helv. n.* 1371. *Scheuch. t.* 10. *f.* 10. (and *t.* 11. *f.* 12. *Hall.*)
C. ericetorum. *Pollich pal. n.* 886.

C. approximata. *Allion. pedem. n.* 2313.
Male ſpike oblong, female ſeſſile ovate, floral leaf ſhorter approximating.

27. Carex filiformis.
Lin. ſpec. 1385. *Reich.* 4. 108. *ſuec. n.* 847. *Hall. helv. n.* 1383. *Pollich pal. n.* 887. *Gouan. illuſtr.* 75. *Scheuch.* 425. *t.* 10. *f.* 11. *Gooden. in Linn. tranſ.* 2. 172. *t.* 20 *f.* 5.
C. tomentoſa. *Lightf. ſcot.* 553. *Wither. arr.* 1039.
Sheaths ſhort nearly equalling the peduncle, male ſpikes commonly two, females ovate remote, capſules downy.

28. Carex pilulifera. *Round-headed Sedge.*
Lin. ſpec. 1385. *Reich.* 4. 109. *Hudſ.* 408. *With.* 1039. *Lightf.* 554. *Relh. n.* 689. *Pluk. alm. t.* 91. *f.* 8. *Mor.* 8. 12. 16. *Fl. dan. t.* 1048. *Gooden. in Linn. tranſ.* 2. 190.
C. montana: *Linn. ſuec. n.* 845. *Leers herborn. n.* 716. *t.* 16. *f.* 6. *Villars dauph.* 2. 211?
Sheaths none, male ſpike ſublinear, females roundiſh ſeſſile crowded, culm weak.

29. Carex ſaxatilis. *Rock Sedge.*
Lin. ſpec. 1385. *Reich.* 4. 109. *ſuec. n.* 848. *lapp. n.* 337. *Scop. carn. n.* 1154. *Fl. dan. t:* 159? *Hall. helv. n.* 1389.
Spikes three ovate ſeſſile alternate; male oblong.

30. Carex triſtachya.
Lin. ſyſt. 845. *Thunb. jap.* 38.
Spikes monæcous three ſeſſile linear, male longer.

**** *Male and female ſpikes diſtinct: females peduncled.*

31. Carex atrata. *Black Sedge.*
Lin. ſpec. 1386. *Reich.* 4. 109. *fl. ſuec. n.* 849. *lapp. n.* 324. *Hudſ.* 409. *With.* 1040. *Lightf.* 555. *Gooden. in Linn. tranſ.* 2. 189. *Hall. helv. n.* 1369. *Scop. carn. n.* 1155. *Fl. dan. t.* 158. *Scheuch.* 481. *t.* 11. *f.* 1, 2. *Gouan. illuſtr.* 75. *Villars dauph.* 2. 216.
β. *Gouan. illuſtr.* 75. *n.* 6. β. *Hall. n.* 1356. *Fl. dan. t.* 403. *Sch. agr.* 499.
Spikes all androgynous terminal peduncled; when in flower erect, when in fruit pendulous, capſule ovate ſharpiſh, ſheaths ſcarcely any.

32. Carex limoſa.
Lin. ſpec. 1386. *ſyſt.* 845. *Reich.* 4. 110. *hort. cliff.* 439. 8. *ſuec. n.* 850. *lapp. n.* 325. *Hudſ.* 409. *With.* 1041. *Lightf.* 556. *Hall. helv. n.* 1392. *Scop. carn. n.* 1156. *Pollich pal. n.* 888. *Fl. dan. t.* 646. *Leers herb. n.* 719. α. *Scheuch.* 443. *t.* 10. *f.* 13. *Gooden. in Linn. tranſ.* 2. 187. *Villars dauph.* 2. 217.
Spikes ovate pendulous (when in fruit); male longer more erect; root creeping.

33. Carex capillaris. *Capillary Sedge.*
Lin. ſpec. 1386. *Reich.* 4. 110. *ſuec. n.* 851. *lapp. n.* 326. *With.* 1042. *Lightf.* 557. *Gooden. in Linn. tranſ.* 2. 180. *Hall. helv. n.* 1394. *Scop. carn. n.* 1152. *t.* 59. *Leers herb. n.* 720. α. *Villars dauph.* 2. 213. *Fl. dan. t.* 168. *Segu. ver.* 3. 83. *t.* 3. *f.* 1.
Spikes pendulous; male erect, females oblong diſtich; capſules naked acuminate.

34. Carex palleſcens. *Pale Sedge.*
Lin. ſpec. 1386. *ſyſt.* 845. *Reich.* 4. 110. *ſuec. n.* 852. *lapp. n.* 327. *Hudſ.* 410. *With.* 1043. *Lightf.* 558. *Relh. ſuppl.* 3. *n.* 1117. *Hall. helv. n.* 1393. *Scop. carn. n.* 1153. *Pollich pal. n.* 889. *Leers herb. n.* 721. *t.* 15. *f.* 4. *Fl. dan. t.* 1050. *Pluk. alm. t.* 34. *f.* 5. *Mich. gen.* 61. *t.* 32. *f.* 13. *Reliqu. Rudb. t.* 2. *f.* 2. *Raii ſyn.* 419. 8. *hiſt.* 1294. 5. *Gooden. in Linn. tranſ.* 2. 186. *Villars dauph.* 2. 210.
Sheaths very much abbreviated, female ſpikes ſubcylindric, when fruit-bearing pendulous, capſules oblong blunt.

35. Carex panicea. *Pink-leaved Sedge.*
Lin. ſpec. 1387. *Reich.* 4. 111. *ſuec. n.* 853. β. *lapp. n.* 333. *Hudſ.* 410. *With.* 1044. *Lightf.* 558. *Relh. n.* 690. *Hall. helv. n.* 1405. *Pollich pal. n.* 890. *Leers herb. n.* 722. *t.* 15. *f.* 5. *Fl. dan. t.* 261. (bad) *Mich. gen.* 61. *t.* 32. *f.* 11. *Pluk. alm. t.* 91. *f.* 7. *Reliqu. Rudb. t.* 2. *f.* 1. *Raii ſyn.* 418. *n.* 3. *Gooden. in Linn. tranſ.* 2. 179. *Villars dauph.* 2. 216.
Spikes peduncled erect remote; females linear; capſules bluntiſh inflated ſomewhat diſtant.

36. Carex folliculata.
Lin. ſpec. 1387. *Reich.* 4. 111. *Pluk. mant. t.* 419. *f.* 1.
Spikes terminal peduncled, male and female; capſules ſubulated the length of the ſpike.

37. Carex Pſeudo-Cyperus. *Baſtard Sedge.*
Lin. ſpec. 1387. *Reich.* 4. 112. *fl. ſuec. n.* 854. *Hudſ.* 410. *With.* 1045. *Lightf.* 559. *Relh. n.* 691. *Hall. helv. n.* 1397. *Pollich pal. n.* 891. *Mor.* 8. 12. 5. *Dod. pempt.* 339. *Lob. ic.* 1. 76. 2. *Ger. emac.* 29. 2. *Park.* 1266. 4. *Bauh. theatr.* 85. *hiſt.* 2. 496. 3. *Raii ſyn.* 419. *Gooden. in Linn. tranſ.* 2. 188. *Villars dauph.* 2. 217.
Sheaths ſcarcely any, female ſpikes cylindrical peduncled pendulous, capſules awned and beaked ſomewhat divaricate.

38. Carex cæſpitoſa *Turfy Sedge.*
Lin. ſpec. 1388. *Reich.* 4. 112. *ſuec. n.* 855. *Hall. helv. n.* 1382. β. *Gooden. in Linn. tranſ.* 2. 195. *t.* 21. *f.* 8.
Styles two, ſpikes ſubſeſſile ſubcylindric obtuſe, leaves erect ſoftiſh.

39. Carex diſtans. *Diſtant-flowering Sedge.*
Lin. ſpec. 1387. *Reich.* 4. 112. *Hudſ.* 412. *With.* 1049. *Lightf.* 561. *Relh. n.* 693. *Hall. helv. n.* 1382. *Scop. carn. n.* 1150. *Pollich pal. n.* 892. *Villars dauph.* 2. 208. *Raii hiſt.* 1295. 10. *ſyn.* 420. 16. *Mor.* 8. 12. 18. *Gooden. in Linn. tranſ.* 2. 178.
C. panicea α. *Linn. ſuec. n.* 853.
Spikes very remote, bracte ſheathing the peduncle, capſules angular mucronate.

40. Carex japonica.
Lin. ſyſt. 845. *Thunb. jap.* 38.
Spikes monoecous peduncled erect; females peduncled ovate; male terminal linear.

***** *Spikes male and female diſtinct: males ſeveral.*

41. Carex acuta. *Sharp Sedge.*
Lin. ſpec. 1388. *Reich.* 4. 113. *ſuec. n.* 857.
α. C. nigra. *Lin. lapp. n.* 330. *Raii hiſt.* 1293. 3. See n. 96.
β. C. ruffa. *Lin. lapp. n.* 329. *Mich. gen.* 62. *t.* 32 *f.* 12. *Sch. agr.* 458. *Bauh. pin.* 6.
C. ſtricta. *Gooden. in Linn. tranſ.* 2. 196. See n. 83.
Male ſpikes many, female ſubſeſſile; capſules bluntiſh.

42. Carex veſicaria. *Bladder Sedge.*
Lin. ſpec. 1388. *Reich.* 4. 114. *ſuec. n.* 856. *lapp. n.* 331. *With.* 1057. *Relh. ſuppl. n.* 1011. *Hall. helv. n.* 1401. *Scop. carn. n.* 1164. *Pollich pal. n.* 895. β. *Villars dauph.* 2. 220. *Leers herb. n.* 724. *t.* 16. *f.* 2. *Oeder. dan. t.* 647. *Mor.* 8. 12. 6. *Raii ſyn.* 420. 14. *Gooden. in Linn. tranſ.* 2. 205.
C. inflata. *Hudſ. angl.* 412. *Lightf. ſcot.* 567.
Male ſpikes linear, female ſpikes oblong ſpreading, capſules inflated oblong acuminate-beaked ſpreading.

43. Carex hirta. *Hairy Sedge.*
Lin. ſpec. 1389. *Reich.* 4. 115. *ſuec. n.* 858. *lapp. n.* 335. *Gooden. in Linn. tranſ.* 2. 208. *Hudſ.* 414. *With.* 1061. *Lightf.* 568. *Relh. n.* 700. *Hall. helv. n.* 1403. *Pollich pal. n.* 897. *Leers herb. n.* 725. *t.* 16. *f.* 3. *Fl. dan. t.* 379. *Mor.* 8. 12. 10. *Raii ſyn.* 418. 7. *Pluk. alm. t.* 34. *f.* 6. *Villars dauph.* 2. 220.
Hairy, all the ſpikes oblong, females remote ſheathed, capſules hairy.

44. Carex pumila. *Dwarf Sedge.*
Lin. ſyſt. 846. *Thunb. jap.* 39.
Male ſpikes two terminal ſeſſile, females two peduncled oblong erect.

Species from other Authors.

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45. Carex pauciflora. *Few-flowering Sedge.*
Lightf. 543. *t.* 6. *f.* 2. (good). *With.* 1027. *Gooden. in Linn. tranſ.* 2. 143.
C. patula. *Hudſ.* 402. & 657.

Spike ſimple androgynous, female flowers two or three, remotiſh, ſpreading, one male flower, ſometimes two in the upper part.

46. Carex hamata. *Hooked Sedge.*
Swartz prodr. 18.
Spike ſimple androgynous linear, male at top, females awned, awns hooked at the tip and equal.

47. Carex rupeſtris.
Allion. pedem. n. 2292. *t.* 92. *f.* 1.
Spike ſimple androgynous oblong, with male flowers in the upper part; female glumes awned.

48. Carex Bellardi.
Allion. pedem. n. 2293. *t.* 92. *f.* 2.
C. myoſuroides. *Villars dauph.* 2. 194. *t.* 6?
Spike one androgynous ſtrigoſe, culm round, leaves capillary.

49. Carex curvula.
Allion. pedem. n. 2295. *t.* 92. *f.* 3. *Hall. helv. n.* 1353. *Villars dauph.* 2. 197.
Spike one, glumes awned; culm and leaves hard and a little curved.

50. Carex fœtida. *Stinking Sedge.*
Allion. pedem. n. 2297. *Hall. helv. n.* 1355. *Scheuch. prodr.* 18. *t.* 4. *itin.* 458. *f.* 18. *Villars dauph.* 2. 195.
Spike conglomerate brown; ſtinking.

51. Carex Pſyllophora.
Lin. ſuppl. 413.
C. pulicaris. *Linn. ſyſt. ed.* 13. 703.
Pſyllophora. *Ehrh. phytoph. n.* 7.
Spike ſimple androgynous male at top, capſules reflex, ſeeds cylindric.

52. Carex Leucoglochin.
Lin. ſuppl. 413.
Leucoglochin. *Ehrh. phytoph. n.* 8.
Spike ſimple androgynous male at top, capſules reflex, ſeeds three-ſided.

53. Carex uncinata.
Lin. ſuppl. 413.
Spike ſimple androgynous linear male at top, awns of the females hooked, males awnleſs.

54. Carex Cyperoides.
Lin. ſuppl. 413.
C. cyperoideus. *Lin. ſyſt. ed.* 13. 703.
C. bohemica. *Schreb. gram. t.* 28. *f.* 3. *Mich. gen.* 70. *t.* 33. *f.* 19. *Buxb. cent.* 4. 34. *t.* 61. (Cyperus). *Gmel. ſib.* 1. 81. (Scirpus).
Head terminating roundiſh, flowers quite ſimple ſubulate, involucre long.

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55. Carex diſticha. *Soft Sedge.*
Hudſ. 403. *With.* 1028. *Lightf. ſcot.* 546. *Hall. helv.* 1362. *Schreb. ſpic.* 63. *Mich. gen.* 67. *t.* 33. *f.* 3. *Pluk. phyt. t.* 34. *f.* 7. *Park.* 1172. 4. *Raii ſyn.* 423. *n.* 4. *hiſt.* 1297. 5. *Reliqu. Rudb. t.* 3. *f.* 1.
C. intermedia. *Gooden. in Linn. tranſ.* 2. 154.
C. ſpicata. *Pollich pal. n.* 875.
C. arenaria. *Leers herb. t.* 14. *f.* 2.
β. Pluk. t. 34. f. 4. is *cinerea. With.* ſee n. 64.
Spike oblong obtuſe, ſpikelets very many; the loweſt and end one females, the middle ones male, culm upright.

56. Carex diviſa.
Hudſ. 405. *With.* 1033. *Gooden. in Linn. tranſ.* 2. 157. *t.* 19. *f.* 2. *Lob. ic.* 1. 19. 2. *Ger. emac.* 21. 6. *Park.* 1267. 8. *Bauh. theat.* 88. *Bauh. hiſt.* 2. 497. 2. *Raii ſyn.* 423. 3.
Spike ovate ſubdecompound with an upright leaflet, ſpikelets rather remote, capſules preſſed cloſe, root creeping.

57. Carex incurva.
Lightf. 544. *t.* 24. *With.* 1027. *Gooden. in Linn. tranſ.* 2. 152. *fl. dan. t.* 432.
C. juncifolia. *Allion. pedem. n.* 2296. *t.* 92. *f.* 4.
Spike conic, ſpikelets ſeveral heaped ſeſſile, involucre none, culm incurved.

58. Carex divulſa.
With. 1035. *Relh. ſuppl. alt. n.* 1077. *Gooden. in Linn. tranſ.* 2. 160. *Barr.* 20. 2. *Mich. t.* 33. *f.* 10. *Mor.* 8. 12. 26. *Raii ſyn.* 424. 10. *hiſt.* 1297. 10.
C. caneſcens. *Hudſ.* 405. not of Linneus and others.
Spike decompound elongated ſomewhat branched at the baſe, the lower ſpikelets remote, the upper ones contiguous, capſules ſomewhat erect.

59. Carex tripartita.
Allion. pedem. n. 2298. *t.* 92. *f.* 5. *Hall. helv. n.* 1356.
C. lobata. *Villars dauph.* 2. 197?
Spike terminal three-parted.

60. Carex bipartita.
Allion. pedem. n. 2301. *t.* 89. *f.* 5.
Spikes two terminal, the upper compound, culm round naked.

61. Carex nigra.
Allion. pedem. n. 2310.
Spikes androgynous erect ſeſſile tern terminal black; culm three-cornered leafy.

62. Carex bicolor.
Allion. pedem. n. 2311. See *Hall. helv. n.* 1369.
Spikes androgynous ſeſſile tern terminal, capſules longer than the glumes; culm round naked.

63. Carex ſtellulata.
Gooden. in Linn. tranſ. 2. 144. *Hall. helv. n.* 1366.
C. muricata. *Hudſ. angl.* 406. *With.* 1034. *Lightf.* 549. *Fl. dan. t.* 284. *Leers herborn. n.* 709. *t.* 14. *f.* 8. (very good). *Pollich pal. n.* 877.
Gr. cyperoides ſpicatum minimum, &c. *Raii ſyn.* 424. 12. *Park. theat.* 1272. *Mor. hiſt.* 3. 244. *f.* 8. *t.* 12. *f.* 26. *Scheuch. agr.* 485. *t.* 11. *f.* 3.
Spikelets ſubtern remote, capſules diverging acute, mouth entire.

64. Carex curta.
Gooden. in Linn. tranſ. 2. 145.
C. elongata. *Leers herborn.* 200. *t.* 14. *f.* 7. *Hall. helv. n.* 1360.
C. caneſcens. *Lightf. ſcot.* 550.
C. brizoides. *Hudſ. angl.* 406.
C. cinerea. *Wither. arr.* 1033.
Gr. cyp. ſpicis curtis divulſis. *Loeſel. pruſſ.* 117. *t.* 32.
Spikelets ſix or more ovate remotiſh naked, ſcales ovate ſharpiſh ſhorter than the capſule.

65. Carex ovalis.
Gooden. in Linn. tranſ. 2. 148.
C. leporina. *Hudſ. angl.* 404. *With.* 1029. *Lightf.* 547. *Pollich pal. n.* 874. (deſcr. good). *Leers herborn.* 199. *t.* 14. *f.* 6. *Hall. helv. n.* 1361.
Gr. cyp. majus ſpica divulſa. *Mor.* 244. *t.* 12. *f.* 29.—ſpica e pluribus ſpicis brevibus mollibus compoſita. *Raii ſyn.* 422. 2. *Scheuch. agr.* 456. *t.* 10. *f.* 15.
Spikelets about ſix oval approximating alternate, ſcales lanceolate equalling the capſule.

66. Carex teretiuſcula.
Gooden. in Linn. tranſ. 2. 163. *t.* 19. *f.* 3.
Spike ſuperdecompound contracted-branched ſharpiſh, ſpikelets glomerate male at top, capſules ſpreading, culm roundiſh.

67. Carex chordorhiza.
Lin. ſuppl. 414.
Chordorhiza. *Ehrh. phytoph. n.* 77.
Spike compound, ſpikelets androgynous approximating male at top, capſules compreſſed, root creeping filiform.

68. Carex Heleonaſtes.
Lin. ſuppl. 414.
Heleonaſtes. *Ehrh. phytoph. n.* 28.
Spike compound, ſpikelets androgynous approximating female at top, capſules imbricated with the ſides quite entire.

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69. Carex proſtrata.
Allion. pedem. n. 2312. *Hall. helv. n.* 1370. *Mich. gen. t.* 32. *f.* 8. *Scheuch. t.* 10. *f.* 1, 2.
C. humilis. *Villars dauph.* 2. 205. (*Hall. n.* 1371. & 1379.) *Schreb. ſpicil.* 65. *n.* 1013.
C. clandeſtina. *Gooden. in Linn. tranſ.* 2. 167.
Bractes membranaceous, almoſt leafleſs ſheathing, female ſpikes remote ſcarcely ſurpaſſing the ſheath, the calyx very large, ſtem when old proſtrate.

70. Carex conglobata.
Allion. pedem. n. 2314. *Hall. helv. n.* 1372. *Scheuch. t.* 10. *f.* 8, 9. See n. 24. & 28.

Spikes ſeſſile approximating few-flowered, capſules ovate hirſute.

71. Carex mucronata.

Allion. pedem. n. 2318. *Hall. helv. n.* 1374. *Mich. gen. t.* 32. *f.* 3. See n. 24. & 28.

Spikes ſeſſile approximating very ſhort, glumes lanceolate, mucronate.

72. Carex alba.

Scop. carn. n. 1148. *Allion. pedem. n.* 2322. *Hall. helv. n.* 1377. *Scheuch. t.* 10. *f.* 4, 5. *Raii hiſt.* 1295. *n.* 12. *Mich. gen.* 65. *n.* 79, 80. *Villars dauph.* 2. 206. (argentea).

Spikes peduncled white, ſheaths long, obtuſe, filaments and ſtyles long white.

73. Carex fuſca.

Allion. pedem, n. 2324. *Hall. helv. n.* 1378.

Female ſpikes three erect, capſules ovate ſhortly mucronate petioled, ſitting on the leaf.

74. Carex trigona.

Allion. pedem. n. 2325. *t.* 89. *f.* 4.

Male ſpike peduncled, females ſeſſile remote three-cornered.

75. Carex folioſa.

Allion. pedem. n. 2328. *Hall. helv. n.* 1384.

Female ſpikes ſeſſile, the loweſt peduncled, glumes very narrow.

76. Carex alpeſtris.

Allion. pedem. n. 2329. *Hall. helv. n.* 1385.

C. gynobaſis. *Villars dauph.* 2. 206.

The loweſt female ſpike radical, capſules three-cornered elongated.

77. Carex obæſa.

Allion. pedem. n. 2330. *Hall. helv. n.* 1387.

Female ſpikes ſeſſile tern, capſules ovate three-cornered.

78 Carex ferruginea.

Allion. pedem. n. 2333. *Scop. carn. n.* 1159. *Hall. helv. n.* 1390. *Scheuch. t.* 10. *f.* 6.

C. ſempervirens. *Villars dauph.* 2. 214? (*Hall. n.* 1389.)

Male ſpike one, acuminate; female ſpikes (two or three) ſlender, pedicelled; ſcales ferruginous; capſules bifid.

79. Carex frigida.

Allion. pedem. n. 2344. *Hall. helv. n.* 1391. *Villars dauph.* 2. 215.

Female ſpikes in threes and fours diſtich; capſules long-pointed.

80. Carex extenſa.

Gooden. in Linn. tranſ. 2. 175. *t.* 21. *f.* 7.

C. flava β. *Hudſ. angl.* 407.

Sheaths very ſhort equalling the peduncle, the leaflet ſomewhat reflex; ſpikes crowded, females roundiſh; capſules ovate acute.

81. Carex fulva.

Gooden. in Linn. tranſ. 2. 177. *t.* 20. *f.* 6.

C. diſtans. *Fl. dan. t.* 1049.

Loweſt ſheath about half the length of the peduncle, upper one nearly equal to it, female ſpikes two oblong acute, capſules acuminate-beaked.

82. Carex rigida. *Rigid-leaved Sedge.*

Gooden. in Linn. tranſ. 2. 193. *t.* 22. *f.* 10. *Mich. gen.* 61. *t.* 32. *f.* 4.

C. ſaxatilis. *Hudſ. angl.* 408.

Two-ſtyled, ſheaths none, ſpikes oblong ſubſeſſile, leaves ſomewhat recurved rigid.

83. Carex ſtricta. *Stiff-leaved Sedge.*

Gooden. in Linn. tranſ. 2. 196. *t.* 21. *f.* 9. *Loeſ. pruſſ.* 116. *t.* 30.

C. cæſpitoſa. *Hudſ. angl.* 412. *Lightf. ſcot.* 560. β. *With.* 1051?

Two-ſtyled, ſheaths none, ſpikes ſubſeſſile cylindric acute, male one or two, leaves upright ſtiff.

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84. Carex præcox. *Vernal Sedge.*

Jacqu. auſtr. t. 46. *Allion. pedem. n.* 2337. *With.* 1043. *Hall. helv. n.* 1381. *Mich. gen.* 64. *n.* 70. *Segu. veron.* 1. 122. *n.* 9. *Scheuch.* 433. *n.* 4. *Raii hiſt.* 1294. *n.* 42. *ſyn.* 421. *Gooden. in Linn. tranſ.* 2. 170.

C. verna. *Villars dauph.* 2. 204.

C. montana. *Hudſ. angl.* 407. *Lightf. ſcot.* 551.

C. globularis. *Lyons faſcic.* 52.

Gr. cyp. ſpicatum. *Ger. emac.* 22. 8.—ſpic. fol. caryophylleis. *Park.* 1160.—vernum minimum. *Raii ſyn.* 421. 17.

Sheaths ſhort, nearly equalling the peduncle, ſpikes approximating, male ſubclavate, females ovate, capſules roundiſh pubeſcent.

85. Carex depauperata.

With. 1049. *Mich. gen.* 56. *t.* 32. *f.* 5. *Gooden. in Linn. tranſ.* 2. 181.

C. ventricoſa. *Curtis. lond. n.* 64.

Sheaths more than half the length of the peduncles, female ſpikes remote few-flowered, capſules ovate inflated acuminate-beaked.

86. Carex elata.

Allion. pedem. n. 2344. *Hall. helv. n.* 1400. *Raii ſyn.* 418. 4.

Male ſpikes two, females ſeſſile, capſules ovate with a very ſhort undivided point.

87. Carex pendula. *Pendulous Sedge.*

Hudſ. 411. *With.* 1046. *Curt. lond.* 3. 63. *Lightf.* 564. *Relh. n.* 694. *Gooden. in Linn. tranſ.* 2. 168. *Hall. helv. n.* 1396. *Barr. ic.* 45. *Mor.* 8. 12. 4. *Scheuch.* 445. 2. *Raii hiſt.* 1294. *ſyn.* 420. 13.

C. Agaſtachys. *Lin. ſuppl.* 414.

C. maxima. *Scop. carn. n.* 1166. *Allion. pedem. n.* 2341. *Villars dauph.* 2. 218.

Spikes cylindric very long pendulous, capſules ovate acute very much crowded, ſheaths long, nearly equal to the peduncles.

88. Carex ſtrigoſa. *Looſe Sedge.*

Hudſ. 411. *With.* 1047. *Raii ſyn.* 419. 11. *Gooden. in Linn. tranſ.* 2. 169. *t.* 20. *f.* 4.

Spikes filiform looſe recurved, ſheaths long nearly equalling the peduncle, capſules oblong ſubtriquetrous acute.

89. Carex ſylvatica. *Wood Sedge.*

Hudſ. 411. *With.* 1047. *Lightf. ſcot.* 562. *Relh. n.* 695. *Hall. helv. n.* 1395. *Leers, t.* 15. *f.* 2. *Fl. dan. t.* 404. *Mor.* 8. 12. 9. *Park.* 1172. 3. *Raii hiſt.* 1295. *ſyn.* 419. 10. *Scheuch.* 418. *n.* 6. *Gooden. in Linn. tranſ.* 2. 183. *Schreb. ſpicil.* 62.

C. patula. *Scop. carn. n.* 1160. *t.* 59. *f.* 2. *Allion. pedem. n.* 2340. *Pollich pal. n.* 896. *Villars dauph.* 2. 214.

C. veſicaria β. *Lin. ſpec.* 1389. *ſuec.* 856. *lapp.* 328.

C. Drymeia. *Lin. ſuppl.* 414.

Sheaths ſhorter than the peduncles, ſpikes filiform looſe pendulous, capſules ovate, awned and beaked.

90. Carex recurva. *Heath Sedge.*

Hudſ. 413. *With.* 1050. *Relh. n.* 696. *Hall. helv. n.* 1408. *Fl. dan. t.* 1051. *Mor.* 8. 12. 14. *Raii ſyn.* 418. 5. *Gooden. in Linn. tranſ.* 2. 184.

C. glauca. *Scop. carn. n.* 1157. *Pollich pal. n.* 894.

C. cæſpitoſa α. *Lightf.* 560. (With.)

C. limoſa β. *Leers herborn. t.* 15. *f.* 3. *n.* 719.

Spikes crowded peduncled cylindric rather pendulous, male terminal, capſules imbricate rather obtuſe.

91. Carex juncea.

Scop. carn. n. 1163. *Mich. gen.* 58. *n.* 19.

Spikes very remote, male longer than the females which are ſubſeſſile; capſules bifid three-cornered ſmooth; ſeed three-cornered.

92. Carex Leptoſtachys.

Lin. ſuppl. 414.

Leptoſtachys. *Ehrh. phytoph. n.* 48.

Spike ſexually diſtinct, male ſingle, females peduncled remote pendulous filiform, capſules remote entire at the end.

93. Carex chinenſis.

Retz. obſ. 3. 42. *n.* 92.

Spikes erect, male terminating, females peduncled four, capſules acuminate.

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94. Carex riparia. *Common Sedge.*

Curt. lond. 4. 60. *With.* 1056. *Relh. n.* 697. *Gooden. in Linn. tranſ.* 2. 200. *Mich. gen. t.* 32, *t.* 32. *f.* 6, 7. *Hall. helv. n.* 1404.—and 1398, 1399? *Bauh. hiſt.* 2. 494. 3. *Raii hiſt.* 1293. 1. *ſyn.* 417. 1. *Ger. emac.* 12. 1. *Mor. ſ.* 8. *t.* 12. *f.* 1.

C. acuta α. *Hudſ.* 413. *Lightf.* 565.

Spikes oblong acute, ſcales of the males lanceolate; thoſe of the females acuminate and awned; capſules lanceolate-ovate with two teeth at the point.

95. Carex paludoſa. *Sharp Sedge.*

Gooden. in Linn. tranſ. 2. 202.

C. acuta. *Curt. lond.* 4. 61. *With.* 1054. *Relh. n.* 698. *Leers, t.* 16. *f.* 1. *Mich. gen. t.* 32. *f.* 12. (Curt.) *f.* 6. (With.) *Ger. emac.* 12. *f.* 2. *Raii hiſt.* 1293. 3.

C. glauca. *Scop. carn. n.* 1157? (Curt.) *Villars dauph.* 2. 220. See n. 90.

C. cæſpitoſa β. *Lightf.* 561? (Curt.) ſtricta (Gooden.) ſee n. 83.

Spikes oblong bluntiſh, ſcales of the males blunt, of the females lanceolate, capſules ovate-lanceolate ſomewhat toothed at the tip.

96. Carex gracilis. *Slender-ſpiked Sedge.*

Curt. lond. 4. 62. *With.* 1053. *Relh. n.* 699. *Mich. gen.* 60. *n.* 40. (Curt.) *Mor.* 8. 12. 3. *Bauh. hiſt.* 2. 494. 2. *Raii hiſt.* 1293. 2. *ſyn.* 417. 2. *Hall. helv. n.* 1406?

C. acuta. *Gooden. in Linn. tranſ.* 2. 203. *Linn. ſuec. n.* 857. β.

Spikes filiform; flowers two-ſtyled, mouth of the capſules very entire.

97. Carex ampullacea. *Bottle Sedge.*

Gooden. in Linn. tranſ. 2. 207.

C. veſicaria. *Hudſ. angl.* 413. *Lightf. ſcot.* 556. *Pollich pal. n.* 895. α. *Mor.* 242. *ſ.* 8. *t.* 12. *f.* 8. *Raii ſyn.* 419. 9.

C. roſtrata. *Wither. arr.* 1059.

Spikes filiform, males more ſlender, females round upright, capſules inflated globoſe awn-beaked divaricate.

DESCRIPTIONS, &c.

Theſe plants are very nearly allied to the Graſſes, and agree with them in their general appearance, leaves and placentation. They are however of a much harſher texture; and the ſtem is not hollow, but filled with a ſpongy ſubſtance: it is frequently three-cornered. The difference in the fructification is very conſiderable, as will appear from a compariſon of the generic characters. Moſt of the ſpecies grow in wet ſwampy grounds, in bogs, fens, marſhes, or by the ſides of ditches and rivers, or in moiſt woods; ſome few however affect hilly paſtures and heaths. They are perennial, and flower in may and june, or from april to july and auguſt.

Linneus has divided his genus into five ſections, the two firſt compriſing the ſpecies with androgynous ſpikes, and the three laſt thoſe which have the male or barren and the female or fertile ſpikes diſtinct. In the third and fourth ſections the diſtinction turns upon the female ſpikes being ſeſſile or peduncled, which cultivation, or a caſual luxuriant growth, does away. They are alſo ſtyled ſeſſile or ſubſeſſile by Linneus, when in reality they are peduncled, the peduncles being only covered by the ſheath. This has induced Dr. Goodenough to ſubſtitute the proportion which the ſheath of the leafy bracte bears to the peduncle: and this diſtinction is not liable to any difficulty; for if the peduncle be unuſually long or ſhort, in conſequence of the luxuriance or barrenneſs of the ſoil, the ſheath will be affected ſomewhat in the ſame proportion.—When Linneus deſcribes the peduncles as ſeſſile, we are to underſtand that they have that appearance; the peduncles, if there are any, being covered by the ſheath.

The Carices or Sedges are claſſed rather among the noxious plants, than with ſuch as are uſeful; becauſe they yield a very coarſe graſs and fodder, to the excluſion of real graſs and other profitable plants, which they ſubdue by their ſtrong creeping roots: but it ſhould be conſidered that they grow chiefly on poor ſpongy land, on bogs, to which they give ſtability, or on the banks of ſtreams, which they enable to reſiſt the current; that they may be deſtroyed by draining and manuring, and that after all they are not without their uſe.

Beſides the common uſe of them for coarſe fodder, they are employed for covering hovels and ſtacks; for lighting fires and heating ovens, for tying the young hop plants to the poles; in Italy for covering wine-flaſks, for putting between the ſtaves of caſks to make them tight, and for chair bottoms. The Laplander combs and dreſſes ſome ſpecies of Sedge, as we do flax, and in winter ſtuffs his ſhoes and gloves with it, as a defence againſt the extreme rigour of his climate.

1. Culm ſlender, upright, ſmooth, from four to ſix or even ten inches high, with three ſharpiſh angles. Leaves ſetaceous, ſubtriquetrous, channelled within, upright, ſmooth. Fertile plant taller than the barren one: barren ſpike linear, from half an inch to an inch in length: fertile compact, imbricate, at firſt ovate and one quarter of an inch long, but in the ſeeding ſtate cylindric and often half an inch in length. Capſules not ſpreading, ſlightly ſerrate towards the upper part[a].

Dr. Goodenough adds, that the root is creeping, that the male or barren ſpike has a ſhort ovate brown bracte ending in a point: and that the ſcales are oblong, ſharpiſh and fulvous, with an obſcure green dorſal nerve: and that the fertile or female ſpike has the ſcales as in the male, ſhorter than the capſules; which are ſpreading, ovate, acute. There are two ſtigmas in this ſpecies. The male plant has ſometimes a female flower or two at the baſe of the ſpike; and the female plant has ſometimes ſeveral male flowers at the top of the ſpike. The ſerrulation on the edges of the capſules is not always viſible.—On boggy grounds: flowering in june.

2. Very ſimilar to *C. dioica*, but the ſpike exactly ovate, with male flowers in the upper part; not cylindric and dioecous as in that[b].

According to Dr. Goodenough, the ſpike is round, and ſomewhat conic, owing to the male flowers at top. The capſules are broader, entire about the edge, and not ſtriated as in the *dioica*. The leaves in both are exactly the ſame; and the ſtyles have each two ſtigmas.

The plants hitherto diſcovered in Great Britain have probably been only fertile individuals of *C. dioica*[c]. Such only are repreſented in *Mor.* 8. 12. 36. and *Mich.* 32. 2. referred to by Linneus; and *t.* 372. in *flora Danica* ſhould ſeem to be a Scirpus[d].

3. Root not creeping, but fibrous. Culm upright, roundiſh, ſmooth, naked, from three to twelve (or ſix to eighteen) inches high. Leaves briſtle-ſhaped, bright green, in tufts, rigid, ſmooth, upright, ſhorter than the culm, channelled; ſomewhat convex on one ſide, nerved and angular. Spike cylindric, terminating, compoſed of very many male flowers at top, and about as many female flowers below, looſely imbricate: ſcales browniſh, ovate, ſharp, ſhorter than the capſule, with a green dorſal nerve, and deciduous. Capſules ovate, three-cornered, very ſmooth, ſoon divaricate, and at length pendulous with an entire mouth: or, as Linneus expreſſes it, bent back like a harpoon, ſo as to give the plant quite a different appearance. It has two ſtigmas in the female flowers; and the ſcales in theſe are not ſo blunt as in the male flowers.

This ſpecies is well deſcribed by Lightfoot and Leers; the figure in Moriſon is extremely characteriſtic; Leers gives the plant both in a young and mature ſtate; Micheli's figures are in general to be depended on[e].

Frequent in mooriſh and boggy places. It was firſt obſerved by Mr. Goodyer.

4. Spike oblong thick, conſiſting of horizontal imbricate capſules, with a linear tip as long as the

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[a] Lyons, Lightf. and Woodw. in With.
[b] Linn. ſpec.
[c] Woodw. in With.
[d] Withering.
[e] Goodenough.

capſule itſelf; the bottom of the ſpike is covered with dry barren chaffs. This is one of the largeſt ſpecies, and is a native of Canada[f].

5. Fertile flowers conſtituting two-thirds of the ſpike, below the barren ones. Small ſpicules ſometimes hang down by the ſide, probably barren. The handſomeſt of the genus, and a native of New Zealand[g].

6. Culms a foot high, three-cornered. Head conſiſting of ſeveral glomerules in a ſmall umbel: the outer glumes of each barren, the inner fertile. Filaments white. Piſtil longer than the nectary, with a bifid ſtyle[h]. Native of Siberia and Bohemia.

7. One valve of the involucre longer than the ſpikes, the other ſhorter. Spikes three or four collected into a head, white, oblong, with lanceolate chaffs ſeparating the male flowers: at the baſe are the female flowers, which are globular, and have a long three-parted ſtyle. Native of Monte Baldo[i].

8. Root creeping horizontally about four inches under ground in moveable ſand on the ſea ſhore. From each joint a ſtem, below the ſurface covered with brown ſheaths, ſending out many leaves, the outer ones ſhort, the inner narrow and as tall as the culm, which is naked, without knots, ſupporting a ruſt-coloured ſpike, generally nodding. Spicules ovate-ſubulate, ſeſſile. The loweſt ſpicule ſits in the axilla of a ſeſſile but not a ſheathing leaf, the length of the whole compound ſpike; the ſecond, third, and even fourth have ſimilar leaves, only ſmaller[k]. Culms rough, eight or ten inches high. Leaves ſomewhat rolled in at the edge. Spike from one to two inches long, generally bent. Spicules four to ten; the upper crowded and without floral leaves[l]. The lowermoſt ſpicules are female, the uppermoſt generally male, and the middle ones commonly androgynous[m]. Scales ovate, acute, commonly long-pointed, equalling the capſules when ripe. Capſules ovate, acuminate, flat and grooved on one ſide, keeled on the other, winged or having a membranaceous edge towards the tip on each ſide, with a bifid mouth. Two ſtigmas[n].—In looſe ſand on the ſea ſhore: as at Yarmouth, Loweſtoft, *&c.* and in Scotland frequent. In the inland parts of Germany, on the ſame ſoil. It ſeldom flowers in a garden.

9. This has nearly the ſame appearance with the foregoing, but the root is not manifeſtly creeping. Culm a finger's length, round, gloſſy, naked. Spike more compreſſed than in any other ſpecies, ruſt colour, compoſed of ſeven or eight ſpicules: at the baſe of the ſpike a leaf of the ſame length with it, erect, gloſſy, linear: leaves next the root alternate, convex beneath, channelled above, gloſſy on both ſides, linear, acuminate, ſhining, the length of the culm.—Turf moors in Sweden[o].

10. The ſpike is formed of five or ſix approximating ſpikelets; with gray chaffs longer than the ſeeds betwen the floſcules; ſtyles bent in[p].

The *Carex leporina* of our Engliſh authors and others is different from this (ſee *C. ovalis, n.* 65). The original *leporina* now preſerved in the Linnean herbarium has only three ſpikelets, is a much ſmaller plant than ours, and differs in many reſpects[q].

11. Culm thick firm. Spike hiſpid on all ſides, thick. Sheath of the leaves terminated internally by a ſharp tongue as in the graſſes[r]. Leaves bright green, in a thick tuft, ſet with minute teeth pointing upwards. Culms one to two feet high, acutely three-cornered; the ſides ſomewhat concave, the angles near the ſpike ſet with minute teeth. Spike, compoſed of numerous ſhort ovate ſpikelets; under each a rigid triangular awl-ſhaped bracte, half-ſtem-claſping at the baſe, with membranaceous edges, green but turning brown as the ſpike ripens, the edges ſet with minute teeth. Scales ovate, of a ſimilar colour, broad at the baſe, but tapering into an awn. Capſule ſomewhat triangular, bifid at the end. Style deeply divided into two ſtigmas. The bracte is ſometimes wanting[s].

Dr. Goodenough remarks, that of this well-known ſpecies no doubt can be entertained. The ſtoutneſs of its culm, the cloſeneſs and rigid nature of the ſpike, and its ſuperdecompoſition, mark it very ſtrongly. Obſerve alſo, that the ſpike has many bractes, ending in a briſtle-ſhaped leaf; that the culm is more ſharply triangular, and the ſides hollowed; the capſules divaricate; the culm enlarged below the ſpike, and ſeeming ſuddenly contracted when it meets the rachis of the ſpike. Hence it is very different from *muricata* to which it is moſt nearly allied; and alſo from *teretiuſcula,* which has the culm roundiſh.

Haller obſerves that this ſpecies is much ſubject to vary. Scopoli gives them three varieties, and remarks that they have all a bifid, two-ſtyled nectary. The firſt has a yellowiſh-green compact panicle. 2. Bay-brown, with looſer ſpicules. 3. Reddiſh-brown, with oblong ſpicules touching each other.—Dr. Withering's arrangement has alſo three varieties, the ſecond of which Dr. Stokes thinks to be the ſame with *C. ſpicata* of Hudſon. He conſiders them merely as ſhades of the ſame colour, diſtinguiſhable by their habit from other ſpecies, though ſcarcely ſeparable from each other.—It is common in marſhes, and on the banks of rivers and ditches; flowering in may.

12. Stem ſlender, three-cornered, eighteen inches high. Leaves ſcarcely a line wide. Spikelets ſix, ſeven, and nine, placed alternately in a double row in the ſame plane, pale-coloured, almoſt naked, ſlender, very cloſe. It has the appearance of *Bromus pinnatus,* but with a ſhorter, cloſer ſpike[t]. See *Carex curta, n.* 64.

13. Leaves bright green, narrow, rough along the edges and keel, longer than the culm, which is upright, a foot and more in height, three-ſided, the angles ſharp and rough. Spike androgynous, compound often decompound: ſpikelets about ten, below remote, above contiguous, ovate, ſeſſile, male at top, with a bracte ſubovate at the baſe, ending above in a briſtle ſhaped hiſpid leaflet; the lower bractes are much longer than the ſpikelets. Scales ovate, acute, ſhorter than the capſule, brown, with a white membranaceous edge, and a green dorſal nerve. Capſules ovate, acute, flat on one ſide, convex on the other, ſmooth, a little hiſpid on the edge at top. Two ſtigmas.

This is not *C. muricata* of Britiſh authors, but it is certainly the plant of the Linnean herbarium. It differs from *vulpina,* in never having its ſpike ſuperdecompound, or the culm enlarged beneath the ſpike: from *diviſa* of Hudſon, in its fibrous root, diverging capſules, and no erect leaf under the ſpike: from *ſtellulata,* (n. 63.) in its numerous and contiguous ſpikelets, and its capſules divided at the ſummit.

There is a variety rather more ſlender in its form, with its ſpike rarely decompound. The culm is not ſo rough at the angles, and towards the baſe it is roundiſh, inſomuch that many have taken it for the *diviſa* of Hudſon, *t.* 33. *f.* 12. of Micheli, and *t.* 11. *f.* 5. of Scheuchzer, are rather repreſentations of this variety.

This ſpecies is found in woods and meadows that are moiſt. It flowers in may and june[u].

14. Root creeping. Leaves graſſy, tender, ſmooth and even. Culm ſmooth and even, the upper part naked. Spikelets four or eight, ſmall, ſcattered at the top of the culm, whitiſh. Seeds ovate, obtuſe, awnleſs when the piſtil is taken away, rounded beneath. It much reſembles the foregoing, but differs in being only half the ſize, and in having the capſules leſs divaricate, obtuſe, and not ſharp at the edge[x]. Native of Sweden and Saxony.

15. A very elegant plant. Stems ſeveral, one to two feet high, ſlender, weak, three-cornered, above the loweſt floral leaf rough, below ſmooth. Leaves

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[f] Linn. ſpec. [g] Linn. ſuppl. [h] Schreb. in Linn. ſyſt. [i] Linn. [k] Linn. ſuec. [l] Woodw. Mſſ. [m] Lightf. [n] Goodenough. [o] Linn. ſuec. & mant. [p] Linn. ſpec. [q] Goodenough, 149. [r] Linn. ſuec.

[s] Woodw. Mſſ. [t] Haller and Scopoli. [u] Goodenough. [x] Linn. ſpec.

numerous, long, ſlender, at the lower part of the ſtem. Spikes five to eight, lanceolate, ſeſſile, the lowermoſt in the boſom of a floral leaf longer than the ſtem, the two or three next alſo in the boſom of ſimilar leaves, ſhorter than the loweſt; the upper naked. Scales lanceolate, when young with a green keel, and ſilvery membranaceous edges, when the ſeeds are ripening yellowiſh; and then ſhorter than the capſules. The ſtyle is divided at iſſuing from the capſule into two ſtigmas. Capſules acutely pointed[y].

There is only one ſpecies in the whole family which has any affinity to this, namely *axillaris*; but that is readily diſtinguiſhed by having three or more ſpikelets at the baſe of each bractaceous leaf.

This is found in moiſt woods and by the ſides of ditches, flowering in may and june.

Mr. Curtis found the *axillaris* near Putney, flowering in may and june. It has a ſtrong and rigid culm, whereas *remota* has a ſoft, thin, weak one; never more than one ſpikelet at the baſe of each leaf, and the capſules entire at the apex; in the *axillaris* they are bifid. Hence Dr. Goodenough has made this a diſtinct ſpecies, which he thus characterizes—ſpikelets axillary ſubternate remote ſeſſile, leaflets long, capſules divided at the tip. He remarks, that Linneus (ſpec. pl.) ſeems to have deſcribed it twice over.

Dr. G. mentions another from Scotland, given him by Mr. Lightfoot, nearly related to this, if not the ſame, p. 209[z].

16. Culms two feet high, rough, three-cornered, almoſt naked. Leaves revolute, rough, one or two lines in breadth. Spike compound, four inches long; the lower ſpikelets diſtinct, the upper ones touching the baſe of the next above it; broad and obtuſe. Glumes brown, ſharp. Under the ſpike a leaf, then an awned glume, and a ſimple glume which in the uppermoſt is mucronate. Capſules conic, with a long bent cleft neck. The uppermoſt ſpikelet is ſometimes partly male[a].

17. This is not the *caneſcens* of our Engliſh authors, for that ſee *C. curta*. Theſe are much alike in ſhape, but when they are brought together, they are found to be widely different. The *curta* is ſmaller in all its parts; then the ſcales are ſilvery, and very tender: in the *caneſcens* they are membranaceous and hard, as in the reſt of the genus, and are brown with a white edge, which gives it a real hoary appearance[b]. It is a native of Lapland, Upland, *&c.*

18. Stems numerous, from one to three, and ſometimes four feet high, naked in the upper part, three-cornered with the angles minutely toothed. Radical leaves in a thick tuft, ſometimes riſing as high as the ſtems, yellowiſh green, terminating in a ſtiff thorn-like point, minutely toothed and cutting at the edge. Panicle two to three inches long, branched below, uſually terminating above in a ſimple ſpike; the branches from half an inch to an inch in length, with numerous ſmall roundiſh ſpikelets, cloſely crowded. The lower branch has uſually a ſhort awl-ſhaped greeniſh bracte, but this is ſometimes wanting. Scales obtuſely ovate, ſhorter than the capſules, which they cloſely embrace, deep brown, with ſhining membranaceous margins. Capſules greeniſh, tapering to a ſharp bifid point. Style on its iſſuing from the capſule divided into two reflex ſtigmas[c].

The lax branchy diſpoſition of the ſpike is a ſufficient mark of diſcrimination in this ſpecies. The branches are alternate, and ſomewhat diſtant from each other. The capſules are ſometimes a little diverging, and of the ſame length as the ſcale that guards them. The whole ſpike is triquetrous oblong, and acute at its opening.

It is a native of bogs and marſhes, flowering in june, and is admirably well qualified for planting in looſe boggy ground; its immenſe tufts making a firm ſupport for the heavieſt bodies[d].

β. It varies with a ſimple ſpike, the lower ſpikelets diſtant, the upper crowded. This is the variety mentioned iu Haller, n. 1368. which he refers to Scheuchzer, Agroſt. 501. but as a variety, not as the ſame plant, Scheuchzer's being deſcribed with a ſingly branched panicle, whereas this is ſtrictly ſpiked. Dr. Goodenough however informs us, that upon being cultivated in a rich wet ſoil, this formed its ſpike as branching as the other. The ſhape and colour of the ſcales and capſules, the leaves, and the triangular toothed ſtem prove it to belong to this ſpecies beyond a doubt[e].

Floral leaves ſubulate ſhort greeniſh, uſually one at the baſe of the loweſt branch, and ſometimes to one or two of thoſe above. Scales ovate, blunt, deep brown, membranaceous and ſhining at the edges, cloſely embracing the capſules, which are greeniſh, longer than the ſcales, obtuſely triangular, tapering to a ſharp cloven point.

There is a variety of this with a ſimple raceme. It is from one to two feet in height: the lower ſpicules diſtant, the upper crowded. *W. in With.*

19. Culms ſubtriangular, ſmooth and even, a foot and half in height, erect. Stem-leaves remote, often longer than the culm, graſſy, with a rough edge. Panicle formed of many alternate ſtrict three-cornered ſpreading racemes: the ſpikes are alternate, ſubſeſſile, in two rows, remote, ſpreading, imbricate on every ſide with ſubulate ſcales. Fruit ovate three-cornered acute. Native of the Eaſt-Indies[f].

20. Leaves linear, attenuated towards the end, entire, ſmooth, erect, longer than the culm, which is three-cornered, ſmooth, and a foot in height. Spikes erect, acute, brown, ſmooth, about twelve in number. Glumes ovate, acute. Obſerved in Japan by Thunberg[g].

21. Stems two inches to a foot high, numerous, declining, in the ſmaller plants leafy up to the ſpike, but in the larger uſually naked upwards, triangular, not rough to the touch. Leaves pale yellowiſh green. Barren ſpike cloſely imbricate: ſcales numerous, yellowiſh brown, bluntly oval, with one longer and larger, pointed and ſometimes awned at the baſe. Fertile ſpikes two, three, or four, at firſt roundiſh, afterwards oval; ſcales oval-lanceolate, yellowiſh brown, with a green keel and membranaceous edges; the lower on peduncles, the upper ſeſſile, in the ſmall plants from the boſom of the upper leaves, and the lowermoſt ſometimes almoſt at the root. In the larger plants the loweſt ſpike has a long ſpreading bracteal leaf, thoſe above are ſhorter, and bent back. Capſules ſhort and thick, tapering to a point, pale greeniſh yellow. Style divided nearly to the baſe into three ſtigmas[h].

The long divaricated foliaceous bracte is a very conſtant diſcriminating mark in this ſpecies, which, together with its round prickly heads, renders the inveſtigation perfectly eaſy[i].

Mr. Ray calls this *Marſh Hedge-hog* graſs, and mentions (*ſyn.* 421.) that he found a larger variety near Cambridge, a foot and half in height, with rarely more than two ſeſſile ſharp grained heads near the top, the lower bearded, with a long leaf. It is Cyperoides echinatum majus. *Pet. conc. gram.* 169. —and Gramen paluſtre aculeatum italicum majus. *Bauh. theat.* 110.

Dr. Goodenough has elevated the flava β. of Hudſon, which is the larger plant, into a ſpecies, under the name of *C. extenſa*, (n. 80.) which ſee. His *C. fulva* (n. 81.) has been conſidered has another variety, and indeed by his confeſſion is ſcarcely removed from it.

The capſule is a good guide to diſtinguiſh this from *C. extenſa*, being in *C. flava* oblong with a taper point, and in *C. extenſa* ovate and acute. But the capſule is no guide in ſeparating it from *C. fulva*. *C. flava* however has always three female ſpikes, and

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[y] Woodward Mſſ.

[z] Goodenough.

[a] Haller.

[b] Goodenough.

[c] Woodward Mſſ.

[d] Goodenough.

[e] Woodw. Mſſ.

[f] Linn. mant.

[g] Thunberg.

[h] Woodw. Mſſ.

[i] Goodenough.

C. fulva has conſtantly two: then *C. flava* has its bractes divaricated; *C. fulva* has them upright, particularly the loweſt. The diviſion of the apex of the capſule ſeems to be conſtant in *C. fulva*, but is by no means ſo in *C. flava*. Their habit ſeems to be different; and the female ſpikes in *C. fulva* are always acute, and never round.

C. flava varies ſometimes with two male ſpikes, and the angles of the culm roughiſh [k].

This ſpecies is common in boggy and wet meadows, marſhes, and the boggy parts of barren heaths; flowering in may and june.

22. Leaves a foot long, very narrow, ſomewhat ſtiff, ſmooth and even at bottom. Culm very ſolid, ſomewhat even, rounded on one ſide, longer than the leaves. Spikes three, ſeſſile; male terminal, oblong, ferruginous; females two, alternate, ovate-oblong, brown-ferruginous; upper without any leaf under it; lower from the axilla, the length of the culm. Floſcules leſs cloſely imbricate. Capſules obſcurely pubeſcent [l]. Native of Lapland.

23. Leaves in a thick tuft. Stems obſcurely three-cornered, ſlender, not rough, from ſix to twelve inches high, entirely naked except ſome redriſh brown leafy ſheaths at the baſe. Male ſpike half an inch long, cloſely imbricate, from the ſame ſheath with the uppermoſt female ſpike, and being ſhorter, overtopped by it. Scales numerous yellowiſh brown, membranaceous and ſhining at the ends, and ſo bluntly rounded as to ſeem truncate. Female ſpikes three or four, alternate, diſtant, about an inch long, peduncled. Florets alternate, diſtinct. Scales as long as the capſules, which are obſcurely triangular, greeniſh at the baſe, yellowiſh brown upwards, and tapering to a blunt point. Style divided half way into three ſtigmas [m].

Native of many parts of Europe. Found by Mr. Sole, apothecary at Bath, in woods and ſhady places near that city. It flowers in may and june.

24. Culms filiform, naked, a ſhort ſpan high. Leaves filiform, ſoft, of a yellower green than in the other ſpecies: ſtem-leaves very ſhort. Male ſpike terminal, peduncled, ſubcylindric, brown: female when ripe becomes black. Scales brown. Seeds ſcarce perceptibly hairy, gibbous, divaricate [n].

On mountainous paſtures and heaths. For *C. montana* of Hudſon and Lightfoot ſee *C. præcox.*—This is probably not different from n. 28. which ſee.

25. Appearance of *C. panicea*. It differs from Scheuchzer's plant in having bractes longer than the ſpikes. Culm three-cornered. Leaves narrow. Male ſpike terminal, oblong, pale-ferruginous: females two, alternate, oblong, erect. Bractes the length of the upper culm. Capſules ſcarcely acuminate, muricate as it were with very ſoft ſhort hairs. Seeds ſmooth, ſubglobular, with a ſlight protuberance of the tip [o].

According to Monſ. Villars, the culm is thin and weak, about a foot high, terminated by two or three oval ſpikes, the uppermoſt of which is male. Scales pointed, green on the back, and ruſſet at the edge. Capſules pear-ſhaped with a very ſmall point in the middle of the blunt end; they are very villoſe, whitiſh and cottony, from fifteen to twenty in a ſpike. He thinks that this ſpecies is moſt nearly allied to *C. palleſcens* in its habit, and the form of the ſpikes and capſules: and that the ſynonyms of Haller, Scheuchzer, and Scopoli here cited belong to *C. montana* of Linneus.

26. Leaves in a thick tuft, firm, ſhort, not more than half a line broad. Culm three inches high, almoſt naked, three-cornered. Male ſpike ſhort, thick, bay and ſilver variegated; glumes obtuſe, bay with a broad edge of white. Female ſpikes (one to three) ſeſſile cloſe to the male, ſmall, bay with a white edge. Seeds ovate-three-cornered, with a very ſhort point [p]. Monſ. Villars has a *C. globularis*, but he ſays it is different from this.

27. Leaves ſlender, upright, ending in a very taper point, roughiſh on the edges and along the keel, from one to three feet in length. Culm upright, ſlender, almoſt equal to the leaves, the angles ſharp and hiſpid. Spikes commonly two male and two female: the upper male ſpike from an inch and half to two inches, the lower ſcarcely an inch in length; both linear or filiform, upright, with oblong, ſharp, dark ferruginous ſcales, and a green dorſal nerve: the upper female ſpike is often ſeſſile, and ſometimes there is only one; they are upright and on very ſhort peduncles: at the baſe of theſe is a bracte, with a very ſhort ſheath in a manner concealing the peduncle, the leaflet itſelf ſomewhat ſhorter than the culm: ſcales as in the male ſpike, nearly equalling the capſules, which are woolly-villoſe, ſubtriquetrous, ſomewhat oblong, with a gaping forked mouth. There are three villoſe thickiſh ſtigmas.

It is readily diſtinguiſhed by its leaves, which are narrow, often a yard in length, and ending in a very taper point, ſomething like the American *Dactylis cynoſuroides*. In fructification it is equally diſtinct, by having generally two male ſpikes and never more, and capſules downy, almoſt woolly [q].

Native of ſeveral parts of Europe, in woods. Obſerved by the Rev. E. Williams near Eaton in Shropſhire; and at the ſouth end of Air Links, in Scotland, by Dr. Hope. It flowers in june.

It grows promiſcuouſly with *C. montana*, and is not unlike it. It differs in having a long, narrow floral leaf. The ſeeds alſo are pubeſcent and ſtriated, and more mucronated. In many ſpecimens the lower ſpikelet is on a petiole two or three lines in length. Hence Haller's ſpecies n. 1386. 1387. 1388. ſeem to belong to this or *montana* [r]. Of theſe Allioni refers n. 1387. to his *obæſa*, and 1378. to his *ſtrigoſa*.

28. Leaves in a thick tuft, bright green, the longeſt ſcarcely half as long as the ſtem, which is three-cornered, ſlender, not rough, ſomewhat aſcending at the baſe. Barren ſpike ſlender, four or five lines long, cloſely imbricate, ſeſſile: ſcales numerous, oval-lanceolate, blunt, brown with a green keel, membranaceous at the edge. Fertile ſpikes two to four, the loweſt ſomewhat diſtant, the reſt cloſely crowded: ſcales obtuſely oval, but taper pointed, darker than thoſe of the barren ſpikes, and, when the capſules are ripe, almoſt black. Capſules nearly globular, equalling the ſcales, tapering to a ſhort point each way, with three obſolete angles, ſmooth on the inner, downy on the outer ſide; greeniſh, ſlightly downy when viewed with a glaſs, particularly along the lateral angles, leſs ſo on the outer ſide: the lateral ribs ſtrongeſt, the inner one but juſt perceptible. Seed filling the cavity of the capſule. Floral leaves ſubulate; that at the baſe of the loweſt ſpike nearly as long as the whole compound ſpike, ſometimes longer; the next above ſhorter. Style divided almoſt to the baſe into three ſtigmas [s]. The ſhortneſs of the compound ſpike; the ſhape and colour of the male ſpike; and the ſmallneſs of the round female ones diſtinguiſh this ſpecies from the *montana*, according to Lightfoot: but his *montana* is the *C. præcox* of Jacquin, *&c.* Dr. Goodenough is of opinion that Linneus ſpoke of one and the ſame plant under two names. In its more fruitful ſtate, with three female ſpikes, he called it *pilulifera*; in its more ſtarved appearance, when produced on elevated and dry plains, where it has only two, and not unfrequently only one female ſpike, he called it *montana*.

The capſules are ſomewhat downy, as in *C. præcox*, but the linear male ſpike, the female ones ſeſſile, and the reclining culm mark its diſtinction in all ſtages of its growth.

It is common in moiſt paſtures and heaths; flowering in april and may.

29. Terminal ſpike male, bay or pale ferruginous. Female ſpikes two, black, with ſcales the length of

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[k] Goodenough.

[l] Linn. ſpec.

[m] Woodw. Mſſ.

[n] Linn. ſpec. and ſucc.

[o] Linn. mant.

[p] Haller.

[q] Goodenough.

[r] Gouan.

[s] Woodw. Mſſ. and Stokes in With.

the piſtils. Germs black, three-cornered; ſtyles black, bifid, long. Beneath the loweſt ſpike is a ſetaceous leaf ſhorter than the ſpike[t]. Native of the mountains of Lapland and Switzerland.

30. One leaf or two leaves at moſt, alternate, linear, ſmooth, reflected, ſhort. Culm three-cornered, capillary, ſtriated, ſmooth, erect, four inches high. Spikes terminal; females lower than the male, and only half the length. Bracte one-leafed, ſhorter than the ſpikes[u].

31. Stem three-cornered, ſmooth, with leaves from one inch and half to two inches from the root, naked upwards; the upper often longer than the ſtem. Floral leaves narrow, the loweſt ſtem-claſping, as long as the ſpikes; thoſe above ſhorter and browniſh. Loweſt peduncles long, thoſe above gradually ſhorter. Spikes oval-lanceolate, from four lines to half an inch long, when in flower riſing nearly to the ſame height; on peduncles, the loweſt long, thoſe above gradually ſhorter: the upper ſpike without any floral leaf, unequal, with frequently one or two ſmall ſpikes at the baſe, where alſo are male flowers: the others are moſtly compoſed of female flowers. Scales lanceolate or ovate oblong, apparently black with a brown keel, but viewed in a ſtrong light of a rich reddiſh brown. Stigmas moſtly three, ſometimes two. Capſules ſlightly compreſſed, acuminate, a little longer than the calyx, browniſh black, but at the baſe and edges ſtraw-coloured[x].

It is ſingular in this ſpecies, that it has for the moſt part only two ſtamens, and a few hermaphrodite flowers. Its having no ſheaths, or at leaſt very minute ones, and black ovate ſpikes are marks ſufficient to diſtinguiſh it readily from all others with which it can come in any competition. Native of moſt parts of Europe, on mountains; with us in Wales and Scotland; flowering from may to july[y].

32. Similar in appearance to *C. atrata*, the ſpikes in both being black. Leaves narrow, linear. Bractes brown without a whitiſh line along the middle. Styles three. Root jointed, creeping. Leaves tufted, long, bright green, rough, the uppermoſt nearly as long as the ſtem; which is ſlender, three-cornered and rough. Male ſpike has lanceolate ſcales, the loweſt awned, yellowiſh brown with a green keel. Female ſpikes looſely imbricated, on longer ſlender peduncles; when in flower upright, when in fruit nodding: ſcales oval-lanceolate, acuminate, of a rich ſhining brown, with a yellowiſh green keel. Style at its iſſuing from the capſule divided into three long downy ſtigmas. Bracte one at the baſe of the lower ſpike; if more than one, very ſlender, about an inch long. Capſules oval, bluntiſh, bright ſea-green[z]: microſcopically rough with minute, blunt, very ſhort points, lengthened out at the baſe into a point, rounded at the top, with a very ſhort, cylindric, yellowiſh neck, the ſides of the brim riſing higher than the middle, and giving the appearance of two teeth[a].

This ſpecies has been confounded with *recurva*, from which it is readily diſtinguiſhable by its very ſhort ſheaths, by its ovate ſpikes, by the compreſſed ſhape of the capſules, and by their colour, which is cæſious green when young, and brown when ripe; whereas in *recurva* they are round, ovate and black.

In a garden, it frequently throws up barren leafy ſtalks, which will readily take root, if planted in pots plunged in water. The name *ſtolonifera* therefore would be proper. In a wild ſtate it has not more than two female ſpikes, uſually one only. In a garden it rarely flowers[b].

In boggy ground, common; flowering in june. With us in Yorkſhire, Lancaſhire, Weſtmorland, *&c.*

33. Smaller, narrower and more delicate than *C. palleſcens.* Culm when in flower ſhorter than the leaf, ſcarcely a finger's breadth high, with a ſingle leaf; from the end are produced four erect ſpikes, one of which is male: in a ſhort time the culm becomes a ſpan in height, filiform, erect, with one ſheathing leaf in the middle of it, but ſhorter than the culm: from the axilla one ſpike, and near the top a ſmall ſheathing leaf, with another peduncled ſpike; the very top of the culm, from a ſheath ſcarcely leafy, puts out a male and female ſpike, both peduncled, and the latter pendulous. Capſules brown, alternate, diſtant, on a capillary peduncle; the bractes falling off as they ripen[c].

The diminutive ſtature, ſays Dr. Goodenough, of this plant, its capillary peduncles, its female ſpikes pendulous, lax, with few flowers (from four to eight), and the ſcales being deciduous, place it in too conſpicuous a light to be miſtaken. His character of the ſpecies is this: ſheaths halved, female ſpikes oblong lax, when fruit-bearing pendulous, peduncles capillary, capſules acuminate.

Native of the highland mountains of Scotland.

Monſ. Villars deſcribes another *C. capillaris* probably different from Linneus's, though they both refer to the ſame figure of Seguier's, which Linneus ſays is ſo good, that the plant cannot be miſtaken.

34. Twice as thick as the foregoing, and the leaves broader: ſtem-leaves ſcarcely ſheathing, but extending beyond the end of the ſtem. All the female ſpikes peduncled, whitiſh, oval, imbricate on all ſides, not in two rows. Bractes permanent. Capſules by no means acuminate[d]. Stems many, one to two feet high, three-cornered, roughiſh, leafy below, naked upwards, except that there is generally, a kind of falſe floral-leaf ſimilar to the ſtem-leaves, proceeding from a joint, one or two inches below the ſpikes. Leaves in bundles from the root, yellowiſh green, the lower ſhort, the upper nearly as long as the ſtem. The loweſt floral-leaves about twice as long as the ſpikes, thoſe above gradually ſmaller. Male ſpike (one, ſometimes two) from half to three-quarters of an inch long; ſlender, cloſely imbricate, with ſometimes a ſingle female flower at its baſe. Scales oval-lanceolate, yellowiſh brown. Female ſpikes one to three, cylindric, the lowermoſt on a very ſhort ſlender peduncle: ſcales oval-pointed, pale yellowiſh brown with a green keel. Capſules oval, blunt, pale yellowiſh green, quite ſmooth, contracted at the end, mouth very entire. Style at iſſuing from the capſule divided into three ſhort ſtigmas[e].

None of the figures give a good repreſentation of the female ſpikes in their mature ſtate; they are then nearly cylindric; whereas the figures give only the ovate form, in which they appear when firſt in flower.

Woods, meadows, and moiſt paſtures; flowering in may and june[f].

35. Stems bluntly three-cornered, ſmooth, twelve to eighteen inches high. Leaves ſmooth, ſea-green, ſhorter than the ſtem. Male ſpike terminal, more than an inch long, cloſely imbricate: ſcales oval, reddiſh brown, with membranaceous edges, and a whitiſh green keel. Female ſpikes moſtly two, upright, looſely imbricate; round, tapering towards each end. Peduncles long, ſlender, each from a joint. Floral-leaves ſheathing, one at the baſe of each peduncle, as long as the ſpike which belongs to it. Flowers alternate, many abortive: ſcales ovate, or ovate-lanceolate, brown, with a broad whitiſh green keel, not above half as long as the capſule. Stigmas three. Capſules oval, bluntly pointed, whitiſh green, when ripe brown or black; ſomewhat tapering to a point; when viewed in a microſcope rough, with minute points towards the end, contracted at the point, mouth entire[g].

According to the obſervation of Linneus, they are frequently ſmutty, and then become globular and larger: this is the caſe alſo with ſome other ſpecies.

This in its younger ſtate is very like the young ſpecimens of *C. recurva*, but it is at once diſtinguiſhed by the ſheath. In *panicea* the lowermoſt ſheath is full half the length of the peduncle, in *recurva* about one quarter only. It is diſtinguiſhable alſo by its alternate diſtant capſules: in *recurva* they are crowded in a thicker ſpike.—In moiſt meadows and paſtures; flowering in may and june[h].

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[t] Linn. ſuec.
[u] Thunberg.
[x] Woodw. Mſſ. and Stokes in With.
[y] Goodenough.
[z] Woodw. Mſſ.
[a] Stokes in With.
[b] Goodenough.

[c] Linn. ſuec.
[d] Ibid.
[e] Woodw. Mſſ. and Stokes in With.
[f] Goodenough.
[g] Woodw. Mſſ. and Stokes in With.

Mr. Woodward has obſerved a variety, with a ſingle ſpike, about ſix inches long, with barren flowers towards the end, and capſules below reſembling thoſe of the other; the lower ones diſtant; the calyx running out into a ſubulate expanding floral leaf at the baſe of each. This variety is mentioned by Leers; and alſo another, with a third female ſpike from the baſe of the culm, on a very long peduncle.

36. Culm three-cornered, two feet high, clothed with very narrow leaves. Male ſpike oblong, peduncled; a female ſpike from the ſame axilla, with ſeven or eight conic-ſubulate capſules, the length of the ſpike itſelf, with ſeeds in the bottom, ſpreading. Obſerved in Canada, by Kalm[i].

37. Bractes almoſt ſetaceous. Stems from eighteen inches to three feet in height, leafy below, naked above, three-cornered, edged with ſharp teeth, with a joint near the top. Leaves forming thick tufts, long, broad, finely toothed, edges cutting. Floral leaves ſimilar to the other leaves, the lowermoſt broad, often more than a foot long, at the joint of the top of the ſtem, thoſe above narrower and ſhorter. Fertile ſpikes (three to five) from the boſom of the floral leaves, at a ſmaller diſtance one above the other, ſometimes two together, the lowermoſt on a long ſlender peduncle, when in flower upright, when in fruit pendant; all riſing to nearly the ſame height; pointing one way, gradually ſmaller upwards, the lower longer than the peduncles, the upper ſhorter. Scales green, ſubulate, longer than the capſules, finely toothed at the edges, and toothed on the back. Capſules pale green, lanceolate, obſcurely three-cornered, elegantly ribbed; ſmooth, the awns at the point nearly upright, and ſhorter than the capſule. Style divided into three ſtigmas ſcarcely longer than the horns of the capſule. Seed pale reddiſh brown. Barren ſpike terminating, two inches long, round, tapering each way, ſomewhat ſhorter than the fertile ones, nearly upright: ſcales cloſely imbricate, yellowiſh brown, terminated by a long awn, toothed like the ſtem, and longer than the filaments[k].

The having peduncles in pairs from each joint of the culm is too uncertain a mark to place any dependance upon it. The circumſtances of its having no ſheaths, or very minute ones, and capſules nearly divaricate, and ending in a long point are better marks. The intermediate peduncles are not unfrequently found doubled.—In moiſt woods and on the ſides of ditches; flowering in june[l].

38. This is eaſily diſtinguiſhed from the other ſpecies by its long, narrow leaves, of a pleaſant green, in fuller tufts than in any of the reſt: by two female ſpikes, erect and blackiſh; capſules yellowiſh, ſeſſile, erect, obtuſe, ovate, imbricate: culm naked exactly three-cornered; under the loweſt ſpike a ſmall leaf longer than the ſpike; that under the other is ſhorter. It fills up bogs by its large tufts or haſſocks, and that it may accompliſh this the better, cattle do not eat it[m].

Dr. Stokes is of opinion that the *C. cæſpitoſa* of Mr. Hudſon is the *C. acuta* α of Linneus: and Mr. Woodward thinks that the plant which he has deſcribed under *C. cæſpitoſa* of Dr. Withering, is the ſame with the *gracilis* of Mr. Curtis. See *C. ſtricta*, n. 83.

In marſhes and moiſt woods, flowering in may.

39. Differs from *C. cæſpitoſa* in having the ſpikes far diſtant, each from the ſheath of a leaf, on ſhort peduncles, and not nodding. Capſules acuminate; ſcales of the calyx ſharp[n].

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[h] Goodenough.
[i] Linn. ſpec.
[k] Woodw. Mſſ. and Stokes in With.
[l] Goodenough.
[m] Linn. ſuec.
[n] Linn. ſpec.

Stems nine to eighteen inches high, ſometimes two feet or even a yard; leafy, very obſcurely three-cornered. Male ſpike terminating, one to one inch and a half long, cloſely imbricate. Scales oval, blunt, numerous, brown with a yellowiſh keel. Female ſpikes (two or three) very upright, preſſed cloſe, from half an inch to an inch and a half in length, the lowermoſt often ſix inches below the next. Peduncles ſlender, incloſed by the ſheaths of the leaves, often almoſt up to the ſpike, whence their upright poſition. Scales equal to, or ſhorter than the capſules, oval, blunt, dark brown, with a green keel lengthened out into a projecting point. Stigmas moſtly three. Capſules obſcurely three-cornered, ſmooth, yellowiſh green, terminating in a long ſlightly cloven point, which is ſomewhat downy[o].

The remarkable diſtance at which the female ſpikes are placed from each other, is a diſtinction too obvious to admit of any doubt. *C. hirta* has them ſituated in the ſame manner; but the leaves are hairy, and the capſules villoſe in that ſpecies: in this they are perfectly ſmooth. — It is found in marſhes, eſpecially ſalt-marſhes; and uſually flowers in may and june[p].

Mr. Curtis obſerves that this ſpecies is ſubject to very great variations: and Mr. Relhan mentions a variety with androgynous ſpikes, and the lower ſometimes male.

40. Culm leafy three-cornered erect weak ſmooth a ſpan high. Leaves alternate ſheathing ſmooth erect, the upper ones overtopping the culm, the lower ſhorter than the culm. Female ſpikes two or three bracted. Male longer. It has an affinity to *C. limoſa*, but differs in the ſpikes being erect; the glumes green and more acute[q].

41. This very variable plant, in dry meadows, is an inch high, but in watery ſituations often riſes to the height of three feet. The ſtyle is bifid, hiſpid, white, ſhrivelling. Bractes or ſcales ovate, brown, with a longitudinal green line[r].

Dr. Goodenough ſays, that Linneus has evidently confounded two ſpecies under this name *acuta*: α *nigra*, which is β of *fl. ſuec.* and the ſame with the *gracilis* of Mr. Curtis—and β *ruffa*, which he takes to be his *ſtricta*, and the *cæſpitoſa* of Hudſon and Lightfoot. See n. 83. and 96.

42. Style ſcarcely any, but the germ attenuated acuminate, the point but juſt perceptibly bifid permanent. Bractes lanceolate, acuminate, browniſh on the ſides[s].

Stem three-cornered, leafy, finely ſerrate at the edges. Leaves two lines broad, finely ſerrate, bright green. Male ſpikes one, two or more, linear, ſlender, the uppermoſt an inch long or more, cloſely imbricate; bay, before flowering lanceolate, finely tapering each way: ſcales lanceolate, yellowiſh brown, with membranaceous edges and a paler keel. Female ſpikes two or three, upright or nearly ſo, one to one inch and a half long, oval, the loweſt diſtant, the uppermoſt ſeſſile: when ripe ſpreading, greeniſh, when fully ripe yellowiſh brown; the uppermoſt with male flowers at the end. Peduncles, the lowermoſt from one to two inches long, the greateſt part incloſed in the ſheath of the leaf, the ſecond ſhorter. Scales lanceolate, pointed, with three ribs, much narrower and ſomewhat ſhorter than the capſules; at firſt purpliſh brown with a green keel, afterwards dark brown with a pale brown keel, at length the whole pale brown. Style very long within the capſule, at its exit divided into three ſtigmas. Capſules large, much inflated, obſcurely three-cornered, ſcored with prominent ribs, terminating in an acute cloven point: they are ovate, gradually tapering; the clefts open, nearly as long as the neck; gradually exceeding the calyx as it advances to maturity, when they are more than twice as long[t].

This is the *veſicaria* of the Linnean herbarium: its yellow hue, narrow ſhort ſcales, and inflated ſmooth conic capſules, point it out beyond all danger of miſtake. Scheuchzer gives a long deſcription of it in p. 470. It is found in bogs and marſhes; and flowers in may[w].

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[o] Woodw. Mſſ.
[p] Goodenough.
[q] Thunberg.
[r] Linn. ſuec.
[s] Ibid.
[t] Woodw. Mſſ. and Stokes in With.

For Linneus's ſecond variety of *veſicaria*, ſee *C. ſylvatica* (n. 89.) and for his third ſee *C. ampullacea.*

43. Leaves on the outſide, and their ſheaths white-villoſe. Capſules villoſe, inflated, two-horned at the end. Male ſpikes uſually three; female very remote, erect, peduncled[x]. Stem ſmooth, three-cornered; corners imperfect, but above the upper female ſpike the corners are ſharp, and rough to the hand drawn downwards; ſheaths very long. Male ſpikes four or five, alternate, ſeſſile; the lowermoſt with a few female flowers at the baſe, and a ſubulate floral leaf longer than the ſpike: ſcales lanceolate, rediſh brown with a green keel, ſmooth at the baſe, fringed at the top with ſoft hairs. Female ſpikes uſually two, diſtant, alternate, on ſhort peduncles: ſcales lanceolate, with membranaceous fringed edges, and a green keel, lengthened out into a long ſubulate awn. Stigmas three. Capſules very hairy, terminated in an acute cloven point[y].

The thick down which covers the leaves, and particularly the ſheaths and capſules, keeps this ſpecies diſtinct from all others. It occurs however with *ſmooth* ſheaths in watery places.—It grows in moiſt meadows, watery places, and marſhes; flowering in may and june[z].

Monſ. Villars (p. 221. n. 43.) deſcribes a Carex under the name of *hordeiſtichos*, which may perhaps be a variety of this. He is however of a contrary opinion: becauſe the *hirta* is more villoſe, taller and more ſlender, the leaves narrower, more tender, of a common green inclined to glaucous, the capſules manifeſtly villoſe, almoſt regular, and ſeparate; the ſcales alſo of the male ſpikes are villoſe and blunt: whereas the *hordeiſtichos* is a ſtout low plant, with yellowiſh, rude but ſmooth leaves, the ſpikes are cloſe together, the firſt often concealed under ground, though ſhorter they are three times as thick as in the other, with the ſeeds very cloſe; the capſules are large, oval with a lengthened point, convex beneath, flat and curved up above; the ſcales of the male ſpikes are paler, whitiſh yellow, ſmooth, ending in a point. He has figured it in t. 6. and refers to Parkinſon, theat. 1268. with a doubt.

44. Culm very ſhort, indeed ſcarcely any. Leaves linear, attenuated, convolute, ſmooth. Male ſpikes linear, the lower ſeſſile, the upper twice as long, terminal. Females ſmooth, with ovate, ſharp, turgid, ſmooth glumes. Scarcely to be diſtinguiſhed by its characters from *C. veſicaria*, yet plainly different in having no ſtem, ſo that the ſpikes are but juſt raiſed above the ſurface; whereas in that it is very long[a].

45. Stem four inches high, obſcurely three-cornered, ſmooth, ſtriated, with two ſmooth graſs-like leaves, the uppermoſt longeſt, but generally ſhorter than the ſtem. Spike at firſt cloſe, one-eighth of an inch long, conſiſting of only one pale-brown male flower at the top; and ſometimes two but more commonly three greeniſh, long-acute female ones underneath. The male after flowering deciduous, and the capſules become patent and nearly horizontal. Stigmas two, but commonly three[b].

Dr. Goodenough obſerves (p. 128.) that all the androgynous ſpecies except this, have their ſtigma bifid: and that the reſt of the genus, except three or four, have it trifid.

According to Mr. Hudſon, the radical leaves are few, enſiform, pointed, naked. Spike terminating, upright, with two or three brown barren flowers, and five or ſix greeniſh fertile ones.

Native of Scotland in a boggy ſoil; alſo of the coaſt of Labradore.

46. Native of Jamaica, and New Zealand[c].

47. Culm ſcarcely four inches high, naked three-cornered, twice as high as the leaves. Spike an inch long. Male glumes ſubovate not awned; females broad ovate acute bay-coloured with a paler edge, and a broadiſh nerve ending in an awn.

48. From a brown fibrous root ariſes a tuft of many culms. Leaves convoluted ſtriated ſomewhat curved, about equal to the culm, which is leſs than a ſhort ſpan in height, ſtriated and ſomewhat curved. Spike an inch long and more, with flowers not preſſed cloſe, but generally ſolitary alternate ſeſſile, ſo that the ſpike ſeems to be interrupted. Scales bay with a whitiſh edge. Glumes ovate acute awnleſs, bay with a whitiſh edge. Capſules roundiſh[d].

Monſ. Villars has figured a ſpecies, and deſcribed it at length, under the name of *C. myoſuroides*, which he ſuſpects may poſſibly be the ſame with this. It has a ſingle linear ſpike, and what is remarkable, the flowers are hermaphrodite; the ſeed is half naked; the leaves and culms are briſtle-ſhaped.

49. This ſpecies forms little tufts compoſed of hard round leaves, ſomewhat yellowiſh, reſembling thoſe of ruſhes, differing little from the culm, and about the ſame length (from three to ſix inches). The ſpikelets are very cloſe, and have two large brown valves at their baſe, beſides the proper ſcales of the flowers, which are lanceolate, pointed, and tawny or tan-coloured[e]—It has its name *curvula*, from the leaves and culms being curved a little to one ſide. When the ſpike is old, the ſpikelets ſeparate and hang looſe, ſo that in this ſtage of its growth the ſpike has the appearance of being compound[f].

Native of the Alps of Switzerland, Dauphiné, and Piedmont.

50. This plant is fetid both dry and green. The root is black, hard, creeping and covered with ſcales. Radical leaves tufted, two or three lines broad, keeled, nerve rough. Culm naked, three-cornered, edges rough. Spike one only, blackiſh, formed of very many ſmall ones, irregularly conic, obtuſely five-cornered, very broad, ſhortly acuminate. Leaves two, long, tailed, under the ſpike; ſometimes only one, or even none. Glumes ſhining brown, awned or pointed. Stigmas two only. The ſpike as it ripens grows longer and ſtiff, the ſhining goes off from the glumes and they grow pale. Seeds half-conic, convex on one ſide and flat on the other, with a ſharp neck. Each ſpike ſeparates into ſix or ſeven ſmaller ones, cloſely compacted[g]. Native of Switzerland, Dauphiné, and Piedmont.

51, 52. Natives of Sweden and Germany.

53. This is the handſomeſt ſpecies of the genus. The ſpike is narrowed: with the female flowers below conſtituting two-thirds of the ſpike, the glumes awned, the awn bent back above the middle and thickened at the joint; the male flowers above, with no awns to the glumes. Small ſpikelets ſometimes hang down at the ſide, but perhaps they are barren. It is a native of New Zealand.

54. The flowers in this ſpecies are abſolutely ſimple, which is a ſingularity in this genus; they are pedicelled, and grow in a very ſimple umbel. Native of Bohemia and Siberia[h].

55. Reſembles *C. leporina.* Culm uſually taller, three-cornered, with the angles ſharper: ſpike longer; ſpikelets more numerous, (ten to twenty and even thirty) ſmaller, more lanceolate, ſometimes proliferous; the upper much crowded. Floral-leaf uſually longer than the ſpike, not always preſent; the lowermoſt ſpikelets have ſometimes in that caſe broad oval-lanceolate ſcales, ſometimes awned and nearly as long as the ſpikelets, of a deeper brown than thoſe of *C. leporina.* Style divided abſolutely to the baſe, whereas in the other it is cleft only about one-quarter of its length[i].

This and *arenaria* are very nearly allied, there is however character enough peculiar to each. The root in this creeps deeply under ground, and in a very irregular manner; the culm is very erect; the ſpike is obtuſe, and the terminal ſpikelet female; the capſule has its margin entire; and it does not grow in ſand. In *arenaria* the root creeps juſt below the ſurface, and while the main ſhoot runs in a ſtraight line, ſide-ſhoots ſtrike off at right angles; the culm is incurved; the ſpike is acute, and many of the terminal ſpikelets are almoſt entirely male; the capſule is marginated on each ſide towards the apex with a broadiſh membrane.

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[w] Goodenough. [x] Linn. ſpec. and ſuec.
[y] Woodw. Mſſ. [z] Goodenough. [a] Thunberg.
[b] Lightfoot. [c] Swartz.

[d] Allioni. [e] Villars. [f] Haller. [g] Ibid.
[h] Linn. ſuppl. [i] Woodw. Mſſ.

Some of the ſpikelets both in this and *arenaria* are purely male, and others female; and a few of them are truly androgynous. The name *diſticha* by no means correſponds with the growth of this ſpecies; its leading character being that the intermediate ſpikelets are almoſt entirely male. Dr. Goodenough has given it a name which has immediate reſpect to this uncommon circumſtance.—In marſhes, flowering in june[k].

56. Leaves narrow, ſometimes longer than the culm, which is from eighteen inches to two feet in height and three-cornered. Spikelets roundiſh, five or ſix, the lower rather diſtant, the upper crowded and ſpreading. Floral-leaf often conſiderably longer than the ſpike, and growing in a line with the ſtem, gives the plant the appearance of a ruſh: ſcales oval-lanceolate, dark brown, with a green keel and long green awn while young, but ſhrivelling and falling off as the ſpike ripens, the whole becoming dark brown, except the edges, which are yellowiſh. Styles longer than the capſule, divided one-third of the way into two reflected ſtigmas. Capſules whitiſh, oval, pointed at both ends, very indiſtinctly three-cornered, or rather convex on one ſide, and flat on the other[l].—In ſalt marſhes, flowering in may and june.

57. Stems three or four inches high, obſcurely three-cornered, ſmooth, and curved in the arc of a circle. Leaves ſmooth, channelled, (two or three) nearly the ſame length as the ſtalk. Spike of a ſhort conical, or triangular form, brown, compounded of ſeveral ſmall cluſtered oval ſpikelets, each of which has male flowers at the top, and female ones at the baſe. No involucre or ſubtending leaf. Stigmas two. It approaches Scheuch. agroſt. 495. and prodr. t. 4. and n. 1355. of Haller, but the ſtalk of that has no curvature, the leaves are plane, and the whole plant is fetid. The root of this creeps under the ſand[m].

It ranks next to *C. arenaria*, from which however it is ſufficiently diſtinct, by its conic and compact ſpike. In its feeding ſtate it loſes ſomething of its conic form and becomes obtuſe[n].

Native of Scotland, in deep looſe ſea-ſand; diſcovered by Dr. Hope; alſo of Denmark and Piedmont.

58. Leaves dark green, narrowiſh, ſharp on the keel and along the edge, longer than the culm; which is from a foot to eighteen inches in height, weak, ſomewhat reclining, three-cornered, the corners acute and roughiſh. Spike interrupted, androgynous. Lower ſpikelets very many, ovate, ſeſſile, with briſtle-ſhaped, hiſpid bractes: the upper with male flowers at the end. Scales membranaceous, white, ovate, mucronate, with a green dorſal nerve ending in a point, longer than the capſules; which are ovate, acute, flat on one ſide, and a little convex on the other, with a bifid mouth. Style ſhort, with two ſtigmas.

It is known by its weakiſh reclining ſtem, its long interrupted ſpike, with one or two branches at the baſe, its remote ſpikelets, and by the capſules, though ſtanding looſe and a little ſpreading, yet not diverging. This laſt circumſtance keeps it diſtinct from thin ſtarved ſpecimens of *C. vulpina*, as figured by Leers, t. 14. f. 3.—In moiſt woods; flowering from may to july[o].

59. Radical leaves ſhorter than the culm, a line or more in breadth. Culm naked in the upper part, three-cornered, ſix inches high. Neither that nor the leaves are rough. Spike compoſed of three heaped ones, the middle one longer than thoſe on the ſides; all androgynous. Glumes ovate, pointed, bay with a line of yellow. Capſules ſhort, ſwelling, with a longiſh ſimple point[p].

Monſ. Villars deſcribes his *lobata* as having wide, green leaves, keeled underneath; the ſtem triangular, ſomewhat longer than the leaves, and a little recurved, ending in a dark brown or blackiſh ſpike compoſed of ten or twelve ſpikelets, which on a near view are really diſtinct. Each ſpikelet is female at the baſe, and male in the two upper thirds: a brown dilated bracte with a green nerve ſerves for an involucre, and ſcarcely ſurpaſſes the length of the ſpike: the ſcales are brown, acuminate, twice or three times longer than broad. It has been confounded with *C. fœtida*.

60. Culms ſtraight, twice as high as the leaves, ſtriated. Leaves ſmooth, a little convoluted, ſtriated, acute and almoſt pungent. Spike an inch long, compoſed of ſeſſile ſpikelets; and under that another at a little diſtance, ſitting on a ſharp bay-coloured leaflet: ſometimes there is a third. Glumes ovate, acute, not awned, brown with the edge growing whitiſh by age[q].

61. Differs from *C. atrata* by its erect ſeſſile ſpikes, but has the ſame air. Leaves ſhorter than the culm, which is from a finger's length to a foot in height and ſtriated. Spikes three or four, ovate, thick, heaped; the loweſt ſubſeſſile with a longer leaflet. Glumes ovate, acute, black, with a whitiſh edge. The middle ſpike is ſometimes plainly male at top[r].

62. Scarcely more than a finger's breadth in height. Leaves ſcarcely half the length of the culm, grooved in the upper part, with a prominent nerve, in the lower part ſmooth. Spikes ovate, the firſt ſubſeſſile placed on a ſhort leaflet, the other ſeſſile without any leaflet. Glumes ovate obtuſe black, with a whitiſh nerve. Capſules ſwelling a little, obtuſe ovate greeniſh[s].

This and the foregoing are probably only varieties of *C. atrata*.

63. Leaves pale green, narrow, rough at the edges and keel, eſpecially towards the tip. Culm ſeldom exceeding eight or ten inches, oftener lower, (three to twelve) triangular, the angles bluntiſh and ſcarcely rough to the touch; the lower part of it leafy, the uppermoſt leaf ſometimes exceeding the ſtem in height. Spikelets ſeldom more than three or four, ovate, ſeſſile, equidiſtant, the ſpaces nearly equal to the length of the ſpikelets. A floral leaf ſometimes, but by no means conſtantly, ſubtends the loweſt ſpikelet; it is ovate at the baſe, ending in a briſtle-ſhaped leaflet ſhorter than the culm; to the reſt it is oblong, membranaceous, brown and leafleſs. Lower flowers male looſely imbricate, upper female. Scales ovate or ovate-lanceolate, not very acute, brown with white membranaceous edges and a broad green keel, much ſhorter than the capſule when ripe. Capſules oblong, acuminate, flat on one ſide, ſomewhat convex on the other, at firſt ſomewhat imbricate, but when ripening much divaricated; they are not bifid at the point, in which they differ from the *muricata* of Linneus. The ſtyle is bifid from its quitting the capſule, and the ſtigmas are reflex.—In marſhes; flowering in may and june[t].

64. Leaves of a pale ſubglaucous colour, rough along the edges and keel, upright, narrow. Culm a foot high or more, a little longer than the leaves, upright, three-ſided, the angles acute and roughiſh. Spikelets erect ſeſſile alternate; the loweſt has ſometimes, but ſeldom, a leafy-ſetaceous bracte, to the reſt it is ovate white tender and membranaceous, Scales white, ſilky-membranaceous, concave, with a green keel. Lower flowers male. Capſule ovate, acute, plane on one ſide, a little convex on the

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[k] Goodenough.
[l] Woodw. Mſſ.
[m] Lightfoot.
[n] Goodenough.
[o] Ibid.
[p] Haller.
[q] Allioni
[r] Ibid.
[s] Ibid.
[t] Goodenough and Woodw. Mſſ.

other, finely dotted all over when viewed through a glaſs, the edges entire, the mouth undivided[u].

According to Mr. Woodward, the culms are from one to two feet in height; ſpikelets from five to ten, the lower ones ſomething remote, the upper crowded, each cloſely imbricate with florets, as in the *Brizæ*, whence Hudſon's trivial name, oval-lanceolate, pale green or yellowiſh. Capſule broad at the baſe, tapering and bifid for the exit of the ſtyle, but this is not obſervable without a glaſs. Style ſingle deeply divided into two reflex ſtigmas[x].

"That this *Carex*," ſays Dr. Goodenough, "ſhould have occaſioned ſome difficulty, is not to be wondered at, when Linneus himſelf ſeems to have forgotten his own original determination upon the matter. In Sir Joſeph Banks's herbarium there is a *Carex* named *brizoides*, which anſwers entirely to the Linnean deſcription in *ſpec. plant.* 1381., to the ſynonym of Haller (n. 1358), and to Micheli's figure, *t.* 33. *f.* 17.

"In the Linnean herbarium the plant I am now ſpeaking of is named *brizoides* by Linneus himſelf, and it accords with the ſynonyms of Ray and Moriſon quoted in *ſpec. plant.* under *brizoides*. Still however as the figure of Micheli is a more pointed authority than verbal deſcriptions, I cannot but think that the plant in Sir Joſeph Banks's herbarium is what was originally deſcribed and intended for *brizoides*: accordingly I ſhall beg leave to accept it as ſuch (ſee n. 12.) and name this *curta*, from Loeſel. At all events, it cannot anſwer to the deſcription of Linneus, for the ſpike is never diſtich, and the ſpikelets are never oblong or contiguous."

For the difference between this and *caneſcens*, ſee n. 17. Linneus applies Loeſel's figure to the latter, but in the opinion of Doctors Goodenough and Smith, without ſufficient authority.

The capſules, together with the ſcales of the *curta* are very early deciduous; nor is there any *Carex*, in which this impoveriſhment takes place ſo early, except in *ſtricta*. The whiteneſs and tenderneſs of the ſcales are ſtriking circumſtances. Theſe qualities are not to be found in any other. The root, though it cannot be called directly creeping, has a tendency to increaſe itſelf ſomething in that way.

In marſhes and watery places, but not very common; flowering in june[y].

65. Leaves dark green, roughiſh along the edges and keel, narrow, nearly equalling the ſtem; which is upright, a foot high, triangular with the angles ſharp and roughiſh. At the baſe of the lower ſpikelet is a bracte ovate at the baſe ending in a briſtle the length of the ſpikelet; the bracte to the reſt is oblong and leafleſs. Lower flowers, male and fewer in number, the reſt female. Scales ſharp. Capſules oblong, acuminate, flat on one ſide, ſomewhat convex on the other, upright, with an entire mouth[y].

Mr. Woodward adds, that the root is matted, ſeveral ſtems frequently ariſing together, cloathed below with alternate ſheathing leaves, the upper part naked. Spikelets about five, ſeſſile; the bracte of the loweſt ſoon falls: ſcales of a ſhining yellowiſh brown with a green keel and white membranaceous edges, longer than the capſule; the upper ones in each ſpikelet larger and more acute than the lower. Style extending beyond the capſule with two ſhort ſtigmas[z].

It is diſtinguiſhable in all ſtages by the number of ſpikelets, the acuteneſs of the ſcales, and the ſituation of the male and female flowers. Leers however deſcribes it as having the terminating flowers male, and the inferior female.

Linneus ſeems to have joined the plant he originally named *leporina* with this we are now treating of; and the miſtake took place ſo early as the publication of the *flora lapponica*, as appears from the quotation of Moriſon's figures.——In marſhes and moiſt meadows; flowering in june[b].

66. Leaves green, upright, ſtiffiſh, ſheathing near half the culm, at the baſe convex without, channelled within, rough along the edges and keel, longer than the culm when in flower; the upper leaf longer than the reſt. Culm finally from a foot to eighteen inches in height, ſharp and rough at the angles. Spike ovate-oblong, with a very ſhort bracte, widening at the baſe, membranaceous on each ſide and brown, white on the edge, and ending in a briſtle ſhorter than the ſpikelet. Spikelets ovate acute ſeſſile. Male flowers many, females below, about ſix. Scales brown with a white edge and a green nerve, ovate and acute. Capſules ovate, acute, flattiſh on one ſide, convex on the other, gibbous, with the edges ſerrate and hiſpid, when ripe one-ſixth longer than their reſpective ſcales. Stigmas two.

It comes very near *C. paniculata*, but is little more than half the ſize in all its parts. Its ſpike is never in the leaſt panicled; its ſeeds are remarkably gibbous on one ſide. Its culm is not triangular, but owing to a prominent line running down the planes of the ſides, roundiſh; not but that it always retains ſomewhat of a triangular form. Its leaves are erect and uſually incurved. Nor does it form thoſe large tufts for which *paniculata* is ſo remarkable.

Found by Mr. Crow, of Norwich, in marſhes near that city[c].

67, 68. Natives of Sweden[d].

69. Leaves ſlender, three or four times as long as the culm, channelled, the edges and keel towards the tip rough. Culm ſhort, upright, roundiſh, flattiſh on one ſide, ſmooth. Spikes one male, three female, all remote. Male ſpike terminating oblong acute, half an inch long; ſcales brown-ferruginous, ovate-oblong, obtuſe, with a wide membranaceous white edge and a green keel. Female ſpikes ſomewhat oblong, few-flowered, peduncled. To each ſpike a membranaceous bracte, commonly leafleſs, uſually covering not only the peduncle but the ſpike itſelf: ſometimes it ends in a very ſhort leaflet: ſcales as in the male, nearly equalling the capſule; which is ovate, three-cornered, ſharpiſh, with an undivided mouth. Stigmas three, long.

If the very ſingular mode of growth in this and *digitata* (n. 23.) did not ſtrike the eye, the membranaceous ſheath would be a ſufficient diſtinction. In this ſpecies the ſpikes are peduncled, but ſtill, in their flowering ſtate, rarely exceed the length of the ſheath. This circumſtance, and the flowering culms themſelves being hidden among the leaves, induced Dr. Goodenough to call it *clandeſtina*. The leaves, which overſhadow the culms at their firſt appearance, are thoſe of the preceding year, which uſually continue green till their ſucceſſors are enabled to take their place, and continue the ſyſtem of protection.

Obſerved by Mr. Sole, of Bath, on St. Vincent's rocks near Briſtol: it flowers in the very beginning of april[e].

70. Leaves in tufts, reſembling thoſe of pinks, repand, marked with a line, rough about the edge, a line in breadth and more. Culm three-cornered, almoſt naked, half a foot high. Male ſpike ovate, bay; glumes ovate-lanceolate, bay with a yellowiſh line, glume of the calyx awned. Female ſpikes one or two, ſhort, obtuſe, ſmall, with ſimilar glumes, and a leaflet ſome lines in length at the baſe[f].

71. Leaves ruſh-like. Culm a foot high, naked at the top. Spikes generally three: male longer, round; ſcales bay, ovate-lanceolate, ſharp, pale about the edge, nerve yellow, ſhining. Females two, five-flowered, of the ſame colours: the loweſt has a leaf, with a long ſlender point, much longer than the ſpike[g].

72. Culm round, ſlender, with three white leafy ſheaths. The two upper ſpikes come from one ſheath, the lower is ſingle. Scales of the male ſpike whitiſh, ſubdiaphanous. Anthers terminate in a pellucid point, Scales of the female ſpikes keeled,

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[u] Goodenough. [x] Mſſ. [y] Goodenough. [z] Ibid. [a] Mſſ. [b] Goodenough.

[c] Goodenough. [d] Linn. ſuppl. [e] Goodenough. [f] Haller. [g] Ibid.

acuminate. Styles long, trifid. Capſules few, turgid, roundiſh, ſmooth, ſtriated, growing black in autumn. Seed three-cornered, ſhining, acuminate.

Linneus either has not the plant, or confounds it with the *digitata*[h]. Leaves erect, ſometimes a line in breadth; but uſually narrower. Culms a long ſpan in height. Peduncles long, erect. No calycine glume but the bracte, in the female ſpikes, the upper of which ſtands as high as the male[i].

73. Culm ſheathed, ſix inches high. Leaves long, leſs than a line wide, nearly as long as the ſtem, rough. Male ſpike long, almoſt black, round, ſlender, glumes lanceolate, bay. Female ſpikes (two, three) the lower on a ſhort peduncle, the upper ſeſſile; each has a leaf at the baſe, which in the former is two inches long, in the latter leſs than an inch. When there are three, the upper is naked and with the barren ſpike. Glumes of the females black, obtuſe. Capſules pale. The ripe ſpikes therefore are variegated[k].

74. Culm leafy, a foot high and more, three-cornered, ſtriated, ſmooth. Leaves linear, ſtriated, dark green, ſhorter than the culm. Male ſpike one, oblong; glumes bay, obtuſe. Female ſpikes three, axillary; the leaf of the loweſt very long, nearly equal to the male: upper ſpike frequently androgynous[l].

75. A very diſtinct ſpecies. Radical leaves equal to the ſtem, a line and half or two lines broad, ſmooth with rough edges. Culm a foot high, three-cornered. Male ſpike one, long, cylindric, ſlender, pale bay and white. Female ſpikes two, (ſometimes four) crowded, each with a long leaf. Capſules ſlender, with very long points[m].

76. Leaves in tufts, firm, keeled, with a nerve ſtanding out, two lines broad, ſmooth, except the end of the nerve. Culms naked, from three to nine inches in height. Spikes very ſmall: male not more than four lines in length, bay; glumes ovate, obtuſe, with a white edge and yellow nerve. Upper female ſpike ſeſſile, an inch below the male, bay, few-flowered: glume ſheathing, ſtem-claſping, long, awned; lower with about ſix flowers, on a peduncle three inches long and more. Sometimes, but rarely, there are three female ſpikes[n].

Monſ. Villars refers, with a mark of doubt, to *C. filiformis* of Linneus, n. 27. and ſays, that n. 1386. of Haller approaches very near to this. He calls it *gynobaſis*, becauſe the female ſpike ſprings from the baſe of the ſtem.

77. Leaves ſhort, not above a line in breadth, rough. Culms four inches high, naked. Male ſpike obtuſe, broadiſh, half an inch long, dark bay. Female ſpikes (two, three) diſtant, ſhorter than the male, of the ſame colour, few-flowered. There is an androgynous ſpike ſometimes under the male[o].

78. Culm half a foot high, pale green. The loweſt leaf reaches the baſe of the male ſpike, which is an inch and four lines in length, with long narrow acuminate ſcales; under this the firſt female ſpike, pedicelled, and ſupported on a ſhort bracte; the ſecond is longer, and in place of a bracte has a leaflet of the ſame length; the third is longer than the ſecond, with a leaf longer than the ſpike; ſometimes there is a fourth. The ſcales of the male ſpike are ferruginous with a green line along the back; thoſe of the females are green with a ferruginous edge[p].

Radical leaves gloſſy, more than a line broad, rough. Culm not more than a foot high, leafy. Male ſpike ſlender, an inch long, bay; glumes obtuſe, bay, with a ſlender pale nerve. Female ſpike (two, three) leſs, more ſlender, half an inch long, on peduncles of the ſame length[q].

Scopoli thinks that his plant is the ſame with Haller's, though it be not alpine in Carniola as it is in the Griſons. Haller is of opinion that it is not different from his n. 1389. which is the *ſaxatilis* of Linneus.

Monſ. Villars has a ſpecies which he names *ſempervirens*, becauſe the leaves continue through the winter, till the new ones come up; the old leaves are completely bleached, and hence are called by the ſhepherds *Barbe de pere*. Neither the one nor the other are ever touched by the ſheep: and the plant is ſubject to the ſmut. He refers to Scopoli and Haller with a mark of doubt. It forms large tufts on high mountains expoſed to the north. The leaves are long, hard but flexible. From the centre of the tufts ariſe two or three hard ſlender culms from eight to ten inches in length, ending in three blackiſh ſpikes, the two lower of which are looſe, female, peduncled, and the upper male, more lengthened out: ſcales blackiſh brown with a green line on the back, the lower ending in an awn, the upper blunt. Capſule triangular, blackiſh, ſmooth, except ſome lateral aſperities near the upper part; ſeed triangular, gray, elongated. The male ſpike is blackiſh variegated with gray.

79. This has ſome affinity with *C. ruffa* (C. acuta β. *Lin.* n. 1404. *Hall.*) but the leaves are ſmooth, a line broad and more, the edge rough. Culm naked, half a foot high and more. Male ſpike one, often fertile at the bottom, rather leſs than an inch in length. Glumes ſharply lanceolate, ſhining bay, with a green or yellowiſh nerve. Female ſpikes peduncled; the lower ones are ſo long as to hang down and have a leaf at the baſe[r].

Monſ. Villars ſays, that this differs little from his *ſempervirens*. The ſpikes are leſs brown, and the leaves do not form ſuch large tufts or haſſocks. The ſcales of the flowers are ruſſet-coloured, pointed and diſtinct.

80. Root-leaves narrowiſh, ſhorter than the culm, (except thoſe which embrace the baſe of it, which often equal and even ſurpaſs it) roughiſh along the edges and keel towards the top. Culm upright, a foot or more in height, three-ſided, with bluntiſh angles, ſmooth. Male ſpike one, (ſeldom two,) linear, half an inch long or more, (when there are two, the ſecond is a fifth ſhorter), terminating; ſcales brown with a green dorſal nerve, oblong, bluntiſh. Female ſpikes two, often three, commonly male at the baſe, ſomewhat crowded, but the lower ſometimes remotiſh, ovate (the upper ones ſomewhat conic), ſharpiſh; all commonly on ſhort peduncles; ſcales ovate, brown, with a thickiſh dorſal nerve ending in a point, finally only half the length of the capſule. At the baſe of the female ſpikes a leafy bracte, embracing with its ſheath the whole peduncle, which is very ſhort: the lower very long, and far ſurpaſſing the culm; the upper ones ſhorter; ſometimes the uppermoſt ſhorter than the culm. All at laſt reflex. Capſules ſmooth, ſpreading, ſubtrigonal, nerved, divided at the tip into two toothlets, with a very ſhort beak, if it may be ſo named. Three ſtigmas.

This plant has paſſed for a variety of *C. flava* (n. 21.), but the fructification proves it to be entirely diſtinct. In *C. extenſa* the leaves are narrower, and the whole plant more tall and ſlender: the ſcales of the female ſpikes are ovate and bluntiſh, with the nerve ending in a very ſhort projecting point, and are ſhorter in proportion to the capſule: the capſules are rather acuminate, but by no means beaked, and the ſummit is ſlightly bifid: the bractes are uſually reflex: the female ſpikes have their peduncles only the length of the ſheath, and not longer: the capſules alſo are ſpreading, but very rarely divaricate. The circumſtance of the ſpikes being cluſtered together is very conſtant in this, but by no means ſo in *C. flava*. This plant does not owe its height to being drawn up by the ſurrounding herbage, for it is always found in open places; as in the marſhy ground near Harwich, and on the weſt ſide of Braunton Burrows, in the north of Devonſhire, but not common. It flowers in june[s].

81. Leaves upright, narrow, rough along the edges and keel, ſhorter than the culm; which is

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[h] Scopoli.
[i] Haller.
[k] Ibid.
[l] Allioni.
[m] Haller.
[n] Ibid.
[o] Ibid.
[p] Scopoli.
[q] Haller.

[s] Haller.
[r] Goodenough.

upright, ſlender, about a foot in height, three-ſided, with the angles acute and rough. Male ſpike one, terminating, ſublinear, half an inch long or more, ſharpiſh; ſcales yellowiſh with a white border, oblong, blunt or bluntiſh. Female ſpikes moſt commonly two, uſually remote, ovate-oblong, acute, the lower on a longiſh peduncle, the upper ſubſeſſile; ſcales oblong, ſharp or ſharpiſh, almoſt equalling the capſule. At the baſe of each female ſpike a bracte or ſheathing leaf; the lower upright, almoſt equalling the culm, the ſheath embracing more than half the peduncle; the upper ſubdivaricate, uſually ſhorter than the culm, covering the whole or almoſt the whole of the peduncle, which is very ſhort. Capſules ſubtrigonal, ſtriated, oblong, acuminate-beaked, nearly equalling the ſcales, often exceeding them, divided at the tip, ſpreading but not divaricated or nodding. Three ſtigmas. It varies, but rarely, with three female ſpikes.

This plant is ſcarcely removed from *C. flava*. It differs however in having the angles of the culm ſharp and rough; the female ſpikes remote oblong and acute, not round, the lowermoſt ſupported by a long peduncle nearly half of which appears above the ſheath; the lowermoſt bracte erect, not divaricate; the capſules not divaricate but ſpreading, and ſlightly divided at top, and ſcarcely ever more than two female ſpikes.

Native of America, Newfoundland, *&c.* Found by the Rev. Mr. Williams, of Eaton near Shrewſbury at that place; flowering in june and july[t].

82. Root thick, creeping very much. Leaves very dark green and glaucous, rough on the edges and keel towards the tip, a little ſhorter than the culm; which is upright, often incurved, about four inches and a half high, three-ſided, the angles rough and very acute, thicker than any of its height, and ſtiff. Male ſpike one (ſeldom two) terminating, oblong, ſharpiſh, about three-quarters of an inch long; ſcales black, ovate, very blunt, with a membranaceous border and an abbreviated green dorſal nerve. Female ſpikes two or three, approximating to the male, oblong, ſharpiſh, ſeſſile (the lower ſomewhat remote and often peduncled), the length of the male, with the flowers cloſely imbricate, and one or two of them at the end male, eſpecially in the upper ſpikes; ſcales black, ovate, very blunt, *&c.* as in the male, finally ſhorter by half than the capſule. The female ſpikes have a ſeſſile leafy bracte, eared on each ſide at the baſe; that which ſubtends the lower ſpike is longer than the ſpike and recurved; thoſe which ſubtend the upper ones are upright, ſhorter than their reſpective ſpikes, and eared at the baſe. Capſule ovate, flattiſh on one ſide, ſmooth, bluntiſh; but ſometimes produced, ſharpiſh and ſomewhat recurved. Stigmas two, thickiſh, white, hairy. The lower flowers are often ſomewhat remote: the capſules with an undivided mouth: and the ears of the bractes large and roundiſh.

This plant has often been confounded with the *ſaxatilis* of Linneus, and the *montana* of Hudſon. It differs from the latter in having no ſheaths, two ſtigmas, and ſmooth capſules: from the former in being a thicker and much ſmaller plant: from both in the great rigidity of its leaves and incurved ſtalk. The firſt of theſe circumſtances, and their being ſpread abroad or bent back, diſtinguiſh this from *cæſpitoſa*, which has upright ſoft leaves. By the ſame marks it may be kept ſeparate from *C. ſtricta*, which alſo is altogether upright. But the fructification of theſe three ſpecies, eſpecially in the number of ſtigmas, is very ſimilar.

Obſerved on the top of Snowdon, and by Mr. Dickſon, on the ſummits of the higheſt mountains in Scotland[u].

83. The root creeps very much. Leaves glaucous, upright very ſtraight, ſhorter than the culm, rough along the edges and keel. Culm from a foot to two feet in height, and upwards, upright, three-ſided, with ſharp rough angles. Male ſpikes commonly two, three-ſided, from one to two inches in length; ſcales oblong, ſharpiſh, black, with a green dorſal nerve. Female ſpikes three, of the ſame length, the loweſt on a ſhort peduncle, the others ſeſſile, terminated by male flowers and acute; ſcales oblong acute, imbricate in eight rows, a little ſhorter than the capſules: theſe have a leafy ſeſſile upright bracte, the lower commonly a little ſhorter than the culm (ſometimes longer, and ſometimes much ſhorter), when young, having generally an ear which is quickly elongated and ſoon after vaniſhes; the upper ones ſhorter, and alſo eared. Capſule compreſſed, ovate, acute, ſmooth, undivided at the tip. Stigmas two, white, thickiſh, villoſe. The root-leaves, which embrace the baſe of the culm have a ſheath membranaceous on one ſide; as the culm advances the membrane burſts and is torn into a ſort of netted threads.

This plant has many particulars in common with *cæſpitoſa* (n. 38.); its upright culm and leaves, no ſheaths, ſeſſile ſpike, and to appearance digynous flowers: but beſides the ſplitting of the ſheath into threads like open net-work, the root-leaves and bractes in *C. ſtricta* are ſhorter than the culm at the time of flowering; the bractes, particularly the lowermoſt, have either no ears or oblong ones, which are preſently ſo elongated as to loſe their form; the female ſpikes are acute, owing to their having male flowers at the top; their ſcales are all acute; their capſules are ſet in eight rows; and two male ſpikes for the moſt part terminate the culm.

On the contrary, *C. cæſpitoſa* has the root-leaves, which embrace the baſe of the culm, with the membranous part always entire: the root-leaves equal the culm in length at the time of flowering, the bractes are longer: the bractes always have little round ears on each ſide of the baſe, which do not change their ſhape; the female ſpikes are obtuſe, and have no male flowers at their ſummit; the ſcales, though ſometimes they may be ſomewhat acute, are in general bluntiſh, not unfrequently very much ſo: the capſules are generally ſet in ſix, very rarely in eight rows. It is ſeldom found with more than one male ſpike. Beſides it is every way a much ſmaller, weaker and ſofter plant.

It grows in marſhes. Mr. Pitchford obſerved it near Norwich. It flowers in april[x].

84. Leaves dark green, ſlender, rough along the edges and keel, ſhorter than the culm; which is upright, from ſix to twelve inches high, three-ſided, with the angles bluntiſh, and ſmooth. Male ſpike half an inch long or more, oblong, three-ſided, upright; ſcales membranaceous, ſomewhat ferruginous, oblong, acute, with a green dorſal nerve. Female ſpikes male at the baſe, ovate, on ſhort peduncles, upright, with the flowers rather cloſely imbricate; ſcales ovate, acute, nearly equalling the capſules. At the baſe of the peduncles, eſpecially the lower one, is a bracte or ſheathing leaf, ſhort, with a ſhort ſheath equalling the peduncle. This leaflet ſeldom or ever exceeds the culm. Capſule ovate, ſubtriquetrous, ſharpiſh, with the mouth undivided, tomentoſe, becoming flat. Stigmas three.

This plant is very eaſy to be diſtinguiſhed from the *pilulifera* and *ſaxatilis* of Hudſon, by its having the ſpikes ſhortly peduncled, and the peduncles encompaſſed by a ſheath equalling them in length. *Pilulifera* and *ſaxatilis* of Hudſon have no ſheaths: if theſe be attended to, it will ſoon be diſcovered that no one of the Britiſh ſpecies bears any reſemblance to this. *C. præcox* has a creeping root and an erect ſtalk, with angles ſomewhat ſharpiſh.

It is a very common plant, growing on moſt of our heaths and in meadows; flowering in april and may[y].

85. Stem upright, leafy, three-cornered, from a foot to eighteen inches high. Uppermoſt floral-leaf riſing to the height of a terminating ſpike. Male ſpike one-half to three-quarters of an inch in length, cloſely imbricated: ſcales numerous oval yellowiſh brown with a green keel and ſhining membranaceous

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[t] Goodenough.

[u] Ibid.

[x] Ibid.

[y] Ibid.

edges, which are wanting in *C. ſylvatica.* Female ſpikes moſtly three axillary, on ſlender peduncles, the lowermoſt one inch long, that above it ſhorter, the uppermoſt ſeſſile: ſcales oval pointed pale brown with membranaceous edges, and much ſhorter than the capſules: which are only two or three on a ſpike, diſtant, green, nearly round, much bellying, larger than any of our Britiſh ſpecies, about the ſize of Hemp-ſeed, ſcored with numerous ribs, much reſembling thoſe of *C. ſylvatica,* tapering to a cloven point, the ſegments not pointed, but ending in torn membranaceous margins. Stigmas three.

The paucity of the capſules, the ſhortneſs of the peduncle, and other marks clearly diſtinguiſh this from *ſylvatica,* of which ſome botaniſts were inclined to conſider it as a variety, but without any other reaſon than its growing in woods, and the ſhape of the capſules being ſimilar [z].

The firſt of theſe circumſtances induced the late Dr. Solander to name this ſpecies *depauperata,* and he was followed by Dr. Withering.

Dr. Goodenough diſcovered it in Charlton-wood, and Mr. Dickſon in dry woods near Godalmin in Surry. It has alſo been found by Mr. Sole, of Bath.

A plant of this ſize could ſcarcely have eſcaped ſo long unnoticed, had it not, from the form of the capſules, been taken for a ſtarved variety of *C. veſicaria* [a]. It flowers in may and june.

86. Leaves very long, two or three lines broad, the edges and nerve rough. Culm three-cornered, three feet high. Male ſpikes two; ſometimes a third half male: glumes bay, obtuſe, with a green nerve. Female ſpikes three to five, ſitting on leaves; the loweſt longeſt; when young black, but when ripe yellow and black [b].—Mr. Hudſon puts the ſynonyms of Haller and Ray to his *cæſpitoſa,* which is our *ſtricta,* n. 83.

87. Leaves half an inch broad, thick, ſtiff, very dark green, ſomewhat glaucous underneath; very rough along the edges and keel, ſhorter than the culm; which is from two or three to ſix feet in height, upright, firm, three-ſided, the angles ſharp at bottom but bluntiſh at top, altogether ſmooth, except at top where an internode or two is roughiſh. Male ſpike three-ſided, with the angles acute, ſubclavate, from two to four inches long, terminating; ſcales oblong, acute, brown, membranaceous, with a green dorſal line. Female ſpikes about ſix, cylindric, peduncled, from four to ſix inches long, pendulous, much ſhorter than the bractes, remote, with the lower flowers alſo remote, but the upper ones more cloſely imbricate; ſcales membranaceous, black, oblong, acute, with a broad green dorſal nerve. At the baſe of each peduncle is a bracte, or long ſheathing leaf, with the ſheath uſually the length of the peduncle. Capſule ovate, three-ſided, ſmooth, acute, with an undivided mouth, and longer than its ſcale. Stigmas three.

The great ſize of this Carex, and its very long pendulous cylindric ſpikes, diſcriminate it at a great diſtance. It has remarkably ſmall capſules for its ſize.

In woods and hedges not uncommon; flowering in may and june [c].

88. This differs from *C. ſylvatica,* which it reſembles very much in having no apparent peduncles or very ſhort ones, and in the whole plant being greener. Leaves broad. Spikes ſix or ſeven, very ſlender and ſtrigoſe, long and green [d]. Male ſpike an inch or more in length, cloſely imbricated, with perfect ſeeds at the end: ſcales oblong-lanceolate, ſharp-pointed, as long again as the capſules, keel beſet with minute points towards the end, with a broad ſtreak along the back, ſcattered with long orange dots; edges broad and membranaceous. Fertile ſpikes axillary (four, five), very diſtant; the lower on very ſhort peduncles, the upper ſeſſile, two inches long and upwards: flowers thin, irregularly ſcattered: ſcales membranaceous, pale brown with a green keel. Capſules three-cornered, browniſh green, acute but not acuminate as they are in *C. ſylvatica*—hairleſs, not ſhining, half as long again as the calyx, rigid; ribs three to five on each of the ſides, whitiſh. Seed of the ſame ſhape and nearly filling the cavity. The ſtructure of the capſule points out its near affinity to *C. panicea* [e].—In woods and hedges, as in Witham and Noke woods, Oxfordſhire; flowering from april to june.

Allioni has a Carex (n. 2331.) which he names *ſtrigoſa,* but it ſeems to be a ſpecies different from this. He gives no deſcription of it, but refers to Haller, n. 1388.

89. Root creeping, and throwing out from the joints. Leaves in tufts, yellowiſh green, a quarter of an inch wide, rough at the edges. Stems numerous, twelve to eighteen inches high, three-cornered, rough at the edges, leafy: in open ground only eight to ten inches high, bending with a curve, angles ſharp. Male ſpike terminating, about an inch long, ſlender; cloſely imbricate; three-cornered; yellowiſh-brown, ſhorter tkan the lower female ſpikes: ſcales lanceolate-oblong, bluntiſh, ſometimes with a ſhort ſharp point; ſometimes lanceolate, whitiſh and membranaceous on the ſide, moſtly with a tinge of cinnamon colour, and a pale green keel. Female ſpikes three to ſix, axillary, diſtant, when in ſeed pendulous, one to one inch and a half long, looſely imbricate: flowers alternate: ſcales oval-lanceolate, yellowiſh with a green keel. Capſules ſmooth, three-cornered with obſcure angles, and a beak nearly as long as the capſule, cloven. Style divided almoſt to the baſe into two, and ſometimes into three. Its pendant ſpikes, the elliptic bend of its ſtem, and the pale yellow green of its leaves, render it one of the moſt elegant ornaments of our woods [f]. It flowers in may and june.

Retzius is not willing to allow our *ſylvatica* to be the *patula* of Scopoli: his deſcription however correſponds, though the figure does not; but that is execrable, as moſt of his figures are.

None of the figures indeed of this plant, except that of Leers, gives its due character. Thoſe of Parkinſon, Moriſon, and Flora Danica, repreſent it in its firſt ſtage of flowering when the ſpikes are erect. It does not long continue in this attitude; for the ſpikes, by reaſon of their thin and long peduncles, as ſoon as the impregnation of their flowers has taken place, are too heavy for their weak ſupporters. It uſually produces five or ſix female ſpikes, and one male, very rarely two.

Every one muſt be ſurpriſed at Linneus's joining this as a variety to *veſicaria* and *ampullacea* [g].

90. Culms erect, three-cornered, with obſolete angles, which mark alone conſtantly diſtinguiſhes it from *cæſpitoſa.* Leaves and ſtem ſea-green. Male ſpike ſometimes one, but often two or three: ſcales ſimilar to thoſe of *C. cæſpitoſa,* but more looſely imbricate. Female ſpikes, the lower on long filiform peduncles, the upper ſhorter; but all pendulous when out of flower: ſcales oval, brown with a green keel, which is ſometimes lengthened beyond the capſule into a ſhort awn. Stigmas moſtly three. Capſules looſely imbricate, and not ſo blunt as thoſe of *C. cæſpitoſa,* green, ſlightly downy [h].

Meadows, woods, and heaths; flowering in may and june.

This ſpecies varies much in ſize and habit: but its cylindric pendulous black ſpikes, glaucous leaves, ſhort ſheaths, roundiſh capſules, ſmooth culm, and creeping root, are obvious diſtinctions.

Though common, it is little noticed by old authors. There is no old figure beſides Moriſon's. Leers's figure is tolerable; he ſeems to have joined *C. limoſa* (his var. α.) with *recurva* (his var. β.) [i].

Dr. Goodenough affirms, that it has invariably three ſtigmas, which does not agree with Mr. Woodward's obſervation given above: he adds, that they are thicker, longer, and more villoſe than in the generality of this family.

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[z] Woodw. Mſſ.

[a] Goodenough.

[b] Haller.

[c] Goodenough.

[d] Ray.

[e] Woodw. Mſſ. and Stokes in With.

[f] Ibid.

[g] Goodenough.

[h] Woodw. Mſſ.

[i] Goodenough.

91. Culm a foot high. Leaves ſcarcely two lines broad. It has uſually one male ſpike, and ſometimes at the top of the upper female ſpike there are ſome male flowers. Under the loweſt is a leaf longer than the ſpike itſelf[k].

92. Native of Germany.

93. This is a ſpan high. Leaves longer than the culm, rugged about the edge. Culms three-ſided, ſmooth. Female ſpikes like thoſe of *C. Pſeudo-Cyperus*, but upright, remote, ſolitary, more ſlender, and under each a ſlender involucre ſcarcely attaining the length of the ſpike.

Native of China, whence it was ſent by Bladh[l].

94. Mr. Curtis has diſtinguiſhed ſpecifically three plants, which are looked upon by many only as varieties; he entitles them *riparia*, *acuta* and *gracilis*, but ſince his *acuta* is different from the *acuta* of Linneus, I have followed Dr. Goodenough in calling it *paludoſa*.

This accurate obſerver informs us that he was led to the idea of their being really diſtinct ſpecies, from remarking the pointed triangular black heads or male ſpikes of the firſt; the bluntneſs not only of the ſpikes themſelves, but of the ſcales compoſing the male ſpikes of the ſecond; and the narrow leaves, and ſlender appearance of the ſpikes in the third, joined to the want of that glaucous hue in the leaves, ſo conſpicuous in thoſe of the two former. He tranſplanted them into his garden, and found that they ſtill kept up the ſame appearances. The *riparia* is the largeſt and moſt common; when luxuriant, its ſpikes, eſpecially the lowermoſt of the female ones, frequently become branched: the capſules are large, ſomewhat inflated, pointed, and ſlightly bifid at the extremity.

The *riparia*, or great ſharp vernal Carex, as he calls it, is thus deſcribed by Mr. Lightfoot. Stalk triangular, very ſharply edged, varying from a foot to a yard in height. Leaves glaucous, half an inch wide, the edges and keel very ſharp and cutting if rubbed downwards: male ſpikes from three to five, the uppermoſt near two inches long, the others ſhorter, and placed a little below, about the baſe of it; ſcales narrow and lanceolate, dark brown: female ſpikes from three to five, commonly four; the upper one ſeſſile, with male flowers often at the top; the lowermoſt have ſhort peduncles and are two or three inches long, all erect, of a greeniſh brown colour, nearly cylindrical, or ſlightly ſwelling in the middle: the floral leaves are as high as the ſtalk: the ſcales are oval-lanceolate, with a long point or awn, brown with a greeniſh dorſal line: capſules triangular-conic, with a bifid point, ſmooth, ſtriated, cloſely ſet, of a dull greeniſh brown colour: the ſtyle trifid and brown.

It varies a little occaſionally as to the robuſtneſs of its ſtature, and is met with ſometimes with blunt male ſpikes[m].

It is common by the ſides of ditches, lakes and rivers, flowering in april and may.

In Italy the leaves are uſed by the glaſs-makers to bind their wine-flaſks; by the chair-makers to bottom-chairs; and by the coopers to place in the junctures in the heads of caſks, in the ſame manner as the leaves of the *Typha* are uſed in the ſame country, and the ſtalks of *Scirpus lacuſtris* in England[n].

95. The *paludoſa* or acute Carex of Mr. Curtis is next in ſize, at leaſt with reſpect to the breadth of its leaves, to the *riparia*. They frequently grow together, and being greatly ſimilar in their foliage, may eaſily be confounded. When young, the bluntneſs of the male ſpikes, and obtuſeneſs of the ſcales without any awn, invariably diſtinguiſh this from the *riparia*; and though there be frequently a tendency in theſe ſpikes to be three-cornered, yet the angles are always very obtuſe; the colour of them alſo before the anthers come forth is much brighter, and ſometimes a ſpike is found perfectly brilliant: the female ſpikes as well as the males are fewer in number, and ſmaller; nor have they that tendency to be pendulous, which thoſe of the *riparia* frequently have; the capſules when ripe are alſo much ſmaller, more numerous, and no ways inflated, but very ſimilar to thoſe of the *gracilis*. While the ſcales in the male ſpikes before the anthers come forth are obtuſe, thoſe of the female ſpikes are pointed. In its weak ſtate, this plant approaches very near the *recurva*.

This plant, which is ſo common with us, does not appear to have been noticed by Linneus. It is often very variable in its appearance, but the ſcales of the male ſpike will afford a conſtant character; they are always more or leſs blunt in this ſpecies, and very acute in *riparia*. Its capſules are either not at all, or very ſlightly divided at the ſummit, but not beaked or forked.

In marſhes and by the ſides of ditches: flowering in may and june[o].

96. The *gracilis*, though a more ſlender plant in ſtalks, leaves, and ſpikes, is equal in height, when it grows in ſimilar ſituations, to the other two, but among the herbage it is ſhorter. The leaves are not only narrower, but have not the glaucous colour of the others. Its ſlender ſpikes are ſo pendulous in a young ſtate, as to give this plant the appearance of *C. pendula*. The female flowers are conſtantly digynous. The flowers come out a week or two later than the two others[p].

The ſlenderneſs of habit in this plant, its filiform ſpikes, pendulous when in flower (though upright when in fruit,) its having two ſtigmas, and the capſules flattiſh, and undivided at the ſummit, keep it evidently diſtinct from all others. It varies much in ſize, from three or four inches (in dry ſtarved land) to a foot, two feet and upwards[q].

Mr. Curtis, Dr. Stokes, Mr. Woodward, and others, long ago ſuſpected this to be the *C. acuta* of Linneus. It is now aſcertained beyond a doubt from the Linnean herbarium, that this is one of the varieties, being ſo named by Linneus himſelf. Dr. Goodenough therefore retains the Linnean name of *acuta* to this ſpecies; and thinks that the other variety may be his *ſtricta*.

97. Root creeping very much. Leaves glaucous, upright, narrow, longer than the culm, rough on a great part of the edges and keel. Culm from a foot to two feet in height, upright, three-ſided, the angles acute, rough towards the top, but commonly ſmooth beneath the lower ſpike. Spikes two or three male, and as many female. Males linear-filiform; the upper one commonly moderately bent, an inch and ſometimes two inches in length; the others ſhorter: ſcales oblong, ſharpiſh (but ſometimes blunt), yellowiſh with a green dorſal nerve and a tender white edge. Females cylindric, from an inch to two inches in length, upright, peduncled, the peduncles all ſhort, the lowermoſt longeſt: ſcales lanceolate, acute, yellowiſh with a green dorſal nerve and a pale edge, little more than half the length of the capſule, (ſometimes however equal to it, perhaps from diſeaſe). To every ſpike there is a leafy narrow upright bracte: the upper ones are ſhorter than the culm, one or two of the lower ones are much longer, and all are ſeſſile. Capſules cloſely imbricate in eight rows, yellowiſh, nerved, with the mouth two-toothed. Stigmas three. The root-leaves which inveſt the baſe of the culm with a ſheath membranaceous on one ſide, burſt into a ſort of network, as in *C. ſtricta*.

It grows in fens; flowering in may. Near London it is not common, it is to be met with however plentifully at Virginia water[r].

Probably ſeveral of the new ſpecies here enumerated may prove on farther examination to be either varieties or repetitions of old ones. Where I could not aſcertain this, I have left the ſpecies as I found them, on the credit of thoſe reſpectable authors who have eſtabliſhed them. When the truly learned Dr. Goodenough ſhall have ſettled the eſſential differences of the foreign, as well as he has done thoſe of our domeſtic ſpecies, and ſhall have diſentangled all the intricacies of the ſynonyms in both, we may hope for ſomething more ſatisfactory than we poſſeſs at preſent, on this very extenſive and difficult genus.

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[k] Scopoli.
[l] Retz.
[m] Goodenough.
[n] Lightfoot.
[o] Goodenough.
[p] Curtis.
[q] Goodenough.
[r] Ibid.

PROPAGATION, CULTURE, AND EXTIRPATION.

Theſe plants are never cultivated, except in botanic gardens, for the determination of the ſpecies. They may readily be propagated by the roots. Some few of them require a dry ſoil, and others a ſhady ſituation; but the greater part muſt be placed with water and bog plants, either by the ſide of ponds, or in pots or tubs filled with marſh or bog earth, and ſtanding in water. With theſe advantages ſome of them will ſcarcely flower in a garden.

The Carexes or Sedges cannot be conſidered as uſeful plants, except in ſuch ſituations as will not produce better fodder and herbage; or where they contribute to fill up marſhes, and lay a foundation for their becoming hereafter dry land and uſeful meadows.

Wherever a meadow is capable of being drained, the Sedge may be deſtroyed; wet being neceſſary to the exiſtence of thoſe ſorts which over-run paſture grounds. I ſpeak from experience: for a meadow came into my hands, which had a bottom inclining to be peaty; it was entirely overgrown with great Sedge, and Flags (Iris pſeudacorus). I dug deep ditches and cut drains, which I kept carefully open, and dreſſed it well with coal-aſhes; the weeds entirely diſappeared, and it has now for many years been a good meadow. This general principle may be applied to many particular caſes, by ſuch as attend to the nature of ſoils, and the plants which they produce.

CAREX LITHOSPERMA. See *Scleria.*]

CARĬCA. (*From Caria, a kingdom of Aſia.*)
Lin. gen. n. 1127. *Reich.* 1232. *Schreb.* 1536.
Papaya. *Tourn.* 441. *Juſſ.* 399.
Claſſ. 22. 9. Dioecia Decandria: or rather Polygamia.
Nat. order of *Tricoccæ.* *Cucurbitaceæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

CAL. ſcarce manifeſt: it has however five very ſhort ſharp teeth.

COR. monopetalous, funnel-form. *Tube* ſlender, very long, gradually ſlenderer downwards. *Border* five-parted, diviſions lanceolate-linear; obtuſe, obliquely and ſpirally revolute.

STAM. *Filaments* ten, in the top of the tube of the corolla; the five alternate ones inferior. *Anthers* oblong, fixed to the filaments on the inner ſide.

* *Female*, or rather *Hermaphrodite.*

CAL. *Perianth* very ſmall, five-toothed, permanent: teeth ovate acute ſpreading.

COR. five-parted; *parts* lanceolate ſharp erect below the middle, but reflected and twiſted above.

STAM. *Filaments* ten; five alternate ſhorter ſubulate, all united by a membrane at the baſe. *Anthers* ovate, erect, two-valved, fertile.

GERM ovate. *Style* none. *Stigmas* three or five, broad, flat-expanding, multifid: ſegments very ſhort, blunt.

PER. *Berry* very large, angulated with three or five furrows, unilocular, fleſhy.

SEEDS numerous, ovate, green, very ſmooth, tunicated, neſtling in the middle of the berry.

ESSENTIAL CHARACTER.

MALE. *Cal.* very ſmall, five-toothed. *Cor.* five-parted, funnel-form. *Filaments* in the tube of the corolla, alternately ſhorter.

HERM. *Cal.* five-toothed. *Cor.* five-parted. *Stigmas* five. *Berry* one-celled, many-ſeeded.

SPECIES.

1. Carica Papaya. *Common Papaw Tree.*
Lin. ſpec. 1466. *ſyſt.* 891. *Retch.* 4. 267. *hort. cliff.* 461. *Swartz obſ.* 378. *Lour. cochinch.* 628. *Rumph. amb.* 1. *t.* 50, 51. *Burm. zeyl.* 184. *Trew. ehret. t.* 7. *Hugh. barb.* 181. *t.* 14, 15. *Brown. jam.* 360. *Mer. ſurin. t.* 40. & *t.* 62. 64. *Bont. jav. l.* 6. *c.* 6. *p.* 96. *Pluk. alm. t.* 278. *f.* 1. *Raii hiſt.* 1370. 2. *Ger. emac.* 1609. *f.* 2.
Papaya-maram. *Rheed. mal.* 1. 23. *t.* 15. *f.* 2. ♀.
♂. Ambapaya. *Rheed. t.* 15. *f.* 1. *Raii hiſt.* 1370. 1. *Park.* 1649. *Ger. emac.* 1609. 1.
Papaya. *Ehret. t.* 3. *f.* 1.
Lobes of the leaves ſinuated.

2. Carica Poſopoſa. *Dwarf Papaw Tree.*
Lin. ſpec. 1466. *Reich.* 4. 268. *hort. cliff.* 462. *Brown. jam.* 360. *Feui. peruv.* 2. 52. *t.* 39. *f.* 1. *Pluk. alm. t.* 278. *f.* 2? *Pet. gaz. t.* 43. *f.* 2?
Lobes of the leaves entire.

DESCRIPTIONS, *&c.*

1. The Papaw-tree riſes with a thick, ſoft, herbaceous ſtem, to the height of eighteen or twenty feet, naked till within two or three feet of the top, and having marks of the fallen leaves great part of its length; the leaves come out on every ſide the ſtem upon very long foot-ſtalks; thoſe which are ſituated undermoſt are almoſt horizontal, but thoſe on the top are erect: theſe leaves (in full grown plants) are very large, and divided into many parts (or lobes) which are deeply ſinuated, or cut into irregular diviſions. The whole plant abounds with a milky acrid juice, which is eſteemed good for the ringworm: the ſtem of the plant, and alſo the foot-ſtalks of the leaves, are hollow in the middle. The flowers of the male are produced from between the leaves on the upper part of the plant, on every ſide; they have peduncles near two feet long, at the ends of which the flowers ſtand in looſe cluſters, each having a ſeparate ſhort pedicel; theſe are of a pure white, and have an agreeable odour. Sometimes theſe are ſucceeded by ſmall fruit, about the ſize and ſhape of a Catherine Pear, which has occaſioned ſome to ſuppoſe it was a diſtinct ſpecies; but I have frequently raiſed this, and the female or fruitful ſort, from the ſame ſeeds, and in general the male flowers fall away, without any fruit ſucceeding them. The flowers of the female Papaw alſo come out between the leaves, toward the upper part of the plant, upon very ſhort peduncles, ſingly, ſitting cloſe to the ſtem; they are large and bell-ſhaped, compoſed of ſix petals, which are commonly yellow, but thoſe of the pyramidal ſort are purple: when theſe fall away, the germ ſwells to a large fleſhy fruit, the ſize of a ſmall Melon, but of different forms; ſome are angular, and compreſſed at both ends, others are oval and globular, and ſome pyramidal; the fruit alſo abounds with the ſame acrid milky juice as the plants. This fruit, when ripe, is by the inhabitants of the Caribbee Iſlands eaten with pepper and ſugar as Melons, but is much inferior to our moſt common Melon in flavour, in its native country; thoſe which have ripened in England were deteſtable: the only uſe I have known made of this fruit, was, when they were about half grown, to ſoak them in ſalt water, to get out the milky juice, and pickle them for Mangos, for which they have been a good ſubſtitute.

[Long (802) informs us, that the flowers, buds, and tender foot-ſtalks of the female tree are preſerved as a ſweetmeat, and the long Mango Papaw or fruit as a pickle, which is little inferior to the Eaſt-India Mango. The rounder fruit when ripe is boiled, and eaten with any kind of fleſh meat, and is looked upon as perfectly wholeſome; but eaten raw, it contains an acrid juice, very injurious to the inteſtines. The negroes ſuppoſe that Papaw-trees conduce to render the air healthy, and therefore plant them near their houſes. The bloſſoms are extremely odoriferous, and the trunks ſo ſucculent, and their growth ſo quick, that they may poſſibly aſſiſt to drain the ſoil, where they are planted, of ſuperfluous moiſture.]

Theſe plants are ſuppoſed to be natives of America, from whence they were carried to the Philippine Iſlands, and to ſeveral parts of India, where they are now pretty common. Though they have been ſuppoſed to have male flowers only in ſome plants, and female on the other, yet I have often ſeen ſmall fruit on the male, and have frequently had fruit on the female, whoſe ſeeds have grown as well as any I ever ſowed, though no male plants were in in the ſame ſtove with them.

[Ray conjectured this tree to be ſometimes androgynous, in order to account for what Marcgraaf affirmed, namely that the male trees occaſionally bore fruit, and that the female trees bore fruit without having any male tree in the vicinity. The experience of the induſtrious Miller, and the obſervations of modern botaniſts, confirm the conjecture of the ſagacious Ray.

This tree is a native of both Indies; and was cultivated in 1690 in the royal garden at Hampton Court[a].]

There are ſeveral varieties of this ſort, which differ in the ſize and ſhape of their fruit. Plumier mentions three of the female or fruitful Papaw, beſide the male, one of which he titles Melon-ſhaped, and the other ſhaped like the fruit of the Gourd; and I have ſeen another variety in England, with a large, ſmooth, pyramidal fruit; but theſe are ſuppoſed to be accidental varieties, which ariſe from the ſame ſeeds.

2. The ſecond ſort was found growing in a garden at Lima, by father Feuillée, and it was the only plant he ſaw of that ſort in his travels.

[Browne ſays, that it is frequent in ſome parts of Jamaica, and that it ſeldom riſes above four or five feet in height.]

This differs from the other, in having a branching ſtalk, the lobes or diviſions of the leaves being entire, and the fruit being ſhaped like a Pear. Feuillée ſays that the fruits were of different ſizes; that which he deſigned was about eight inches long, and three and a half thick, yellow within and without, and of a ſweet flavour; the flower of a Roſe-colour, and divided but into five parts.

PROPAGATION AND CULTURE.

Theſe plants being natives of hot countries, will not thrive in England, unleſs they are preſerved in a warm ſtove; where there are ſuch conveniencies, of a proper height to contain the plants, they deſerve a place as well as almoſt any of the plants which are cultivated for ornament; for when they are grown to a large ſize, they make a noble appearance with their ſtrong upright ſtems, which are garniſhed on every ſide near the top with large ſhining leaves, ſpreading out near three feet all round the ſtems: the flowers of the male ſort come out in cluſters on every ſide; and the fruit of the female growing round the ſtalks between the leaves, being ſo different from any thing of European production, may intitle them to the care of the curious.

They are eaſily propagated by ſeeds, which are annually brought in plenty from the Weſt-Indies. Theſe ſhould be ſown in a hot-bed early in the ſpring, that the plants may obtain ſtrength before the autumn: when the plants are near two inches high, they ſhould be each tranſplanted into a ſeparate ſmall pot filled with a light, gentle, loamy ſoil, and plunged into a hot-bed of tanners bark, carefully ſhading them from the ſun till they have taken root; after which they muſt be treated in the ſame manner as other tender plants from the ſame country; but as theſe plants have ſoft herbaceous ſtalks, and abound with a milky juice, they muſt not have too much water, for they are frequently killed with moiſture. There ſhould alſo be great care taken when theſe plants are ſhifted from ſmall pots into larger, to preſerve the whole ball of earth to their roots; for whenever they are left bear, they rarely ſurvive it. As the plants advance in their growth, they will require larger pots, and when they are too tall to remain under frames, they muſt be placed in the tan-bed of the bark-ſtove, where they ſhould conſtantly remain, being careful not to give them much water, eſpecially during the winter ſeaſon; and in ſummer their waterings ſhould be often repeated, but given in ſmall quantities. With this management I have raiſed plants near twenty feet high in three years, which have produced their flowers and fruit in great perfection.

[In the Weſt-Indies this tree is propagated with great facility by layers as well as ſeeds.

CARICA. See *Ficus*.

CARIM-CURINI. See *Juſticia*.

CARIMGOLA. See *Pontederia*.

CARIMPANA. See *Boraſſus*.

CARIM-TUMBA. See *Nepeta*.

CARIOPHYLLASTER. See *Dodonæa*.]

[CARISSA.

Lin. gen. *Reich. n.* 318. *Schreb.* 413. *Juſſ.* 149.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Contortæ*. *Apocineæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* very ſmall, five-parted, acute, permanent.

COR. monopetalous, funnel-form. *Tube* cylindrical, bellying at the mouth, longer than the border. *Border* five-parted, flat, diviſions oblong.

STAM. *Filaments* five, very ſhort, in the top of the tube. *Anthers* oblong, within the mouth.

PIST. *Germ* roundiſh. *Style* filiform, length of the ſtamens; *ſtigma* rather ſimple.

PER. *Berries* two, oblong, bilocular—according to Rumphius.

SEEDS ſeven, or eight, oval, compreſſed.

ESSENTIAL CHARACTER.

Cor. contorted. *Berries* two, many-ſeeded.

SPECIES.

1. Cariſſa Carandas.
   Lin. ſyſt. 251. *Reich.* 589. *mant.* 52. *Lour. cochinch.* 124. *Burm. ind.* 69. (Echites). *Rumph. amb.* 7. 58. *t.* 25. *Pluk. alm. t.* 305. *f.* 4. (but the corolla not quadrifid.)
   Leaves elliptic obtuſe.
2. Cariſſa ſpinarum.
   Lin. ſyſt. 251. *Reich.* 590. *mant.* 559. *Thunb. jap.* 108. *Rumph. amb.* 7. 39. *t.* 19. *Kæmpf. amæn.* 5. 784.
   Stigmarota Jangomas. *Lour. cochinch.* 634.
   Leaves ovate acute.

DESCRIPTIONS, &c.

1. A tree with dichotomous branches. Leaves oppoſite, petioled, obtuſe, gloſſy, quite entire. Spines axillary, but not from all the axillas, oppoſite, ſhorter than the leaves, ſpreading. Peduncles ſubterminal, twin, three-flowered on equal pedicels. Flowers like thoſe of Jaſmine. Native of the Eaſt-Indies[b].

Loureiro thus deſcribes it as he found it wild upon the eaſtern coaſt of Africa. It is a ſmall tree about ſix feet in height, with twiſted dichotomous ſpreading branches, armed with large ſtraight oppoſite prickles, branched and dichotomous at the tip. Leaves ovate, ſharp at the end, quite entire, ſmooth, oppoſite, ſubpetioled. Flowers white, of the ſame ſhape and ſize with *Jaſminum grandiflorum*. Calyx inferior, five-parted; the parts ſubulate and upright. Corolla ſalver-ſhaped, the tube long ſtraight and equal; the border five-parted with ovate ſegments. Filaments very ſhort, placed on the middle of the tube: anthers linear. Germ ovate: ſtyle filiform ſhort: ſtigma oblong, emarginate, upright. Berry ſimple, ovate, ſmooth, one-celled, containing many ſuborbiculate, imbricate ſeeds. The flowers are terminating, on few-flowered peduncles. The berry when ripe is black; it is eatable and of a ſweet acid flavour.

Linneus's deſcription is probably not very accurate, and therefore the Eaſt Indian and African plants may probably be the ſame; although the latter has only a ſingle berry, a ſalver-ſhaped corolla not contorted, an emarginate ſtigma, prickles branched not ſimply dichotomous, and the leaves acute.

2. A tree, with branches firſt trichotomous, then dichotomous, horizontal. Spines two at each rami-

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[a] Hort. kew.

[b] Linn. mant.

fication, oppoſite, one above and the other below the branch, very ſpreading, an inch in length, ſtout, round, red and ſhining at the end, as in the firſt ſpecies. Leaves oppoſite, ſubſeſſile, coriaceous, quite entire, gloſſy; one pair at each dichotomy, and another intermediate pair. Peduncles terminal, very ſhort; with five or ſix ſmall flowers. Calyx ſemiquinquefid, with the teeth ſubulate. Corolla ſalver-form; tube ſwelling a little in the middle; diviſions of the border linear, emarginate, a little ſhorter than the tube. Stamens in the middle of the tube; filaments ſcarcely any; anthers linear, ſhort. Germ ſuperior; ſtyle ſhort, clubbed; ſtigma narrower, pubeſcent. Native of the Eaſt-Indies, and Japon [c].

This being a dioecous plant, and differing totally in the generic character, Loureiro has conſtituted a new genus for this and another ſpecies, under the name of STIGMAROTA, from the ſhape of the ſtigma, radiated like a wheel.

GENERIC CHARACTER.

* *Male.*

CAL. *Perianth* bell-ſhaped ſpreading, four or five-parted: ſegments acute.

COR. none.

STAM. *Filaments* about thirty, longer than the calyx. *Anthers* roundiſh.

* *Female.*

CAL. *Perianth* wheel-ſhaped, five or ſix-parted: ſegments acute.

COR. none. *Nectary* lens-ſhaped, five or ſix-lobed.

PIST. *Germ* ſuperior, roundiſh. *Style* cylindric, ſhort. *Stigma* orbiculate, large, ſix-parted.

PER. *Berry* ſubglobular, fleſhy, one-celled, ſix-ſeeded.

SEEDS ovate, compreſſed, minute.

ESSENTIAL CHARACTER.

MALE. *Cal.* four or five-parted. *Cor.* none. *Stam.* thirty.

FEM. *Cal.* five or ſix-parted. *Cor.* none. *Stigma* wheel-ſhaped, ſix-cleft. *Berry* fleſhy, ſix-ſeeded.

SPECIES.

1. Stigmarota Jangomas.
Jangomas. *Garc. aromat. l.* 2. *c.* 5. *Bont. jav. l.* 6. *c.* 25. *f.* 111.
Spina ſpinarum. *Rumph. amb. t.* 19. *f.* 1, 2.
Stem arboreous prickly; peduncles many-flowered ſcattered.

2. Stigmarata africana.
Lour. cochinch. 634. 2.
Stem ſhrubby prickly: flowers ſolitary terminating.

DESCRIPTIONS.

1. A middle-ſized tree, with ſpreading branches. The prickles on the ſtem of the male are long and branched; on the female tree, ſhort ſimple ſcattered and few. Leaves ovate, acuminate, ſerrate, incurved, ſhining, ſmall, ſcattered, petioled. The flowers on both on many-flowered ſcattered peduncles. Berry brown-purple, eight lines in diameter, eſculent, ſapid, ſweet with a ſlight aſtringency.—Native of Cochinchina, and cultivated there.—Linneus's deſcription given above does not agree with Rumphius's.

2. Stem ſhrubby, in tufts, ſpreading, woody, ſix feet high. Leaves ovate, crenate, ſmooth, alternate, petioled. Prickles ſimple, long, ſtraight. Flowers terminating ſolitary. The female flowers have ſix or ſeven bifid, ſeſſile ſtigmas, placed in a ring.]

CARLĪNA. (*From Carolus. Charlemagne's army being ſaid to be cured of the plague by the uſe of the root.*)

Engl. *Carline Thiſtle.* Fr. *Carline.*

Lin. gen. n. 929. *Reich.* 1008. *Schreb.* 1258. *Gærtn. t.* 163. *Tourn.* 285. *Vaill. A. G.* 1718. *Juſſ.* 172.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of Compound Flowers: diviſion of *Capitatæ*. *Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* ventricoſe, radiated, imbricated; *ſcales* numerous, looſe, acute, of which the interior ones are diſpoſed in a circle, very long, expanding, gloſſy, coloured, radiating the compound flower.

COR. *Compound*, uniform, tubular. *Corollets* hermaphrodite, equal; the proper one monopetalous, funnel-form; *tube* ſlender; *border* five-cleft.

STAM. *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular.

PIST. *Germ* ſhort. *Style* filiform, length of the ſtamens. *Stigma* oblong, bifid or entire.

PER. none. *Calyx* remaining unchanged.

SEEDS ſolitary, ſomewhat rounded. *Down* plumoſe, branched, ſeſſile.

REC. flat; *chaffs* ternate, cleft.

ESSENTIAL CHARACTER.

Cal. radiated with long, coloured, marginal ſcales.

SPECIES.

1. Carlina acaulis. *Low Carline Thiſtle.*
Lin. ſpec. 1160. *Reich.* 3. 693. *upſ.* 252. *mat. med.* 181. *Sauv. monſp.* 293. *Gouan. hort. monſp.* 426. *Hall. helv. n.* 183. *Scop. carn. n.* 1014. *Allion. pedem. n.* 567. *Krock. ſileſ. n.* 1352. *Blackw. t.* 532. *Bauh. pin.* 380. 1. *Raii hiſt.* 288. 1. *Ger. emac.* 1157. *f.* 2. *Park.* 968. 2. & 1685. *Bauh. hiſt.* 3. 64.
C. Chamæleon. *Villars dauph.* 3. 31.
Chamæleon albus. *Cluſ. hiſt.* 2. 155. *Camer. epit.* 428.
β. C. prior. *Dod. purg.* 439. *Hall.* β. caulifera. C. cauleſcens. *Bauh. pin.* 380 Chamæleon niger. *Matth.* 492. *Camer. epit.* 430.
Stem one-flowered, ſhorter than the flower.

2. Carlina lanata. *Woolly Carline-Thiſtle.*
Lin. ſpec. 1160. *ſyſt.* 728. *Reich.* 3. 693. *Ger. prov.* 183. 2. *Gouan. hort. monſp.* 426. *illuſtr.* 64. *Garid. aix.* 82. *t.* 21. *Barr. ic.* 483. *Col. ecphr.* 1. 29. *t.* 27. *f.* 2.
Stem bifid, calyxes blood-red terminal, the firſt axillary ſeſſile.

3. Carlina corymboſa. *Corymbed Carline-Thiſtle.*
Lin. ſpec. 1160. *Reich.* 3. 694. *mant.* 462. *Villars dauph.* 3. 33. *Gouan. illuſtr.* 64. *Col. ecphr.* 1. 20. *t.* 27. *f.* 1.
Stem many-flowered ſubdivided, flowers ſeſſile, ray of the calyxes yellow.

4. Carlina vulgaris. *Common Carline-Thiſtle.*
Lin. ſpec. 1161. *Reich.* 3. 694. *hort. cliff.* 395. 2. *fl. ſuec. n.* 725. *Gærtn. fruct.* 2. 384. *Hudſ. angl.* 355. *With.* 880. *Hall. helv. n.* 182. *Pollich pal. n.* 773. *Leers herb. n.* 622. *Krock. ſileſ. n.* 1353. *Villars dauph.* 3. 33. *Gouan. illuſtr.* 64. *Beſl. eyſt. æſt.* 11. *t.* 8. *f.* 3. *Cluſ. hiſt.* 2. 156. *f.* 2. *Fuchſ. hiſt.* 121. *Matth.* 669. *Dod.* 739. 2. *Lob. ic.* 2. 20. 2. *Trag.* 859. *Ger.* 997. 1. *emac.* 1159. 1. *Park.* 981. *Bauh. hiſt.* 3. 81. 2. *Raii hiſt.* 288. 2. *ſyn.* 175. *Mor. hiſt.* 3. 162. *n.* 5.
C. corymboſa. *Scop. carn. n.* 1015.
Stem many-flowered corymbed, flowers terminal, ray of the calyxes white [or, yellowiſh.]

5. Carlina racemoſa. *Racemed Carline Thiſtle.*
Lin. ſpec. 1161. *Reich.* 3. 695. *Gouan. hort. monſp.* 426. *illuſtr.* 64. *Cluſ. hiſt.* 2. 157. *f.* 1.
Flowers ſeſſile lateral very few.

[6. Carlina pyrenaica. *Pyrenean Carline Thiſtle.*
Lin. ſpec. 1161. *ſyſt.* 729. *Reich.* 3. 695.
Stem many-flowered, leaves decurrent runcinated.

7. Carlina xeranthemoides.
Lin. ſyſt. 729. *ſuppl.* 349.
Shrubby, branching, tomentoſe, leaves linear-ſubulate, ſerratures ſpineſcent, panicle terminal, ray yellow.

8. Carlina atractyloides.
Lin. ſpec. 1161. *ſyſt.* 729. *Reich.* 3. 695. *amæn.* 6. *afr. n.* 46. *Pluk. alm. t.* 273. *f.* 4. (bad).
Stem branching, calyxes with ciliate ſpines.

9. Carlina acanthifolia.
Allion. pedem. n. 571. *t.* 51. *Villars dauph.* 3. 30.
Chamæleon albus. *Matth. Lugd.* 1453. (not the figure). *Bauh. hiſt.* 2. 67?
Stemleſs, leaves ſinuate-pinnatifid tomentoſe; diviſions half-two-lobed pungent.

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[c] Linn. mant.

DESCRIPTIONS, *&c.*

1. Root an inch thick, black, woody, having an acrid penetrating ſmell, and a bitter aromatic taſte. Cloſe to the ground is a circle of pinnated ſmooth leaves; the pinnas angular, lobed, plaited; the angles ending in ſtrong ſpines. Stem (or rather peduncle) leafy, though ſcarce exceeding an inch and half in height. Flower uſually one, but ſometimes more, three inches in diameter when expanded, for it cloſes during the night and in rainy weather: rays white ſhining; floſcules greeniſh yellow, with purple toothlets[a]. Scopoli obſerves that the briſtles which proceed from the receptacle, are club-ſhaped at the end like the antenna of a butterfly.

Native of Switzerland, Germany, Carniola, Italy, South of France. Perennial. Cultivated here in 1640.

β. It is ſometimes found with a ſtem twelve or even eighteen inches in height. This, Linneus ſays, is the caſe only when kept in a pot; but in open ſituations it has little or no ſtem[b]. Thus, however, neither of the ſpecific characters are conſtant.

The receptacle, and upper part of the root when tender, are eaten: but the root of the adult plant becomes acrimonious, and is recommended as an alexipharmic. It contains an acrid reſinous principle, by which it ſtimulates the ſolids, diſſolves the humours, and promotes perſpiration. The doſe of the root when dry, is from one to two drams; when freſh, from two drams to half an ounce, but it is more frequently given in a decoction than in ſubſtance[c].

2. This is three times as large as *C. vulgaris.* Simple branches ſometimes come out from the axillas. When out of flower it puts off the wool. The juice is blood-red. The true ſcales of the calyx are all terminated by a very ſimple ſpine; but in the reſt the ſpines are compound[d]. Calyxes twice as large as in the others. Ray purple on both ſides[e].

South of France and Italy. Annual. Cultivated in 1683, by Mr. James Sutherland.

3. Stem purpliſh at top, ſcarcely pubeſcent; the leaves even next the flowers ſubpinnatifid. Calyxes but half the ſize of the former. Ray yellow; on the outſide and at the baſe only purpliſh[f].

It much reſembles the common ſort (n. 4.), but the root, which is perennial, produces ſeveral ſtems; the flowers are ſmaller but more numerous; the ray is yellow, and each calyx contains fewer florets[g].

Native of the South of France and Italy.

Monſ. Villars is of opinion, that the *corymboſa* of Scopoli is the common ſort.

4. Root long fuſiform, with a few ſtiff fibres. Stem twelve to fifteen inches high, ſwelling juſt above the root, round, ribbed, purple, ſlightly downy, ſubumbelled at top. Leaves very numerous, cloathing the whole ſtem and decreaſing in ſize upwards, the lower ſeſſile, the upper half-ſtem-claſping, deeply toothed, the teeth armed with numerous yellow ſpines. At the baſe of the branches are leaves much broader than the reſt. Scales of the calyx purpliſh, edged and terminated with branching yellow ſpines; the undermoſt linear, pointed, dry, ſhining, fringed with long hairs towards the baſe, ſtraw-coloured within; without reddiſh brown towards the baſe, but ſtraw-coloured at the point. Corolla, ſegments lanceolate, purple, ſtraw-coloured below. Down of the ſeed ſeſſile, rays nine to twelve, generally eleven, either ſingle or with two or three clefts, fringed with long hairs. According to Dr. Stokes, they are pale brown, thrice as long as the ſeed, rays nearly equal, ſubulate at the baſe, a little above it generally dividing into three and ſometimes four briſtle-ſhaped branches. The chaffs of the receptacle are longer than the florets[h]. The flowers expand in dry, and cloſe in moiſt weather. They retain this property a long time. The plant is ſaid to be an excellent remedy in hyſterical caſes[i]. It indicates a very barren ſoil; is found all over Europe in dry paſtures; and is biennial; flowering from june to ſeptember.

Linneus exhorts the botaniſts of the ſouth of Europe to obſerve how this, together with the ſecond and third ſpecies, may be diſtinguiſhed, without having regard to the colour.

5. In appearance and habit this approaches neareſt to the third and fourth ſpecies, in its whitiſh ſtem. The calycine leaflets of the ray underneath are dark purple, but the upper part is rather yellow. It is allied to the ſecond ſpecies, by its ſeſſile flowers, which however are much ſmaller than in the third and fourth.

There are no limits between this and the three foregoing ſpecies, except in their ſize and the colour of the ray in the flower; though their habit be different. The nap on all is the ſame, and they loſe it when they grow old. The leaves have three nerves; the two ſide ones run diſtinctly from the baſe to the middle, and then unite with the other: in each, ſmall nerves run parallel acroſs from the principal to the ſide nerves. The upper part of the ſtem is branching; branches alternate, one-flowered, corymbed, with ſome primordial flowers ſeſſile in the diviſion of the ſtem and branches[k].

6. Leaves tomentoſe on both ſides: the pinnas ſeſſile haſtate toothed, with a yellowiſh ſpine at each apex. Calyxes ſcarcely larger than in *Card. pycnocephalus*; the ſcales looſe ſpiny erect ſcarioſe narrow-lanceolate, ſcarcely the length of the calyx. Flowers purpliſh.

Native of the Pyrenees towards Spain[l]. Introduced in 1788, by John Sibthorp, M. D.[m].

7. A handſome ſhrub. Stem round, covered with wool preſſed cloſe. Leaves ſcattered, not decurrent, terminating in a ſpine; upper ſurface green, ſmooth; lower white with wool. Branches ſimple, only branching at the end and divided into leafy peduncles. Calyxes ſurrounded with a few leaves, like thoſe on the ſtem, but not longer than the calyx, unarmed, tomentoſe: the inner ſcales longer recurved ſubulate-ſpiny: ray ſhining yellow, ſcales ſubſerrate. Flowers the ſize of the ray.—In Barrancas about Chaſna; obſerved by Maſſon[n].

8. Stature of *Atractylis.* Stem not much branching, white-villoſe. Leaves of thiſtle, narrow, thorny. Calyxes on very ſhort peduncles, imbricate, echinate. Corolla yellow. Seeds crowned at the edge. Receptacle chaffy[o].—Perhaps a ſpecies of *Gorteria* or *Atractylis.* It requires farther obſervation.

A native of the Cape[p].

9. Leaves like thoſe of *Onopordum* or Cotton Thiſtle; pinnas lobed or ſimple, all the pinnules toothed, and all the teeth putting out a ſtrong ſpine. Flower large, ſeſſile, with white coloured ſcales; bractes lanceolate having ternate diverging ſpines placed in a pinnate order, the middle one longer and ſtronger before the flower opens; theſe bractes repreſent a beautifully netted hemiſphere, and when this is opened they are reflected. The true ſcales of the calyx are imbricated in ſeveral rows, they are lanceolate, purpliſh at the end, and not ſpiny; the inner ſcales are coloured white, linear-lanceolate acute, with one nerve underneath running to the tip. Tube of the corollules pale, border ſulphureous, ſhorter than the anther.

This differs from *Carlina acaulis*, in the duration of the root, which commonly dies as ſoon as the plant has perfected its ſeeds; in having larger leaves, leſs hard, leſs cut and cottony; in having the flower ſeſſile, and the receptacle ſucculent, fleſhy and ſweetiſh. This therefore is the ſort whoſe receptacle is eaten, either as the Artichoke, or preſerved with honey and ſugar[q].

The firſt ſort and this reſembling each other, and Linneus's ſpecific character of that being faulty; Monſ. Villars propoſes the following characters: for the firſt.

1. Cauleſcent, leaves ſinuate-curled almoſt ſmooth, the ſegments of the chaffs club-ſhaped, root perennial.

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[a] Haller.
[b] Hort. upſ.
[c] Allioni.
[d] Linn.
[e] Gouan.
[f] Ibid.
[g] Villars.
[h] Woodw. Mſſ.
[i] Linn. amoen.

[k] Gouan.
[l] Linn. ſyſt.
[m] Hort. kew.
[n] Linn. ſuppl.
[o] Linn. amoen.
[p] Linn. ſyſt.
[q] Villars.

For the ninth.

9. Stemleſs, leaves thickly tomentoſe ſinuate-pinnatifid, ſegments of the chaffs ſubulate-thickened.

Native of mountains of the Vaudois, and other high alps[r]: alſo of Dauphiné, *&c.*]

PROPAGATION AND CULTURE.

They may all be propagated by ſowing their ſeeds in the ſpring on a bed of freſh undunged earth, where they are deſigned to remain; for, as they ſend forth tap roots, they will not bear tranſplanting ſo well as moſt other plants. When the plants appear above ground, they ſhould be carefully weeded; and, as they grow in ſize, they ſhould be thinned, where they are too cloſe, leaving them about ten inches or a foot aſunder. The ſecond year moſt of theſe plants will flower; but, unleſs the ſummer proves dry, they rarely produce good ſeeds in England, and moſt of them decay ſoon after they have flowered, therefore it is pretty difficult to maintain theſe plants in this country.

[Carlina. See *Arnica*, *Atractylis*, *Carduus*, *Cnicus*, *Gorteria*.

Carna. See *Laurus*.]

Carnation. See *Dianthus*.

[Carob tree. See *Ceratonia*.

CAROLINEA. (*So named in memory of her Serene Highneſs Sophia Carolina Louiſa Marchioneſs of Baden.*)
Fr. *Cacao ſauvage.*
Lin. ſuppl. 51. *n.* 1415. *Schreb.* 1125. Pachira. *Aublet. guian. Juſſ.* 279.
Claſſ. 16. 7. Monadelphia Polyandria.
Nat. order of *Columniferæ*. *Malvaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-form, truncate, quite entire, very ſhort, deciduous.

Cor. *Petals* five, enſiform, very long, ſomewhat erect.

Stam. monadelphous. *Filaments* very numerous, connate at the baſe, filiform, very long. *Anthers* oblongiſh, erect.

Pist. *Germ* inferior, oblong, cylindric. *Style* filiform, the length of the ſtamens. *Stigma* ſimple.

Per. *Pome* ovate, five-grooved, two-celled.

Seeds, twin, one above the other, ovate, gibbous, flattiſh within.

ESSENTIAL CHARACTER.

Monogynous. *Cal.* ſimple, tubular, truncate. *Pet.* enſiform. *Pome* five-grooved, two-celled.

SPECIES.

1. Carolinea Princeps.
Lin. ſyſt. 620. *ſuppl.* 314.
Pachira aquatica. *Aubl. guian.* 725. *t.* 291, 292.
Leaflets about five ovate-lanceolate.

2. Carolinea inſignis.
Swartz prodr. 101.
Bombax grandiflorum. *Cavan. diſſ.* 5. *t.* 154.
Xiloxochitl flore capillaceo. *Hern. mex.* 68. fig.
Leaflets about ſeven obovate-oblong.

DESCRIPTIONS, *&c.*

1. It is a large thornleſs tree. Leaves alternate, petioled, digitate: leaflets three or five, broad-lanceolate, ſubpetioled, quite entire. Stipules two, ſhort, caducous. Flowers ſolitary, axillary, ſeſſile, very large and beautiful: petals yellow, filaments red, anthers purple. The fruit has the appearance of that of the Chocolate, or of Cucumber; toruloſe and obovate: with ſeeds like Almonds, the cotyledons plaited. Theſe are eatable, but very flatulent when taken raw in any quantity.—Native of Guiana, in ſalts by the banks of rivers[s]. Introduced in 1787, by Mr. Alexander Anderſon[t].

2. Native of Tobago and Vera Cruz[u].

PROPAGATION AND CULTURE.

They may be propagated by ſeeds, or by cuttings in a light loamy ſoil, plunged in the bark-ſtove, and watered moderately in ſummer, but ſparingly in winter.

Caro-moelli. See *Sideroxylon*.

Carota. See *Daucus*.]

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[r] Allioni.

[s] Linn. ſuppl.

[t] Hort. kew.

[u] Swartz.

[CAROXYLON. (From καρος, *ſopor*; *and* ξυλον, *lignum.*)
Thunb. nov. gen. 37. *Juſſ.* 85.
Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* two-leaved, ſuborbiculate, rude, concave within, keeled on the outſide, very thin at the edge, erect, ſhorter than the corolla.

Cor. one-petalled, five-parted: *tube* none: *border* ſegments obtuſe, broad, roundiſh, concave-curled, membranous, expanding, yellowiſh or duſky purpliſh.
Nectary ſcales five, inſerted into the middle of the corolla, ſomewhat narrower and ſhorter, and connate with it at bottom; they are placed on the converging fruit, are ovate, ſharpiſh, concave, membranous, yellowiſh with a greeniſh baſe.

Stam. *Filaments* five, inſerted into the ſide of the germ, ſhorter than the corolla, white, capillary. *Anthers* very ſmall.

Pist. *Germ* ſuperior, conic, ſmooth. *Style* ſimple, ſhorter than the corolla, erect, white. *Stigmas* two, revolute, whitiſh: ſeldom ſimple.

Per. none.

Seed one depreſſed, round, green, ſpiral, cloathed with a very thin membrane, covered with the permanent filaments and nectary.

ESSENTIAL CHARACTER.

Cor. five-petalled. *Nect.* five-leaved, converging, inſerted into the corolla. *Seed* cloathed.

SPECIES.

1. Caroxylon Salſola.
Thunb. gen. 38.
Canna boſch, *afric.*

DESCRIPTION, *&c.*

Root perennial. Stem arboreſcent, erect, very branching, naked. Branches ſcattered ſtiff, flexuoſe, ſpreading, ſubdivided. The extreme branchlets ſcattered, round, flexile, tomentoſe-white, leafy, flowering. Leaves on the branchlets very frequent, imbricate, ſeſſile, ſubglobular-ovate, rather concave within and ſmooth; without gibbous, aſh-tomentoſe, obtuſe, very minute, preſſed cloſe. Axils loaded with other leaves. It differs from *Salſola* in having manifeſtly one ſtyle, a fruit in a veſſel, or rather the ſeed coated with the calycine appendicles or nectary converging, a two-leaved calyx, and a nectary:—from *Anabaſis*, to which it approaches very near, in the nectary, and a two-leaved calyx.

In Africa they uſe the aſhes, with mutton ſuet, to make ſope.

The corolla of Thunberg is called by Juſſieu the calyx, and is deſcribed by him to be five-parted, and two-ſcaled on the outſide (calyx, *Thunb.*), with five appendicles within (nectary, *Thunb.*). He ſpeaks of it as a doubtful genus, and recommends the inſertion of the ſtamens and ſtructure of the ſeed to be examined.]

CARPESIUM. (Καρπησιον *of Galen.*)
Lin. gen n. 948. *Reich.* 1028. *Schreb.* 1284. *Juſſ.* 184. Conyzoides. *Tourn. act.* 1706.
Claſſ. 19. 2. Syngeneſia Polygamia Superflua.
Natural order of Compound flowers: diviſion of *Diſcoideæ*. *Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* imbricate; the exterior *leaflets* larger, ſpreading, reflex, the interior ones equal, cloſe, ſhorter.

Cor. *Compound* equal. *Corollets* hermaphrodite in the diſk; female in the circumference—the *proper* one in the hermaphrodites funnel-form; *border* quinquefid, ſpreading. In the females tubular, quinquefid, converging.

Stam. In the hermaphrodites five, ſhort. *Anthers* cylindric.

Pist. In the hermaphrodites *germ* oblong; *ſtyle* ſimple; *ſtigma* bifid. In the females very ſimilar to the hermaphrodites.

Per. none. *Calyx* unchanged.

Seeds. In the hermaphrodites obovate, naked. In the females very ſimilar to the hermaphrodites.

Rec. naked.

ESSENTIAL CHARACTER.

Cal. imbricate; the outer ſcales reflex. *Down* none. *Recept.* naked.

SPECIES.

1. Carpeſium cernuum. *Drooping Carpeſium.*
   Lin. ſpec. 1203. *Reich.* 3. 767. *hort. upſ.* 257. *Hall. helv. n.* 134. *Scop. carn. n.* 1030. *Jacqu. auſtr.* 3. *t.* 204. *Villars dauph.* 3. 184. *Barr. ic.* 1142. *Col. ecphr.* 1. 251. *t.* 252. *Mor. hiſt.* 3. 18. *ſ.* 6. *t.* 5. *f.* 27.
   Flowers terminal.
2. Carpeſium abrotanoides.
   Lin. ſpec. 1204. *Reich.* 3. 767. *Oſb. it. t.* 10.
   Flowers lateral.

DESCRIPTIONS, &c.

[1. Root perennial. Stem leafy, erect, from a foot to two feet in height, round, ſtriated, hirſute, branched at top. Leaves oblong-lanceolate, alternate, acute, thinly and obſcurely ſerrulate, villoſe on both ſides, tapering towards the baſe, eſpecially the lower and root-leaves. The branches end in peduncles thickening beneath the flower and bending downwards. The outer leaflets of the calyx reſemble the ſtem-leaves, expand much, and are very unequal: the inner are erect, equal, oblong, obtuſe, green, but at the edge white and membranous. Diſk flat, equal. Corollets yellowiſh green, accompanied more or leſs at the border on the outſide with pellucid colourleſs capitate glandulous corpuſcles, which ſurround the tapered ſummit of the germ in greater abundance. The border ſhortly five-cleft and acute, expands in the florets of the diſk, but converges in thoſe of the ray. Receptacle flat, dotted, ample. Seeds brown, ſtriated, oval-linear, odorous, glandular and unctuous at top[a].]

According to Miller it is a biennial plant, flowering in july, and ripening the ſeeds in ſeptember.

[Native of the South of France, Italy, Carniola, Auſtria, Switzerland, and Japan. Introduced 1768, by Mr. Miller[b].

2. Stems branching, hardiſh. Leaves alternate, broad-lanceolate, attenuated into the petioles, obſcurely crenated, the length of a finger. Flowers ſcattered, often ſolitary at the axillas, ſeſſile or on very ſhort peduncles coming out ſingly along the branches, the ſize of a hazle-nut, nodding. Calyxes umbilicate, ſurrounded with ſpreading leaflets. Floſcules numerous. Seeds oblong, naked, ſmooth, ſmeared with a kind of balſam[c].

Native of China and Japan.]

PROPAGATION AND CULTURE.

Theſe plants may be propagated by ſeeds. The firſt muſt be ſown on a bed of light earth in the ſpring, and when the plants come up, if they are thinned and kept clean from weeds, they will require no other culture. The ſecond year they will flower and produce ſeeds, ſoon after which the plants decay.

2. The ſecond ſort ſhould be ſown on a hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be each planted in a ſingle pot, and when the weather becomes warm, they may be expoſed, but in autumn they muſt be houſed.

CARPINUS. (*From carpere, to crop.*)
Engl. *Hornbeam*, or *Hardbeam tree.*
Fr. *Charme, Charmille.*
Lin. gen. n. 1073. *Reich.* 1171. *Schreb.* 1449. *Tournef.* 348. *Juſſ.* 409. *Raii. meth.* 140. Oſtrya. *Mich.* 104.
Claſſ. 21. 8. Monoecia Polyandria.
Nat. order of *Amentaceæ.*

GENERIC CHARACTER.

* *Male flowers* diſpoſed in a cylindric ament.

Cal. *Ament* common on all ſides looſely imbricate, conſiſting of ſcales, ovate, concave, acute, ciliate, uniflorous.

Cor. none.

Stam. *Filaments* generally ten, very ſmall. *Anthers* didymous, compreſſed, villoſe at the tip, bivalve.

* *Female flowers* diſpoſed in a long ament, upon the ſame plant.

Cal. *Ament* common looſely imbricate, conſiſting of lanceolate ſcales, which are villoſe, reflected at the tip, uniflorous.

Cor. Calyciform, monophyllous, ſix-cleft; two of the diviſions larger than the reſt.

Pist. *Germs* two, very ſhort, two ſtyles on each, capillary, coloured, long. *Stigmas* ſimple.

Per. none. *Ament* becoming very large, concealing the ſeed at the baſe of each ſcale.

Seed. *Nut* ovate, angular.

Obs. *The* Carpinus *of Tournefort bears the ſeed within the baſe of the concave calycine ſcale.*

Oſtrya. *Mich. has the ſeed within the inflated calycine ſcale.*

ESSENTIAL CHARACTER.

Cal. one-leafed, with a ciliate ſcale. *Cor.* none.

Male. *Stam.* twenty.

Fem. *Germs* two, with two *ſtyles* on each. *Nut* ovate.

SPECIES.

1. Carpinus Betulus. *Horn-beam, Hard-beam, Horſe-beech, Horn-beech, Wych-haſel.*
   Lin. ſpec. 1416. *Reich.* 4. 168. *fl. ſuec. n.* 872. *Hudſ. angl.* 422. *With.* 1089. *Hall. helv. n.* 1627. *Scop. carn. n.* 1189. *Pollich pal. n.* 911. *Neck. gallob.* 390. *Pallas, roſſ.* 2. 6. *Hunt. Evel.* 138. *Duham. arb.* 1. 127. *t.* 49. *Matth.* 145. *Cluſ. hiſt.* 1. 55. 2. *Dod.* 841. *Lob. ic.* 2. 190. 1. *Camer. epit.* 71. *Ger.* 1296. *emac.* 1479. *Park.* 1406. *Bauh. hiſt.* 1. 146. *Raii hiſt.* 1428.
   β. C. orientalis. *Mill. dict. n.* 3.—fol. minori, fructu brevi. *Tourn. cor.* 40.
   [γ. C. inciſa. *Cut-leaved Horn-beam.* Leaves oblong gaſh-ſerrate.]
   Scales of the ſtrobiles flat.
2. Carpinus Oſtrya. *Hop Horn-beam.*
   Lin. ſpec. 1417. *Reich.* 4. 168. *mant.* 496. *Gron. virg.* 151. *Scop. carn. n.* 1191. *Mich. gen.* 223. *t.* 104. *f.* 1, 2. *Jouſt. dendr.* 5. 212. *t.* 64. (Oſtrya.)
   Scales of the ſtrobiles inflated.
3. Carpinus virginiana. *Flowering Horn-beam.*
   Mill. dict. n. 4. *Du Roi harbecc.* 1. 130. *Ait. hort. kew.* 3. 363. *Pluk. phyt. t.* 156. *f.* 1.
   Leaves lanceolate acuminate; ſtrobiles very long.
[4. Carpinus duinenſis.
   Scop. carn. n. 1190. *t.* 60.
   Scales ſubcordate, doubly toothed; female ament ovate.

DESCRIPTIONS, &c.

1. Leaves ovate, acuminate, ſharply ſerrate, ſtrongly nerved, bright green, ſmooth, three inches or more in length, and near two in breadth, on round petioles, which are ſlightly pubeſcent, half an inch in length, and having ovate red glandules at their baſe. Male aments ſolitary at the ſide of the twigs, ſeſſile, nodding from a bud, but without any leaves at their baſe, cylindric, blunt, an inch and half long; ſcales ſhining, ſmooth, yellow with brown tips. Stamens from ſeven or eight to fifteen or ſixteen at the baſe of the ſcale. On the ſame twig, not far from the male ariſes the female ament, from a leafy bud, it is ſolitary, nodding, and eight or nine lines in length; the ſtyles and ſtigmas are purple[d].

The leaves begin to open about the end of march, and are uſually quite out by the middle of april. The flowers are in full blow towards the end of the ſame month.]

The Hornbeam is very common in many parts of England, but is rarely ſuffered to grow as a timber-tree, being generally reduced to pollards by the country people; yet where the young trees have been properly treated, they have grown to a large ſize. I have ſeen ſome of them in woods, upon a cold ſtiff clay, which have been near ſeventy feet high, with large, noble, fine ſtems, perfectly ſtraight and ſound. Of late years, this has been only conſidered as a ſhrub, and never cultivated but for under-wood in the country, and in the nurſeries to form hedges, after the French taſte; for in moſt of their great gardens, their cabinets, &c. are formed of theſe trees, as are their trelliſſes and hedges which ſurround their plantations. But ſince theſe ſort of ornaments have been almoſt baniſhed from the Engliſh gardens, there has been little demand for theſe trees in the nurſeries.

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[a] Jacquin.
[b] Hort. kew.
[c] Linn. ſpec.
[d] Pollich.

1. β. The Eaſtern Hornbeam is a tree of humble growth, rarely riſing above ten or twelve feet high in this country, ſhooting out many horizontal irregular branches, ſo that it cannot eaſily be trained up to a ſtem. The leaves of this ſort are much ſmaller than thoſe of the common Hornbeam, and the branches grow cloſer together, therefore may be very proper for low hedges, where they are wanted in gardens; being a very tonſile plant, it may be kept in leſs compaſs than almoſt any deciduous tree.

[2. The female fruits reſemble Hops, but are made of inflated ſcales, cloſed on every ſide, villoſe at the baſe, including a bilocular ſeed. It differs from the firſt ſpecies in having branched filaments; emarginated anthers; the female ament compoſed of little compreſſed bags inſtead of ſcales, and a bilocular nut. Leaves elliptic, acuminate, doubly-toothed, nerved, the nerves ferruginous. Male aments terminal, the length of a finger; females white[e]. Cultivated in 1730[f].]

The Hop Hornbeam ſheds its leaves in winter, with the Elm, and other deciduous trees. This tree was firſt obſerved in Italy, and is very common in Germany, growing promiſcuouſly with the common ſort. It is alſo ſaid to grow plentifully in many parts of North America, but it is doubtful whether that is not a different ſort from this. The Hop Hornbeam is of quicker growth than the common ſort, but what the wood of that will be I do not know; for there are but few of the trees in England growing upon their own roots, moſt of them having been grafted upon the common Hornbeam, which is the uſual method of propagating them in the nurſeries; but the trees ſo raiſed are of ſhort duration, for the graft generally grows much faſter than the ſtock, ſo that in a few years there is a great diſproportion in their ſize; and where they happen to ſtand expoſed to ſtrong winds, the graft is frequently broken from the ſtock, after many years growth; for which reaſon I would caution every perſon not to purchaſe any of theſe trees which have been ſo propagated.

3. The Virginian flowering Hornbeam will grow to the height of thirty feet, or more, and is of quicker growth than either of the former ſorts: it ſheds its leaves in autumn, about the ſame time with the Elm; and during the time of its verdure, this tree makes a good appearance, being well clothed with leaves, which are of a deep, ſtrong, green colour, reſembling more the long-leaved Elm than the Hornbeam.

[4. Two fathoms high. Trunk ſhort and ſoon dividing into branches. Leaves ovate acuminate, doubly ſerrate, ſmooth, hardiſh, on ſhort petioles, and having two deciduous ſtipules at the baſe. Female aments a little longer than the leaves, formed of hard imbricate ovate or ſemicordate ſcales, inflected on one ſide to the baſe, and under this flexure covering the germ which is not ſtriated, obtuſangular, as in the firſt ſpecies, gloſſy, crowned with a five-toothed calyx, which in *C. Betulus* is four-toothed[g].]

PROPAGATION AND CULTURE.

1. As the common Hornbeam will thrive upon cold, barren, expoſed hills, and in ſuch ſituations where few other ſorts will grow, it may be cultivated to great advantage by the proprietors of ſuch lands. It will reſiſt the violence of winds better than moſt other trees, and is by no means ſlow in its growth. But where theſe are propagated for timber, they ſhould be raiſed from ſeeds, upon the ſame ſoil, and in the ſame ſituation, where they are deſigned to grow; and not brought from a better land, and a warmer ſituation, as is too frequently practiſed. Nor ſhould they be propagated by layers, which is the common method where they are intended for hedges or underwood; for which thoſe ſo raiſed will anſwer the purpoſe full as well as thoſe raiſed from ſeeds, but the latter muſt always be preferred for timber-trees.

The ſeeds of this tree ſhould be ſown in the autumn, ſoon after they are ripe; for if they are kept out of the ground till ſpring, the plants will not come up till the following year. When the plants appear, they muſt be kept very clear from weeds, and treated as other foreſt-trees; in two years time they will be fit to tranſplant, for the ſooner all trees which are deſigned for timber are planted where they are to remain, the larger they will grow, and the wood will be firmer and more durable. If theſe are not intermixed with other trees, they ſhould be planted pretty cloſe, eſpecially on the outſide of the plantations, that they may protect and draw each other up: and if they are kept clean from weeds three or four years, it will greatly promote their growth; after that, they will have obtained ſufficient ſtrength to keep down the weeds themſelves.

[Others prefer keeping the ſeeds in ſand till the ſpring, and then ſowing them in rows two feet and a half aſunder, and a foot diſtance in the rows, or elſe broadcaſt and thin on beds of freſh earth, three feet and a half or four feet in breadth, with alleys between of eighteen inches or two feet; covering the ſeeds three quarters of an inch deep: and in february following looſening the ſurface ſo as not to diſturb the ſeeds, and ſprinkling on ſome freſh mould. In theſe beds they may remain three years; and by that time they will be fit either for hedges or woods. For the former purpoſe, they may be removed into ten-feet rows, and five feet from each other in the rows, training them annually, and keeping them light and thin at top. After four years they will be ſeven or eight feet high, and may be planted out complete hedges where they are deſigned to remain. The ſtraighteſt plants may be reſerved for trees, and planted from the firſt nurſery, in rows five feet aſunder, and two feet diſtance in the rows. Some prefer the ſpring for tranſplanting; and others recommend it to be performed early in october[h].

For a wood of Hornbeam, Mr. Hanbury recommends to prepare the ground by a crop of Oats, Barley or Turneps, to plough very deep when theſe are off, and to harrow well. Juſt before planting to croſs-plough and harrow as before. To plant from the ſeminary at two years old, in four-feet rows, at two feet diſtance in the rows. When they are too thick to take away every other tree, and to thin them afterwards as often as their heads touch. Where hares and rabbits cannot be kept out, they muſt continue in the nurſery, till their leading ſhoot is out of reach.]

As the trees advance in growth they muſt be thinned with caution, cutting away the moſt unpromiſing plants gradually, ſo as not to let in too much cold at once, eſpecially on the borders of the plantation.

The timber of this tree is very tough and flexible, and might be converted to many uſeful purpoſes, if it were ſuffered to grow to a proper ſize. But this not having been the caſe, the principal uſes it is applied to is for turnery ware, for which it is an excellent wood, for mill-cogs, heads of beetles, ſtocks and handles of tools, and yokes. It is alſo an excellent fuel. [Linneus obſerves that the wood is very white and tough, harder than Hawthorn, and capable of ſupporting great weights; and that the inner bark is much uſed in dying wool yellow.]

The leaves remain upon the trees till the young buds in the ſpring thruſt them off, ſo that they afford much ſhelter to birds in winter: this alſo renders them very proper to plant round the borders of other plantations in expoſed ſituations to defend and promote the growth of more tender trees.

[e] Scopoli.

[f] Hort. kew.

[g] Scopoli.

[h] Boutcher and Hunter's Evelyn.

[The Hornbeam preſerves itſelf well from the bruttings of deer, ſo that clumps of this tree are proper in parks, both for beauty and ſhelter.

There is a variety with ſtriped leaves, which is propagated by budding on the common ſort, but the colours are not ſtrong or lively[i].

2. The Hop Hornbeam may be increaſed in the ſame manner with the common ſort: and they may all be propagated by layers. The ſtools for the Eaſtern Hornbeam ſhould be a yard aſunder, and the others about two yards. They ſhould be laid in the autumn; and in twelve months they will have ſtruck root, and may be taken off to plant in the nurſery; or this may be done the ſpring following[k].

Carpinus. See *Dodonæa*, *Euonymus*, *Hedyſarum*.

Carpobolus. See *Lycoperdon*.

CARPODETUS. (*From* καρπος, *fruit, and* δεω, *to bind; the fruit being ſurrounded or bound by a ring or fillet.*)

Lin. gen. Schreb. n. 360. *Forſt. gen.* 17.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* turbinate, faſtened to the germ, five-toothed: *teeth* ſubulate, deciduous.

Cor. *Petals* five, ovate, ſmall, inſerted into the margin of the calyx.

Stam. *Filaments* five, ſubulate, ſhort, inſerted into the margin of the calyx. *Anthers* roundiſh.

Pist. *Germ* inferior. *Style* filiform, longer than the ſtamens. *Stigma* flat-headed.

Per. *Berry* dry, globular, ſurrounded with the margin of the calyx faſtened to it like a ring, five-celled.

Seeds a few, ſlightly angular.

ESSENTIAL CHARACTER.

Cal. five-toothed, faſtened to the germ. *Cor.* five-petalled. *Stigma* flat-headed. *Berry* globular, five-celled.

SPECIES.

1. Carpodetus ſerratus.

Forſt. gen. 17. *fl. auſtral. n.* 111.

Native of New Zealand.]

Carrot. See *Daucus*.

——— Candy. See *Athamanta*.

Carthamoides. See *Carthamus*.

CARTHĂMUS. (*From* καθαίρειν, *to purge.*)

Engl. *Baſtard Saffron* or *Safflower*. Fr. *Carthame*.

Lin. gen. n. 931. *Reich.* 1010. *Schreb.* 1261. *Gærtn. t.* 161. *Tourn.* 258. *Vaill. A. G.* 1718. *Juſſ.* 172. Atractylis. *Vaill. A. G.* 1718. Carthamoides. *Vaill. A. G.* 1718.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ*, or compound flowers, and diviſion of *Capitatæ*.—*Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* ovate, imbricate; *ſcales* numerous, contracted below, increaſed at the tip by a foliaceous appendicle which is ſubovate, flat, ſpreading, obtuſe.

Cor. *Compound* uniform, tubular. *Corollets* hermaphrodite, equal—the proper one monopetalous, funnel-form; *border* five-parted, erect, ſubequal.

Stam. *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular.

Pist. *Germ* very ſhort. *Style* filiform, longer than the ſtamens. *Stigma* ſimple.

Per. none. Calyx converging.

Seeds ſolitary.

Rec. flat, piloſe, hairs longer than the ſeed.

Obs. Carthamus V. *has the ſeed almoſt naked*—quite ſo. *Allion.*

Atractylis V. *has the ſeed furniſhed with an obſcure crown.*

Carthamoides V. *has the ſeed furniſhed with a piloſe crown.*

C. lanatus *bears neutral florets on the radius*; and C. creticus *abortient ones.* R.

ESSENTIAL CHARACTER.

Cal. ovate, imbricate with ſcales, which at the end are ſubovate-foliaceous.

SPECIES.

1. Carthamus tinctorius. *Officinal Baſtard Saffron*, or *Safflower.*

Lin. ſpec. 1162. *Reich.* 3. 697. *mat. med.* 181. *Gærtn. fruct.* 2. 375. *Thunb. jap.* 307. *Lour. cochinch.* 481. *Allion. pedem. n.* 562.

Cnicus. *Bauh. pin.* 378. 1. *Cluſ. hiſt.* 2. 152. *Beſl. eyſt. æſt.* 11. *t.* 3. *f.* 1. *Rumph. amb.* 5. *t.* 79.

Carthamus ſ. Cnicus. *Bauh. hiſt.* 3. 79. *Raii hiſt.* 302. *Ger. emac.* 1169. 1.

Leaves ovate entire ſerrate-aculeate.

2. Carthamus lanatus. *Yellow Diſtaff-Thiſtle*, or *woolly Carthamus.*

Lin. ſpec. 1163. *ſyſt.* 730. *Reich.* 3. 968. *mant.* 462. *Villars dauph.* 3. 36. *Gouan. hort. monſp.* 427. *Blackw. t.* 468.

Atractylis. *Bauh. pin.* 379. 1. *Dod. pempt.* 736. *Camer. epit.* 561. *Col. ecphr.* 1. 19. *t.* 23. *Hall. helv. n.* 192. *Scop. carn. n.* 1016. *Allion. pedem. n.* 564. *Raii hiſt.* 304. 4. *Park.* 963. 1.

Stem hairy, woolly toward the top; lower leaves pinnatifid, upper ſtem-claſping toothed.

3. Carthamus creticus. *Cretan Carthamus.*

Lin. ſpec. 1163. *ſyſt.* 730. *Reich.* 3. 698.

Atractylis fl. leucophæo. *Vaill. act.* 172. *Hall. goett.* 363. *Raii hiſt.* 304. 5.

Cnicus cret. atractylidis fol. & facie, fl. leucophæo ſ. candidiſſimo. *Tourn. cor.* 33.

Stem ſomewhat gloſſy, calyxes a little woolly, floſcules about nine, lower leaves lyrate.

4. Carthamus tingitanus. *Tangier Carthamus.*

Lin. ſpec. 1163. *Reich.* 3. 699.

Carduus. *Mor. hiſt.* 3. 159. *ſ.* 7. *t.* 34. *f.* 19.

Radical leaves pinnate, ſtem-leaves pinnatifid; ſtem one-flowered.

5. Carthamus coeruleus. *Blue-flowered Carthamus*, or *Baſtard Saffron.*

Lin. ſpec. 1163. *ſyſt.* 730. *Reich.* 3. 699. *hort. cliff.* 394. tingitanus α.

Cnicus. *Bauh. pin.* 378. 2. *Cluſ. hiſt.* 2. 152. *f.* 2. *Raii hiſt.* 302. 2. *Ger. emac.* 1169. 2. *Park.* 260. *f.* 3.

Leaves lanceolate ſpiny-toothed, ſtem one or two-flowered.

[6. Carthamus mitiſſimus. *Small Carthamus.*

Lin. ſpec. 1164. *ſyſt.* 730. *Reich.* 3. 699. *Gouan. illuſtr.* 64. *Ger. prov.* 182.

Carthamoides. *Vaill. act.* 1718. 772.

Carduncellus. *Mor. hiſt.* 3. 159. 14.

Leaves unarmed, thoſe next the root toothed, on the ſtem pinnate.]

7. Carthamus Carduncellus. *Mountain Carthamus.*

Lin. ſpec. 1164. *Reich.* 3. 699. *Gouan. hort. monſp.* 427. *illuſtr.* 65. *Villars dauph.* 3. 36.

Cnicus. *Herm. lugdb.* 164.

Carduncellus. *Lob. ic.* 2. 20. *Allion. pedem. n.* 563.

Stem-leaves linear pinnate the length of the plant.

8. Carthamus arboreſcens. *Tree Carthamus.*

Lin. ſpec. 1164. *Reich.* 3. 700. *mant.* 462.

Carthamoides. *Vaill. act.* 1718. *p.* 772.

Cnicus hiſpanicus arb. foetidiſſimus. *Tourn. inſt.* 451.

Leaves enſiform ſinuate-toothed.

[9. Carthamus ſalicifolius. *Willow-leaved Carthamus.*

Lin. ſyſt. 731. *ſuppl.* 350.

Shrubby; petioles ſpiny, leaves lanceolate entire tomentoſe beneath, pungent at the end; branches one-flowered.]

10. Carthamus corymboſus. *Corymbed Carthamus.*

Lin. ſpec. 1164. *ſyſt.* 731. *Reich.* 3. 700. *hort. cliff.* 391. *Gron. orient.* 250. (Echinops.)

Chamæleon niger. *Bauh. pin.* 380. 6. *Dalech.* 1454. *Dod. pempt.* 727.

Carduus Chamæleon. *Mor. hiſt.* 159. *ſ.* 7. *t.* 33. *f.* 17.

Flowers corymbed numerous.

DESCRIPTIONS, &c.

1. This is an annual plant, which riſes with a ſtiff ligneous ſtalk two feet and a half, or three feet high, dividing upwards into many branches, with ovate pointed ſeſſile leaves. The flowers grow ſingle at the extremity of each branch: the heads are

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[i] Boutcher.

[k] Hunter's Evelyn.

large, incloſed in a ſcaly calyx; each ſcale is broad at the baſe, flat, and formed like a leaf of the plant, terminating in a ſharp ſpine. The lower part of the calyx ſpreads open, but the ſcales above cloſely embrace the florets, which ſtand out near an inch above the calyx; theſe are of a fine Saffron colour, and this is the part which is gathered for the uſes above-mentioned. When the florets decay, the germs become oblong, angular ſeeds, of a white colour, and having a pretty ſtrong ſhell or cover to them. It flowers in july and auguſt, and the ſeeds ripen in autumn; but if the ſeaſon proves cold and moiſt, when the plants are in flower, there will be no good ſeeds produced; ſo that there are few ſeaſons, wherein the ſeeds of this plant come to perfection in England.

It grows naturally in Egypt, in ſome of the warm parts of Aſia, [and according to Allioni, on dry hills in the county of Nice: but in the latter country it has probably eſtabliſhed itſelf only in modern times, ſince Pliny (25, 15.) ſays, that it was unknown in Italy under Veſpaſian.] Mr. Miller ſays, that he has frequently received the ſeeds from the Britiſh iſlands in America, but whether they were originally carried thither, or if it naturally grows there, he could never be rightly informed.

2. This plant is annual, periſhing ſoon after the ſeeds are ripe; the lower leaves ſpread flat upon the ground; theſe are five or ſix inches long, narrow, and deeply indented on both ſides; they are hairy, and have a few ſoft ſpines on their edges; the ſtalk riſes about two feet high, covered with hairs, and garniſhed with oblong hairy leaves, which embrace the ſtalk, and are deeply ſinuated, with ſharp thorns growing on their edges. The upper part of the ſtalk divides into many branches, which have leaves of the ſame form but ſmaller. The flowers are produced at the end of the branches, having a cluſter of ſtiff, hard, prickly leaves below the ſcaly calyx, which contains many yellow florets, ſucceeded by oblong angular ſeeds. It flowers in june and july, and the ſeeds ripen in autumn.

[It has the appearance, ſays Scopoli, of *Carlina corymboſa*. The florets are firſt golden, then ſaffron-coloured, with the edges of the ſegments black, and five black lines running down the corolla. Thoſe in the circumference, according to Haller, are abortive. The receptacle is conic. The ſeeds are ſtriated, but not to the bottom, between the angles. The aigrette is ſcarcely longer than the ſeed.]

It grows naturally in the South of France, Spain and Italy, where the women uſe the ſtalks for diſtaffs, whence it had the title of Diſtaff Thiſtle. It is by ſome called Baſtard wild Saffron. The leaves are ſometimes ordered for medicine, and are ſuppoſed to have the ſame virtues as Carduus Benedictus.

[It was cultivated in 1596, by Gerarde[a].]

3. This is an annual plant, growing near four feet high. It differs from the foregoing in having a ſmooth ſtalk: the leaves are very ſtiff, deeply indented, ſmooth, and armed with very ſtrong ſpines; the heads of flowers are oval, and the florets white. It was diſcovered by Tournefort in the iſland of Crete or Candia, whence he ſent the ſeeds to the royal garden at Paris.

[Haller obſerves, that the florets have five black lines at the opening, which divide and make the edges of the ſegments black: thoſe in the circumference are abortive. The calyx is cobwebbed.

It was cultivated in 1739, by Mr. Miller[b].]

4. This has a perennial root. The ſtalks riſe about a foot and a half high, ſeldom putting out any branches. Leaves the whole length of the ſtalk, narrow ſpear-ſhaped, deeply ſerrate, each of the ſerratures ending in a ſharp point: [thoſe next the root, as Linneus obſerves, entirely pinnate, but the ſtem-leaves pinnatifid.] The ſtalk is terminated by one large ſcaly head of blue flowers. [It is a native of Barbary:] and was firſt brought to England from Tangier. [Mr. Miller cultivated it in 1768[c]. Linneus remarks, that it is ſcarcely diſtinct from the ſpecies next following.]

5. This riſes with a ſingle ſtalk about two feet high, of a purpliſh colour, hairy and channelled, cloſely beſet with broad ſpear-ſhaped leaves, ſharply ſerrate, and covered with a ſhort hairy down. The ſtalk is terminated by a ſingle large head of blue flowers, having a ſcaly calyx compoſed of two orders of leaves; the outer broad, long, and armed with ſharp ſpines on their edges; the inner narrow, and terminated by a ſharp thorn. It flowers in june and july, and the ſeeds ripen in autumn. It is ſuppoſed by ſome to be the ſame with the foregoing, which is a great miſtake, for they are extremely different. It grows naturally in Spain, France, and Italy, on arable land.

[According to the obſervation of Linneus, the ſtems are often procumbent: the leaves are ſmooth on their upper ſurface; the calyx is leafy; the anthers are black; and the down of the ſeed hairy.

It was cultivated with us in 1640[d].

6. Root-leaves, ſome lanceolate, dilated at the end and very ſmooth, from the middle to the end toothed, the teeth turned upwards, ſharp, ending in a ſmall thorn; others pinnatifid, like thoſe of *Coronopus* or *Leontodon autumnale*; the pinnules linear-lanceolate, refalcated, quite entire; ſome eared at the baſe underneath. Stem-leaves interruptedly pinnatifid, like thoſe of *Scabioſa ochroleuca*. The leaves vary much in ſize. Stem one-flowered, ſmooth, ſlightly ſtriated, with one or two leaves. Calyx large: the outer ſcales larger, concave, leafy, ſpinoſe-ciliated, often quite entire, ſeldom laciniated and generally deſtitute of conſpicuous veins or nerves. Inner ſcales narrower, obtuſe, with a membranous, dilated, ciliated end, as in *Jacea*. Flower bright blue[e].

Sometimes the plant has no ſtem, and ſometimes the ſtem is four inches high[f]. The down of the ſeed is hairy[g].

The garden plant is hardly to be diſtinguiſhed, by its decumbent ſtem four inches in length, and its longer ſoft ſinuate leaves[h].

Native of France, about Paris and Montpellier. Introduced here in 1776, by Monſ. Thouin[i].]

7. Root perennial. Stem about ſix inches high (in gardens), channelled and hairy. Leaves long and narrow, ending in ſeveral ſharp ſpines, their edges indented, each indenture ending in a ſpine. Each ſtalk is terminated by one large head of blue flowers.

[Leaves villoſe and rugged, having prominent thorny-ciliate nerves. Root-leaves obovate; the reſt pinnatifid: pinnules refalcated, having ſmall thorns about the edge, and being uſually eared at the baſe. Stem-leaves from one to three; but in garden plants, or ſuch as grow in a ſtrong ſoil, nine. Outer ſcales of the calyx leafy, at the end dilated green and thorny, nicely three-nerved and netted, as in the common ſort: inner ſcales narrower, ciliate at top, but leſs dilated than in the foregoing. It varies in ſize from an inch, on rocks, to a foot, in paſtures. In gardens the leaves are much ſofter[k]. The down of the ſeed is hairy, unequal and deciduous[l]. Native of the South of France, Spain and Italy. The root is eaten in Africa[m]. Cultivated in 1739, by Mr. Miller[n].

8. The whole plant is pubeſcent. Stem firm, of a man's height, (eight to ten feet) evergreen. Leaves ſtem-claſping, enſiform or lanceolate, a foot long, pinnatifid-ſinuate, toothed, moſtly ſpinous at the end; rib white. Flower terminal (one or two), ſeſſile, yellow, ſweet ſmelling. Calyx with ciliate, ſpreading, pointed ſcales. Style twice as long as the corolla. Down hairy[o].] Mr. Miller received it from Andaluſia, where it grows naturally in great plenty, and cultivated it before 1759.

[a] Hort. kew.
[b] Ibid.

[c] Hort. kew.
[d] Ibid.
[e] Gouan. illuſtr.
[f] Gouan.
[g] Linn.
[h] Ger. prov.
[i] Hort. kew.
[k] Gouan. illuſtr.
[l] Linn. and Allioni.
[m] Shaw.
[n] Hort. kew.
[o] Linn. mant.

[9. This has the habit of *Gorteria*, but the flowers are hermaphrodite, the ſtigma undivided, the down plumoſe, the receptacle chaffy, and the florets all diſcoid, therefore they have no ray. It is a woody ſhrub; the branches long and tomentoſe; the leaves approximating, ſmooth above, ſilky beneath; at the baſe or on the petiole, and ſometimes but rarely on the edge having two or four ſpines; always ending in a ſpine. Branchlets one-flowered. Calyx imbricate; the outer ſcales acute and longer, ſimilar to the ſtem-leaves. Florets white[p]. Native of Madeira. Introduced 1784, by Meſſrs. Lee and Kennedy[q].]

10. Root perennial. Stem ſingle, white, ſmooth, and channelled, never putting out any ſide-branches. Leaves long, narrow, pale green, cloſely armed on their edges with ſhort ſtiff ſpines, which come out double. Stems terminated by ſingle oval ſcaly heads of white flowers, each ſcale terminated by a purpliſh ſpine: the ſcaly calyx is cloſely joined at the top, ſo that few of the florets appear viſible above it; and it is guarded by a border of long narrow prickly leaves, riſing conſiderably above the flowers; which appear from june to auguſt.

[It has the habit of *Echinops*. The quality is corroſive. The fructification ſhould be examined more accurately[r].——Native of Apulia, the Helleſpont, Lemnos, and Thrace.] Mr. Miller ſays that he received the ſeeds from Spain, where it grows naturally. [Cultivated 1714, by Charles Dubois, Eſq.[s]

PROPAGATION AND CULTURE.

1. It is propagated by ſeeds, which ſhould be ſown in april, upon a bed of light earth: the beſt way is to ſow them in drills, drawn at two feet and a half diſtance from each other, in which the ſeeds ſhould be ſcattered thinly, for the plants muſt not ſtand nearer each other than a foot in the rows; but as ſome of the ſeeds will fail, ſo a greater quantity ſhould be ſown, as it will be eaſy to thin the plants, at the time when the ground is hoed. If the ſeeds are good, the plants will appear in leſs than a month; and in a fortnight or three weeks after, it will be proper to hoe the ground to deſtroy the weeds, and at the ſame time the plants ſhould be thinned where they are too cloſe; but at this time they ſhould not be ſeparated to their full diſtance, leſt ſome of them ſhould afterward fail; ſo that if they are now left ſix inches aſunder, there will be room enough for the plants to grow, till the next time of hoeing, when they muſt be thinned to the diſtance they are to remain for good: after this they ſhould have a third hoeing, which, if carefully performed in dry weather, will deſtroy the weeds and make the ground clean, ſo that the plants will require no farther care, till they come to flower; when, if the Safflower is intended for uſe, the florets ſhould be cut off from the flowers as they come to perfection; but this muſt be performed when they are perfectly dry, and then they ſhould be dried in a kiln, with a moderate fire, in the ſame manner as the true Saffron, which will prepare the commodity for uſe.

But if the plants are deſigned for ſeed, the flowers muſt not be gathered; for if the florets are cut off, it will render the ſeeds abortive, though they may ſwell and grow to their uſual ſize, as I have frequently experienced; yet when they are broken, there will be found nothing more than a ſhell without any kernel. And this frequently happens to be the caſe with theſe ſeeds, in wet cold ſeaſons; and in very wet ones the germ will rot, and never come ſo forward as to form a ſhell.

I have been informed, that this plant was formerly cultivated in the fields in ſeveral parts of England, for the dyers uſe; and particularly in Glouceſterſhire, where the common people frequently gathered the florets, and dried them, to give a colour to their puddings and cheeſecakes; but by putting in too great quantity, they acquired a cathartic quality.

If this plant was ever cultivated here in great quantity, it is ſurpriſing how it came to be ſo totally neglected, as that at preſent, there are not the leaſt traces to be met with, in any part of England, of its ever having been cultivated; inſomuch that the commodity is ſcarcely known, except to thoſe who deal in it. The quantity annually conſumed in England is ſo great, as to make it a conſiderable article of trade, ſo that it might be well worthy of public attention; for although the ſeeds ſeldom come to perfection in England, yet theſe might be procured from abroad, and the plants would conſtantly produce the flower, which is the only part uſed in dyeing.

[It appears from Dr. Turner's herbal, that the Baſtard Saffron or Safflower was cultivated in England in 1551[t]. The information to which Mr. Miller alludes, is confirmed by Mr. Houghton in his Collections: wherein he ſays that Henry Hall, Eſq. relates (nov. 14, 1683), that twenty-five acres, in the vale of Eveſham in Glouceſterſhire, was ſowed with this ſeed; the ſoil a mixed ſand, of about 15s. an acre value; it bore a crop of Wheat the year before, was dreſſed for Barley, and had a harrowing extraordinary. This piece of ground was taken for two years by an adventurer in this ſeed, at the rate of 25l. per acre, in conſideration that this plant is ſaid to be a great impoveriſher of land. He ſold the flowers in London for 10l. per pound; a price he ſaid much below his expectation; he gained above 30s. an acre clear profit, excepting the price of the ſeed: but of this there was a plentiful return, (about one hundred and forty buſhels) which had it been well managed, would have amounted to a conſiderable value; for want of experience it was too ſoon gathered, and at a greater charge than needed, neither was it ſo carefully cured, as it ought, which much impaired the price[u].

The common people took it for Saffron, and privately ſtole conſiderable quantities, and uſed it in their puddings, cakes, and even bread; but finding in it a purgative quality, which to ſome was very troubleſome, they ſold their remaining ſtock to an apothecary[x].

Mr. Hall ſowed ſome of the ſeed in february, and ſome about the middle of march; both thrived very well, flowered, and was fit to gather in july, and was gathered before the 20th of that month: by which means women and children could be had in plenty to gather the flowers, before gleaning time came on. He alſo found that plants from which the flower was not gathered, produced ſeed to the full as good as what is brought from Germany. And, that though it certainly impoveriſhes the ground, yet that the piece which was ſown with Safflower, did, the year following, bear a good crop of Oats, and, had it been fallowed and well dreſſed the third year, would have been fit for Wheat or Safflower again. He adds that turkies greedily fed on the ſeed, and in a ſhort time became very fat: that geeſe fed on it, grew fat much ſooner than thoſe of their neighbours, that fed on other grain; and that a colt, eating of this ſeed, recovered in a ſhort time from great poverty to a very good condition[y].]

This plant is cultivated in great plenty, in ſome parts of Germany, where the ſeeds conſtantly come to perfection; and as I have obtained a ſhort account of their method of cultivation, from a curious gentleman of that country, I ſhall inſert it for the benefit of thoſe who may be induced to engage in this undertaking.

The ground in which they propoſe to ſow the Carthamus, has always a double fallow given to it, firſt to deſtroy the weeds, and afterward to make it fine. They make choice of their lighteſt land, and ſuch as is clear from Couch Graſs, and other troubleſome weeds. After the land has been fallowed a ſummer and winter, in which time they give it four ploughings, and harrow it between each, to break the clods, and pulverize it: in the latter end of march they give it the laſt ploughing, when they lay it in narrow furrows of about five feet or a little more, leaving a ſpace of two feet between each: then they harrow theſe lands to make them level, and after it is finiſhed, they ſow the ſeeds in the following manner. With a ſmall plough, they draw four ſhallow furrows in each land, at near a foot and a half diſtance, into which they ſcatter the ſeeds thinly; then with a harrow, whoſe teeth are little more than one inch long, they draw the earth into the drills to cover the ſeeds; after this, they draw a roller over the ground, to ſmooth and ſettle it. When the plants are come up, ſo as to be diſtinguiſhed, they hoe the ground to deſtroy the weeds; and at this firſt operation, where the plants happen to be cloſe, they cut up the leaſt promiſing, leaving them all ſingle, at the diſtance of three or four inches; which they always ſuppoſe will be ſufficient room for their growth, till the ſecond time of hoeing, which muſt be performed in about five weeks after their firſt; in which they are guided by the growth of the weeds, for as this work is performed with a Dutch hoe, ſo they never ſuffer the weeds to grow to any ſize before they cut them; in which they judge right, for when the weeds are ſmall, one man will hoe as much ground in a day, as can be performed by three, when they are permitted to grow large; and the weeds will be more effectually deſtroyed.

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[p] Linn. ſuppl.

[q] Hort. kew.

[r] Linn. ſpec. and ſyſt.

[s] Hort. kew.

[t] Hort. kew.

[u] Hought. collect. 4. 355.

[x] Ibid. p. 360.

[y] Ibid. p. 358.

They give a third hoeing to the plants, about five or ſix weeks after the ſecond; which generally makes the ground ſo clean, as to require no more cleaning, till the Carthamus is pulled up. When the plants begin to flower, and have thruſt out their florets (or thrum) to a proper length, they go over the ground once a week to gather it; and as it is from time to time gathered, it is dried in a kiln for uſe. There is uſually a ſucceſſion of flowers for ſix or ſeven weeks. After the crop is gathered, the ſtalks are pulled, and tied in bundles for fuel; and when they have been ſet up a few days to dry, they are carried off, and the ground is ploughed for Wheat; which they ſay, always ſucceeds well after this plant.

The good quality of this commodity is chiefly in the colour, which ſhould be of a bright Saffron colour, and herein that which is cultivated in England often fails; for if there happens much rain during the time the plants are in flower, it will cauſe the florets to change to a dark or dirty yellow, which will alſo befal that which is gathered when there is any moiſture remaining upon it; therefore great care muſt be taken not to gather it till the dew is quite dried off, nor ſhould it be preſſed together till it has been dried on the kiln. The manner of doing this being the ſame as for the true Saffron, I ſhall not mention it here, but deſire the reader to turn to the article Crocus, where that is fully treated.

It is cultivated at preſent in many parts of Europe, and alſo in the Levant, whence great quantities are annually imported into England, for dyeing and painting.

In Spain this plant is cultivated in their gardens, as Marigolds are in England, to put into their ſoups, olios, and other diſhes, to give them a colour. The Jews alſo are very fond of this, and mix it in moſt of their viands; and it is very probable they were the perſons who firſt carried the ſeeds of this plant to America, and taught the inhabitants the uſe of it, for it is now as commonly uſed by the Engliſh there, as in any part of Europe.

This plant may be admitted to have a place in the borders of large gardens, where it will add to the variety, during the time of its continuance in flower, which is commonly two months, or ten weeks; for if the ſeeds are ſown in the beginning of april, the firſt flowers will appear in the middle of july at fartheſt; and there will be a ſucceſſion of flowers on the ſide branches, till the end of ſeptember, or in mild warm ſeaſons till the middle of october, during which time the plants will not be deſtitute of flowers; which being of a bright Saffron colour, make a pretty appearance; and if the plants are ſupported to prevent their being broken, or blown down by the wind, they will not interfere with the other flowers, becauſe theſe have a regular upright growth.

When they are cultivated for this purpoſe, the ſeeds ſhould be ſown in the places where the plants are deſigned to remain, becauſe they do not bear tranſplanting well; therefore three or four ſeeds ſhould be ſown in each patch, leſt any of them ſhould fail; and when the plants are grown ſo ſtrong as to be out of danger, the moſt promiſing in each patch ſhould be left, and the others pulled up, that they may not draw or injure thoſe which are to ſtand.

2, 3. If the ſeeds of theſe ſorts be ſown in autumn, the plants will flower early the following ſummer, ſo that there will be a certainty of good ſeeds. They may be ſown in any ſituation, and will require no other culture, but to keep them clean from weeds, and thin the plants where they are too cloſe. There is a variety of this, which grows much taller; the heads alſo are larger, and the leaves are placed cloſer upon the ſtalks. It was found by Tournefort in the Levant.

4. The ſeeds of this are never perfected in England, it is increaſed therefore by parting the roots. The beſt time for this is the beginning of march. It ſhould have a dry ſoil and a warm ſituation; otherwiſe it will be liable to be deſtroyed in ſevere winters.

5. This ſort may be increaſed by parting the roots in autumn, when the leaves decay. In a light ſoil it will endure the cold of our winters, and continue many years. It may alſo be propagated by ſeeds, which ripen here in dry ſeaſons.

7. Is difficult to propagate in England, the roots not putting out offſets, and the ſeeds ripening only in warm dry ſeaſons. It requires a dry ſoil and warm ſituation.

8. The ſeeds not ripening in this country, this ſort can only be increaſed by ſide ſhoots ſlipped from the branches in the ſpring, planted in pots filled with light ſandy earth, and plunged into a moderate hot-bed, obſerving to ſhade them till they have taken root: then they muſt be gradually hardened and removed into the open air, and when they have obtained ſtrength, ſome may be planted in a warm dry border, where they will endure the cold of our ordinary winters; but in ſevere froſt they are frequently deſtroyed, and therefore a plant or two ſhould be potted and ſheltered in winter.

10. This ſeldom perfects ſeeds in England, and therefore is increaſed by parting the roots in the ſpring. In a light ſoil and warm ſituation it will live abroad in common winters, but in ſevere froſt it is ſometimes deſtroyed.

Carthamus. See *Atractylis.*

Carua. See *Juſticia.*

Carui. See *Carum, Seſeli, Siſon.*

Caruifolia. See *Selinum.*

CARUM. (*So named from Caria; a province of Aſia.* Καρος, *Dioſcor.*)

Engl. *Caraway.* Fr. *Carvi.*

Lin. gen. n. 365. *Reich.* 395. *Schreb.* 497. *Juſſ.* 219. *Gærtn. t.* 23. Carui. *Tourn.* 160.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ,* or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel univerſal* long; *rays* ten, frequently unequal; *umbel partial* crowded.
Involucre univerſal often monophyllous; *partial* none. *Perianth* ſcarcely manifeſt.

Cor. univerſal uniform. Florets of the diſk abortive.
Proper unequal. *Petals* five, unequal, obtuſe, carinated, inflex-emarginate.

Stam. *Filaments* five, capillary, length of the corolla, caducous. *Anthers* roundiſh, very ſmall.

Pist. *Germ* inferior. *Styles* two, very ſmall. *Stigmas* ſimple.

Per. none. *Fruit* ovate-oblong, ſtriated, bipartile.

Seeds two, convex on one ſide, ovate-oblong, ſtriated, flat on the other ſide.

Obs. *Some of the floſcules in the diſk are neutral.*

ESSENTIAL CHARACTER.

Fruit ovate-oblong, ſtriated. *Invol.* one-leafed, *Pet.* keeled, inflex-emarginate.

SPECIES.

1. Carum Carui. *Common Caraway.*
Lin. ſpec. 378. *Reich.* 1. 722. *fl. lapp. n.* 105. *ſuec. n.* 260. *mat. med.* 85. *Hudſ. angl.* 126. *Wither. arr.* 312. *Relh. cant. n.* 240. *Hall. helv. n.* 789. *Pollich pal. n.* 304. *Jacqu. auſtr.* 4. *t.* 393. *Krock. ſileſ. n.* 465. *Gærtn. fruct.* 1. 106. *Woodv. med. bot.* 125. *t.* 45. *Plenck, ic. t.* 214. *Blackw. herb. t.* 529. *Rivin. pent. t.* 55. *Fl. ruſt. t.* 55. *Dod. pempt.* 299. 2. *Camer. epit.* 516. *Lob. ic.* 1. 724. 1. *Ger. herb.* 879. *emac.* 1034. *Park. theat.* 910. *Mor. hiſt. ſ.* 9. *t.* 9. *f.* 1. *umb. t.* 8. *Raii hiſt.* 446. *ſyn.* 213.
Apium Carui. *Crantz. auſtr.* 218. *umb.* 101.
Seſeli Carum. *Scop. carn. n.* 361. *Villars dauph.* 2. 589.
Cuminum pratenſe, Carui offic. *Bauh. pin.* 158.
β. C. hiſpanicum. *Spaniſh Caraway.*
Mill. dict. n. 2.

DESCRIPTION, &c.

Caraway is a biennial plant. It has a taper root like a Parſnep, but much ſmaller, running deep into the ground, ſending out many ſmall fibres, and having a ſtrong aromatic taſte. [The whole plant is ſmooth. Stems ſolid, channelled, from eighteen inches to two feet and upwards in height, with ſpreading branches. Leaves decompound, long and narrow, on long petioles; leaflets in ſixes, in a ſort of whorl, two of them longer; ſegments terminating in a reddiſh ſemitranſparent ſubſtance[a]. Univerſal involucre generally one-leafed, as Linneus deſcribes it; but it has ſometimes as far as five caducous leaflets. Rays of the umbel from nine to twelve. Some umbellules have twenty florets, white or tinged with red: ſome of them neutral, according to Linneus, but all fertile, as Dr. Withering affirms.

It grows naturally in rich meadows in Lincolnſhire, in Yorkſhire near Hull, in Norfolk, near Cambridge, Bury, &c. and is cultivated in ſome counties, particularly Eſſex. It flowers in may and june; and the ſeeds ripen in autumn.

Parkinſon ſays, the young roots are better eating than Parſneps. The tender leaves in the ſpring are boiled in ſoup. The ſeeds, it is well known, are much uſed in cakes, and incruſted with ſugar for comfits; they are diſtilled alſo with ſpirituous liquors for their flavour. They were formerly recommended by Dioſcorides for pale-faced girls; and in more modern days their uſe in that caſe is not forgotten. They are no deſpicable remedy in tertian agues. They abound with an eſſential oil, which is anti-ſpaſmodic and carminative.

Lewis ſays, that about one ounce in thirty of eſſential oil ariſes from the ſeeds in diſtillation, that it is of a bright yellow colour, hotter and more pungent to the taſte than what is obtained from moſt other warm ſeeds, that it is given from one to five drops as a carminative, and is ſuppoſed to be of peculiar efficacy in promoting urine. The herb affords a ſimilar oil, but ſixteen pounds of the herb in flower, ſtripped from the ſtalks, yield ſcarcely an ounce.

This is one of the eſſential oils of the London and Edinburgh Diſpenſatories. It enters the compoſition of Electuary of Scammony. A diſtilled water of the ſeeds is there alſo directed. The ſeeds themſelves are an ingredient in compound ſpirit of Juniper, tincture of Senna, Confectio Opiata, and emplaſtrum Cumini.

According to Linneus's account, ſheep, goats, and ſwine eat this plant; but kine and horſes are not fond of it. Schreber on the contrary affirms, that it is an excellent food for kine. Dr. Anderſon recommends both the roots and tops for cattle in the ſpring.]

β. Spaniſh Caraway riſes with a ſtronger ſtalk, cloſely ſet with fine narrow leaves like thoſe of Dill, and dividing at top into many branches, each terminated by looſer umbels of white flowers, which are ſucceeded by larger broader ſeeds at Paris.

It grows naturally in Spain; the ſeeds were ſent to Mr. Miller from the royal garden.

PROPAGATION AND CULTURE.

The beſt ſeaſon for ſowing the ſeeds of Caraway is in autumn, ſoon after they are ripe, when they will more certainly grow, than thoſe ſown in the ſpring; and the plants which riſe in the autumn, generally flower the following ſeaſon, ſo that a ſummer's growth is hereby ſaved. When the plants come up, the ground ſhould be hoed to deſtroy the weeds; and where the plants are too cloſe, they muſt be thinned in the ſame manner as is practiſed for Carrots, leaving them three or four inches apart. In the following ſpring they will require to be twice more hoed, which will keep the ground clean till the ſeeds are ripe; then the ſtalks muſt be pulled up, and tied in bundles, ſetting them upright to dry, when the ſeeds may be threſhed out for uſe.

[The method of culture in Eſſex is, about the beginning of march to plough ſome old paſture land: if it has been paſture for a century the better; and the ſoil ſhould be a very ſtrong clayey loam. Twelve pounds of Caraway ſeed, are mixed with ten pounds of Coriander, and twelve pounds of Teaſel ſeed. This is ſufficient for one acre; and is ſowed directly after the plough, harrowing the land well. When the plants appear of ſufficient ſtrength to bear the hoe, which will not be until about ten weeks after ſowing, it muſt not be omitted; and in the courſe of the ſummer, the crop will require three hoeings, beſides one at michaelmas; each coſting about eight ſhillings an acre. The Coriander being annual, will be fit to cut about the beginning of july, and is reaped at four ſhillings the acre. It is left in the field after cutting, and threſhed by the day on a cloth, in the ſame manner as Rape ſeed. About april following the Caraway and Teaſel will want a good hoeing, done deep and well; and another about the beginning of june; theſe two hoeings are done at ſeven ſhillings the acre each. The Caraway will be fit to cut the beginning of july; and muſt be threſhed in the ſame manner as the Coriander. The Teaſel will not be ready till the middle of ſeptember. Some of the plants of Caraway and Teaſel do not perfect their ſeeds till the third or fourth year; though in general there is a crop the ſecond year, yet enough is left for a crop the third year: and the ſeeds that are ſcattered from the crop the ſecond year often come to perfection the fourth: and there are inſtances of its being continued for ſeven years. The uſual way however is to plough directly after the crop is gathered the third year, and to ſow Wheat, of which commonly a very good crop is obtained, the land being in fine order, from the rotting of the turf, and repeated hoeings.

The produce of Caraway, on the very rich old lays in the hundreds, or low lands of Eſſex, has often been twenty hundred weight to the acre. There is always a demand for the ſeed in the London market; where it is ſometimes ſo low as twelve ſhillings the hundred weight; and has been up to fifty ſhillings; but it is moſtly on an average at twenty-one ſhillings. The land can only be filled with plants; and the more one predominates, the leſs muſt reaſonably be expected of the others. This compound crop is moſtly ſown on land ſo ſtrong, as to require being a little exhauſted, to make it fit for corn. Caraway and Coriander are ofteneſt ſown without Teaſel; the latter being a troubleſome and uncertain crop, and the produce of Caraway much greater without it[c].

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[a] Withering.

[b] Ibid.

Caraway has been long cultivated in the county of Eſſex. Mr. Houghton, at the end of the laſt century, ſays that "although Caraway-ſeed be ſcarce "now, yet not many years ſince a friend of mine "near Colcheſter produced ſo much, that it was "ſold for two-pence, and I believe leſs, the pound. "I am afraid his great quantity did him damage, "however I believe 'tis made now one of the ſtaple "pieces of huſbandry[d]."

CARUM. See *Siſon.*

——— Bunius. See *Æthuſa.*]

[CARYŎCAR. (*From* καρυα *or* καρυον, *a nut, and* καρη, *the head.)*

Lin. gen. Reich. n. 739. *Schreb.* 931. *Juſſ.* 435. Auth. D. Allamand.

Claſſ. 13. 4. Polyandria Tetragynia.

GENERIC CHARACTER.

CAL. *Perianth* quinquepartite, coloured; *diviſions* obtuſe, concave, deciduous.

COR. *Petals* five, oval, concave, large.

STAM. *Filaments* numerous, filiform. *Anthers* oblong.

PIST. *Germ* globoſe. *Styles* four, (ſometimes fewer.) *Stigmas* obtuſe.

PER. *Drupe* fleſhy, ſpherical, very large.

SEED. *Nuts* four (one to four), oval-triquetrous, reticulated with furrows, angulated with a ſuture on one ſide.

ESSENTIAL CHARACTER.

Cal. five-parted. *Petals* five. *Styles* uſually four. *Drupe* with four nuts, reticulated with furrows.

SPECIES.

1. Caryocar nuciferum.

Lin. ſyſt. 504. *Reich.* 2. 618. *mant.* 247.

DESCRIPTION, &c.

A tall tree, with ternate leaves. Calyx [illegible] orolla purple. Drupe the ſize of the human head. Nuts eſculent, having the taſte of Almonds[e].—Native of Berbices and Eſſequebo.

CARYOPHYLLASTER. See *Dodonæa.*

CARYOPHYLLATA. See *Anemone, Geum,* and *Dryas.*

CARYOPHYLLO AFFINIS. See *Dianthus.*

CARYOPHYLLUM. See *Sarracenia.*]

CARYOPHYLLUS. (καρυου φυλλος, *nut-leaf.)*

Engl. *Clove-tree.* Fr. *Giroflier.*——The fruit is named in *Engl.* Clove. *Fr.* Clou. *Ital.* Chiodi. *Span.* Clavo. *Dutch,* Naghel—from the ſimilitude of it to a nail.

Lin. gen. n. 669. *Reich.* 727. *Schreb.* 848. *Juſſ.* 324. *Gærtn. t.* 33. Caryophyllus aromaticus. *Tourn.* 432. Caryophyllodendron. *Vaill. A. G.* 1722.

Claſſ. 13. 1. Polyandria Monogynia.

Nat. order of *Heſperideæ. Myrti* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth of the fruit* ſuperior, quadripartite, acute, ſmall, permanent.

Perianth of the flower ſuperior, tetraphyllous; *leaflets* roundiſh, concave, deciduous.

COR. *Petals* four, roundiſh, crenate, ſmaller than the calyx of the flower.

STAM. *Filaments* numerous, capillary. *Anthers* ſimple.

PIST. *Germ* inferior, oblong, large, terminating in the calyx of the fruit. *Style* ſimple, inſerted into the quadrangular receptacle. *Stigma* ſimple.

PER. oval, unilocular, terminated by the hardened converging calyx of the fruit, umbilicate.

SEED ſingle, oval, large.

ESSENTIAL CHARACTER.

Cor. four-petalled. *Cal.* four-leaved, duplicate. *Berry* one-ſeeded, inferior.

SPECIES.

1. Caryophyllus aromaticus. *Clove-tree.*

Lin. ſpec. 735. *ſyſt.* 496. *Reich.* 2. 590. *hort. cliff.* 207. *mat. med.* 136. *Gærtn. fruct.* 1. 167. *Woodv. med. bot.* 366. *t.* 135. *Lour. cochinch.* 333. *Blackw. t.* 338. *Pluk. alm. t.* 155. *f.* 1. *Cluſ. exot.* 16. *Rumph. amb.* 2. *t.* 1, 2, 3. *Sonn. guin.* 196. *t.* 197. *Bauh. pin.* 410. *Raii hiſt.* 1508. *Ger.* 1351. *emac.* 1535. *Park. theat.* 1577. *Piſ. mant.* 177.

DESCRIPTION, &c.

According to Mr. Miller, this tree riſes to the height of a common Apple-tree, but the trunk generally divides at about four or five feet from the ground into three or four large limbs, which grow erect, and are covered with a thin ſmooth bark, which adheres cloſely to the wood. Theſe limbs divide into many ſmall branches, which form a ſort of conical figure; the leaves are like thoſe of the Bay-tree, and are placed oppoſite on the branches. The flowers are produced in looſe bunches at the end of the branches; are ſmall, white, and have a great number of ſtamens, which are much longer than the petals. The flowers are ſucceeded by oval berries, which are crowned with the calyx, divided into four parts, and ſpreading flat on the top of the fruit; it is the young fruit beaten from the trees before they are half grown, which are the Cloves uſed all over Europe.

[Monſ. Sonnerat deſcribes the Clove ſhrub as of a pyramidal form. Leaves oppoſite, pointed at each end, ſmooth, and waving on the edge, on a petiole an inch in length, and red; this petiole is the moſt aromatic part of the whole ſhrub, not excepting even the Clove. The flowers grow in a cyme (par bouquet) at the ends of the branches. Petals blueiſh, veined with white, rounded at the end and concave. Fruit reddiſh, and incloſing commonly two ſeeds. The whole ſhrub is aromatic, and does not ſucceed except in moiſt ſituations.

It is not confined to Banda and Amboina, but is found in all the Moluccas, in many of the South Sea iſlands, New Guinea, and the neighbouring iſles, &c.

Father Loureiro deſcribes it as a middle-ſized tree, with few aſcending branches. Leaves broad-lanceolate, quite entire, ſmooth, oppoſite, petioled. Flowers white, on many-flowered, regular, upright, terminating peduncles. Calyx tubular, oblong, four-cleft, the ſegments acute, ſhort, ſomewhat upright. Petals roundiſh, concave, ſmall. Stamens inſerted into the receptacle, longer than the corolla. Pericarp a calycine berry, ovate-oblong, corticoſe, pale brown, containing one ſeed, and crowned with the ſegment of the calyx.

This grows wild in Cochinchina, and has ſcarcely any ſmell or taſte; but it ſeems to agree in botanical characters with the true Clove.

Gærtner deſcribes the calyx as four-toothed. Stamens as many as two hundred, diſpoſed in four phalanxes, and inſerted into a quadrangular fleſhy vallum cloſe to the teeth of the calyx. The immature germ (which is what we have in Europe as a ſpice) is two-celled, and in each cell there are twenty ovula fixed to the middle partition. The ripe berry (Anthophyllus, offic.) is inferior, coriaceous, umbilicated with a quadrangular vallum within the teeth of the permanent calyx, of an elliptic-ſphæroidal form, one-celled or two-celled. There is a ſingle ſeed in each cell, of the ſame ſhape with the cavity, therefore either ovate-cylindric or half-ovate, two-lobed, without any albumen.]

There are no plants of the Clove-tree in the gardens either of England or Holland. The Dutch have been ever jealous of other nations partaking with them in the ſpice trade; they will not therefore permit the trees to be removed from the iſlands where they grow naturally; nor will they ſuffer them, as far as they can prevent it, to grow in the uninhabited iſlands. [Captain Roſy told Dampier, that he was ſent on purpoſe to cut them down, and that he did actually at ſeveral times cut down ſeven or eight hundred trees. Yet, ſays Dampier, there are many uninhabited iſlands that have great plenty of them.

Notwithſtanding the extreme caution of the Dutch this valuable tree has been ſome time in the hands of the French at Cayenne and elſewhere. It is alſo in the botanic garden in our iſland of St. Vincent and has been ſent thence to Barbadoes (1794) by Mr. Alexander Anderſon, the ſuperintendant.

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[c] Sewell in Young's Annals, vol. 21. p. 53, &c.

[d] Collect. 2. 462.

[e] Allamand.

The Clove is conſidered as one of the hotteſt and moſt acrid ſubſtances of the aromatic claſs, and as ſuch is often uſed, not only internally, but externally, as a ſtimulant; as in paralytic caſes for example, in which the oil of Cloves has been adminiſtered to advantage: it is alſo made uſe of in the tooth-ach, in which it often ſucceeds in ſuddenly abating and ſubduing the pain. A tincture of Cloves in rectified ſpirit is kept in the ſhops, as well as the eſſential oil, which latter is perhaps ſeldom free from ſophiſtication. For culinary purpoſes the uſes of Cloves are innumerable.

CARYOPHYLLUS. See *Aphyllanthes*, *Arenaria*, *Ceraſtium*, *Cucubalus*, *Gypſophila*, *Holoſteum*, *Hypericum*, *Jambolifera*, *Lychnis*, *Myrtus*, *Silene*, *Statice*, *Stellaria*, *Tagetes.*]

[**CARYŌTA.** (Καρυῳτας, *or* καρυωτις, *Dioſc.* καρυωτος, φοινιξ, *a nut-bearing Palm.*)
Lin. gen. n. 1228. *Reich.* 1343. *Schreb.* 1701. *Juſſ.* 38. *Gærtn. t.* 7. *Muſ. cliff.* 12. Schunda-pana.
Claſſ. Appendix, Palmæ. (Monoecia Polyandria.)
Nat. order of *Palms.*

GENERIC CHARACTER.

* *Male flowers.*

CAL. *Spathe* univerſal, compound. *Spadix* ramoſe.
COR. tripartite. *Petals* lanceolate, concave.
STAM. *Filaments* very numerous, almoſt longer than the corolla. *Anthers* linear.

* *Female flowers*, in the ſame ſpadix with the males.

CAL. common with the males.
COR. tripartite. *Petals* acuminate, very ſmall.
PIST. *Germ* roundiſh. *Style* acuminate. *Stigma* ſimple.
PER. *Berry* roundiſh, unilocular.
SEEDS two, large, oblong, roundiſh on one ſide, flat on the other.

ESSENTIAL CHARACTER.

MALE. *Cal.* common. *Cor.* tripartite. *Stamens* very many.
FEMALE. *Cal.* as in the male. *Cor.* tripartite. *Piſt.* one. *Berry* diſpermous.

SPECIES.

1. Caryota urens.
Lin. ſpec. 1660. *ſyſt.* 986. *Reich.* 4. 637. *fl. zeyl.* 396. *Thunb. act. ſtockh.* 1782. *p.* 286. *Gærtn. fruct.* 1. 20. *Burm. ind.* 241.
Palma indica fol. bicompoſito, fr. racemoſo. *Raii hiſt.* 1365. *Burm. zeyl.* 180.
Schunda-pana. *Rheed. mal.* 1. 15. *t.* 11.
Seguaſter major. *Rumph. amb.* 1. 64. *t.* 14.
Fronds bipinnate, leaflets ſeſſile, berry two-ſeeded.

2. Caryota mitis.
Lour. cochinch. 569.
Fronds bipinnate, petioles of the leaflets nodding, berries one-ſeeded.

DESCRIPTIONS, &c.

1. This Palm becomes a lofty tree. The trunk is frequently ſo large as ſcarcely to be embraced by two men: it is covered with a ſort of cinereous cruſt, which is quite ſmooth. The branches (or fronds) are produced regularly from the top of the trunk, all round it, in a decuſſated order and in pairs. The leaves (or leaflets) are oppoſite, oblong, triangular, rigid, ſmooth, ſhining, browniſh green, with ſtrong nerves, and folding like a fan. The flowers are in long pendulous ſpikes, on which they grow in pairs. The corolla, which is ſometimes bipartite, but commonly tripartite, is at firſt green, then red or purple, and finally yellow[a].

The fruit is a ſucculent, globular berry, a little flatted, terminated by a triangular twin ſtigma[b]: at firſt it is hard and green, next yellow, then red, and when quite ripe dark red (almoſt black) and ſhining; the rind is thin, and the pulp is ſoft and red, very ſharp and acrid[c]. Within are two ſtones or ſeeds (ſometimes only one) hard, roundiſh or oblong, convex on one ſide, flat on the other, wrinkled; they are of a dark red or blackiſh colour on the outſide[d].

In the iſland of Ceylon this tree is known by the name of *Kettule*. Knox deſcribes it as growing ſtraight, but not ſo tall or big as a Cocoa-nut tree; the inſide nothing but a white pith. It yields a ſort of liquor, which the inhabitants call *Tellegie*, ſweet and pleaſing to the palate, wholſome, and no ſtronger than water. It is taken from the tree twice, and from ſome good trees thrice, in a day. An ordinary tree will yield three or four gallons. They boil this liquor, and thus make a kind of brown ſugar of it, called *Jaggory*; but with ſkill, they can make it as white as the ſecond beſt ſugar. When the tree is come to maturity, there comes out a bud from the top, which if it be ſuffered to grow will bear the fruit, but this is only fit to ſet for increaſe. This bud they cut and prepare, by putting ſalt, pepper, lemons, garlick, leaves, &c. which keep it from ripening. They daily cut off a thin ſlice from the end, and the liquor drops into a veſſel, which they ſet to catch it.

It bears a leaf like that of the Betel-nut tree, which is faſtened to a ſkin as that is, only this ſkin is hard and ſtubborn like a piece of board; the ſkin is all full of ſtrings as ſtrong as wire, and they are uſed for making ropes. So long as the tree is growing the leaves ſhed, but when it is come to its full growth, they remain many years before they fall, but then no new ones come again. As the top bud withers, other buds come out lower and lower every year, till they come to the bottom of the boughs, and then having done bearing may ſtand ſeven or ten years, when it dies.

The wood is not above three inches thick, very ſtrong and hard, but apt to ſplit. Being very heavy, they make peſtles of it to beat their rice with. The colour is black, but it looks as if it were compoſed of ſeveral pieces. The buds, like thoſe of the Cocoa and Betel-nut tree, are excellent in taſte, reſembling Walnuts or Almonds[e].

2. The trunk of this Palm is fifteen feet high, two inches thick, very ſtraight and regular. Fronds four feet long, reclining, on roundiſh, unarmed ſtipes; the leaflets are wedge-ſhaped, many-nerved, obliquely præmorſe, on long, ſlender petioles. Spathe ſimple, oblong, ſubacute. Spadix branch-ſpiked, reflex: ſpikes ſeveral, ſimple, long: flowers regularly diſpoſed, with ſingle females between pairs of males. The latter have a perianth of three obtuſe, concave leaflets, a corolla of three conic, curved, erect, almoſt cloſed petals; no filaments, but very numerous, linear anthers: the females have a five-leaved, imbricate, permanent perianth, the leaflets blunt and concave; the corolla as in the male; the germ three-cornered and ſuperior, without any ſtyle, but an acute, bifid ſtigma. The berry is round, coriaceous, ſmooth, black, the ſize of a muſket-bullet; containing one, globular, pale, ſoftiſh ſeed. It is not eatable, but neither that nor the plant occaſion an itching, as the other ſort does. It is a moſt beautiful Palm, and grows in the woods of Cochinchina[f].

CASCARILLA. See *Croton.*

CASCHOU. See *Anacardium.*

CASEARIA. See *Samyda.*

CASIA. See *Nitraria* and *Oſyris.*

CASSADA or **CASSAVA.** See *Iatropha.*]

CASSIA. (Κασσια, *Dioſc. Derivation uncertain.*)
Lin. gen. n. 514. *Reich.* 557. *Schreb.* 700. *Juſſ.* 348. *Gærtn. t.* 147. *Tourn.* 392. Senna. *Tourn.* 390. *Mill. dict. Gærtn. t.* 146.
Claſſ. 10. 1. Decandria Monogynia.
Nat. order of *Lomentaceæ*. *Leguminoſæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* pentaphyllous, (quinquepartite, *G.*) lax, concave, coloured, deciduous.

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[a] Hort. malab.
[b] Gærtner.
[c] Hort. malab.
[d] Hort. malab. and Gærtner.
[e] Hiſt. of Ceylon, p. 15.
[f] Loureiro.

Cor. *Petals* five, roundiſh, concave; the inferior ones more diſtant, more ſpreading, larger.

Stam. *Filaments* ten, declined; the three inferior ones longer; the three ſuperior ſhorter. *Anthers* the three inferior very large, arcuate, roſtrate, gaping at the tip; the four lateral ones without the roſtrum, gaping; the three ſuperior ones very ſmall, ſterile.

Pist. *Germ* ſubcolumnar, long, peduncled. *Style* very ſhort. *Stigma* obtuſe, aſcending.

Per. *Legume* oblong, partitions tranſverſe.

Seeds many, roundiſh, affixed to the ſuperior ſuture.

Obs. In Caſſia T. *the legume is oblong with entire partitions.*

In Senna T. *the legume is gibbous, and inflex.*

ESSENTIAL CHARACTER.

Calyx pentaphyllous. *Petals* five; the three ſuperior *anthers* ſterile; the three inferior beaked. *Legume.*

SPECIES.

[1. Caſſia diphylla. *Two-leaved Caſſia.*
Lin. ſpec. 537. *Reich.* 2. 249.
Leaves conjugate, ſtipules cordate-lanceolate.

2. Caſſia bacillaris.
Lin. ſyſt. 393. *ſuppl.* 231.
Leaflets two pairs ovate oblique, an obtuſe gland between the loweſt, racemes axillary peduncled, ſilique round long.

3. Caſſia Abſus. *Four-leaved Caſſia.*
Lin. ſpec. 537. *ſyſt.* 393. *Reich.* 2. 249. *fl. zeyl. n.* 153.
Senna. *Burm. zeyl.* 212. *t.* 97. *Pluk. alm. t.* 60. *f.* 1.
Abſus. *Alp. ægypt.* 97. *Bauh. hiſt.* 2. 361. *Raii hiſt.* 922. 1.
Leaflets two pairs obovate, glands two ſubulate between the loweſt.

4. Caſſia viminea. *Weakly Senna-ſhrub,* or *twiggy Caſſia.*
Lin. ſpec. 537. *Reich.* 2. 249. *amœn.* 5. 397. *Loefl. it.* 232. *Brown. jam.* 223. *n.* 8. *Sloan. jam.* 2. 49. *t.* 189. *f.* 6, 7. *Swartz obſ.* 156.
Leaflets two pairs ovate-oblong, acuminate, an oblong gland between the loweſt, ſpines ſubpetioled obſolete three-toothed.

5. Caſſia Tagera.
Lin. ſpec. 538. *Reich.* 2. 249.
Leaflets three pairs, gland petiolar, ſtipules ciliated cordate acuminate.]

6. Caſſia Tora. *Oval-leaved Caſſia,* or *wild Senna.*
Lin. ſpec. 538. *Reich.* 2. 250. *mant.* 378. *fl. zeyl. n.* 152. *Lour. cochinch.* 263. *Mill. fig. t.* 82. *Dill. elth.* 72. *t.* 63. *f.* 73.
C. Pentagonia. *Mill. dict. n.* 18.
β. *Herm. lugdb.* 557. *Raii hiſt.* 1743. (Senna) & 911. 2. (Galega).
Leaflets three pairs obovate, the outer ones larger, a ſubulate gland between the lower.

7. Caſſia bicapſularis. *Six-leaved Caſſia.*
Lin. ſpec. 538. *Reich.* 2. 250. *Merian. ſur. t.* 32. *Plum. ſpec.* 18. *t.* 76. *f.* 1.
Leaflets three pairs obovate ſmooth, the interior ones rounder and leſs, a globular gland interpoſed.

8. Caſſia emarginata.
Lin. ſpec. 538. *Reich.* 2. 251. *Swartz obſ.* 157. *Brown. jam.* 223. 3. *Sloan. jam.* 2. 44. *t.* 180. *f.* 1—4. *Raii dendr.* 110. 1.
C. racemoſa. *Mill. dict. n.* 19.
Leaflets three or four pairs ovate almoſt entire, flowers in racemes irregular, ſtem arboreous.

[9. Caſſia obtuſifolia. *Round-leaved Caſſia.*
Lin. ſpec. 539. *Reich.* 2. 251. *Dill. elth.* 71. *t.* 62. *f.* 72. *Sloan. jam.* 2. 47. *t.* 180. *f.* 5?
Senna. *Swartz obſ.* 158. *Lour. cochinch.* 263?
Leaflets three pairs obovate, blunt.

10. Caſſia falcata. *Sickle-leaved Caſſia.*
Lin. ſpec. 539. *Reich.* 2. 251. *hort. cliff.* 159.
Leaflets four pairs ovate-lanceolate back-ſickled, a gland at the baſe of the petioles.

11. Caſſia longiſiliqua. *Long-podded Caſſia.*
Lin. ſyſt. 393. *ſuppl.* 230.
Leaflets four pairs, the outmoſt lanceolate, a ſubulate gland below the inmoſt and between the outmoſt.]

12. Caſſia occidentalis. *Occidental Caſſia.*
Lin. ſpec. 539. *ſyſt.* 393. *Reich.* 2. 251. *Swartz obſ.* 159. *Brown. jam.* 224. 10. *Comm. hort.* 1. 51. *t.* 26. (Senna). *Sloan. jam.* 2. *t.* 176. *f.* 3, 4.
Leaflets five pairs ovate-lanceolate ſcabrous about the edge, the outer ones larger, a gland at the baſe of the petioles.

[13. Caſſia planiſiliqua.
Lin. ſpec. 540. *Reich.* 2. 252. *Roy. lugdb.* 468. 11. *Plum. ſpec.* 18. *t.* 77.
Leaflets five pairs ovate-lanceolate ſmooth, a gland at the baſe of the petioles.]

14. Caſſia Fiſtula. *Alexandrian purging Caſſia, Caſſia-ſtick Tree,* or *Pudding Pipe Tree.*
Lin. ſpec. 540. *ſyſt.* 393. *Reich.* 2. 252. *fl. zeyl. n.* 149. *mat. med.* 111. *Plenck, ic. t.* 327. *Woodv. med. bot.* 449. *t.* 163. *Swartz obſ.* 159. *Gærtn.* 2. 313. *Blackw. t.* 381. *Comm. hort.* 1. 215. *t.* 110. *Rumph. amb.* 2. 83. *t.* 21. *Lour. cochinch.* 264. *Raii hiſt.* 1746. *Alp. ægypt.* 3. *t.* 1. *Sloan. jam.* 2. 42. *Brown. jam.* 222. 1.
Conna. *Rheed. mal.* 1. 37. *t.* 22.
Leaflets five pairs ovate-acuminate ſmooth, petioles without glands.

[15. Caſſia atomaria.
Lin. ſyſt. 393. *Reich.* 2. 252. *mant.* 68.
Leaflets five pairs ovate ſubtomentoſe, petioles round without glands.

16. Caſſia piloſa.
Lin. ſpec. 540. *ſyſt.* 393. *Reich.* 2. 252. *Brown. jam.* 224. 12. *Swartz obſ.* 160.
Leaflets four or five pairs with very minute glands, ſtipules ſemicordate acuminate, ſtem ſtiff hairy.]

17. Caſſia Senna. *Egyptian Caſſia* or *Senna.*
Lin. ſpec. 539. & 1681. *ſyſt.* 393. *Reich.* 2. 253. *mat. med.* 110. *Woodv. med. bot.* 446. *t.* 162. *Plenck, ic. t.* 326. *Swartz obſ.* 161.
Senna alexandrina. *Bauh. pin.* 397. *Dod. pempt.* 361. *Mor. hiſt.* 2. 201. *ſ.* 2. *t.* 24. *f.* 1. *Mill. dict. n.* 1. *Raii hiſt.* 1742. *Regnault bot.* 388. fig.
—officinalis. *Gærtn. fruct.* 2. 312.
β. Senna italica. *Bauh. pin.* 397. *Mor.* 200. *f.* 2. *Mill. dict. n.* 2. *Park. theat.* 225. *Sloan. jam.* 2. 47.
Leaflets four to ſix pairs ſubovate, petioles without glands.

18. Caſſia biflora. *Two-flowered Caſſia.*
Lin. ſpec. 540. *Reich.* 2. 253. *hort. cliff.* 159. *amæn.* 5. 397. *Brown. jam.* 223. *n.* 6. *Plum. ſpec.* 18. *ic.* 78. *f.* 1.
Leaflets ſix pairs rather oblong ſmooth, the lower ones ſmaller, a ſubulate gland between the loweſt, pedicels two-flowered.

[19. Caſſia ruſcifolia.
Lin. ſyſt. 394. *Jacqu. collect.* 1. 43. *icon. rar. t.* 71.
Leaflets ſix pairs, lanceolate acute ſmooth, a gland above the baſe of the rib, flowers racemed.

20. Caſſia hirſuta.
Lin. ſpec. 540. *Reich.* 2. 253. *hort. cliff.* 159. *Herm. lugdb.* 556.
Leaflets ſix pairs broad-ovate acuminate woolly.

21. Caſſia multiglanduloſa. *Glandulous Caſſia.*
Lin. ſyſt. 394. *Jacqu. collect.* 1. 42. *icon. rar. t.* 72. *Ait. hort. kew.* 52.
Leaflets ſix pairs, villoſe beneath and about the edges, obtuſe; a gland between each pair of leaflets.

22. Caſſia tomentoſa.
Lin. ſyſt. 394. *ſuppl.* 231.
Leaflets ſix or eight pairs linear obliquely rounded at the baſe, rough with hairs on the upper ſurface, panicles axillary, legumes villoſe.

23. Caſſia ſerpens.
Lin. ſpec. 541. *Reich.* 2. 254. *Swartz obſ.* 161. *Brown. jam.* 225. *n.* 15. *Sloan. jam.* 2. 5.
Leaflets ſeven pairs, flowers pentandrous, ſtems filiform proſtrate herbaceous.]

24. Caſſia liguſtrina. *Privet-leaved Caſſia.*
Lin. ſpec. 541. & 1681. *ſyſt.* 394. *Reich.* 2. 254. *mant.* 378. *Gron. virg.* 47, 65. *Dill. elth.* 350. *t.* 259. *f.* 338. *Mart. dec.* 3. *t.* 21.
C. bahamenſis. *Mill. dict. n.* 9.
C. liguſtrina. *Mill. dict. n.* 12.
Leaflets ſeven pairs lanceolate, the outmoſt ſmaller, a gland at the baſe of the petioles.

25. Caſſia alata. *Broad-leaved Caſſia.*
Lin. ſpec. 541. *Reich.* 2. 254. *mant.* 378. *hort. cliff.* 158. *Swartz obſ.* 162. *Mer. ſurin. t.* 58. *Rumph. amb.* 7. 35. *t.* 18. *Brown. jam.* 224. 9.
Leaflets eight pairs oval-oblong, the loweſt ſmaller, petioles without glands, ſtipules ſpreading.

26. Caſſia marilandica. *Maryland Caſſia.*
Lin. ſpec. 541. *Reich.* 2. 255. *Dill. elth.* 351. *t.* 260. *f.* 339. *Mart. cent. t.* 23.
Leaflets eight pairs ovate-oblong equal, a gland at the baſe of the petioles.

27. Caſſia tenuiſſima.
Lin. ſpec. 541. *Reich.* 2. 255.
Senna ſpuria fruteſcens, ſiliquis tenuiſſimis. *Houſt. M. S.*
Leaflets nine pairs oblong, a ſubulate gland between the loweſt.

28. Caſſia Sophera.
Lin. ſpec. 542. *Reich.* 2. 255. *fl. zeyl. n.* 150. *Lour. cochinch.* 264. *Burm. zeyl.* 213. *t.* 98. (Senna). *Rumph. amb.* 5. 283. *t.* 97. *f.* 1. (Gallinaria). *Rheed. mal.* 2. 101. *t.* 52. (Ponnam-Tongera).
Leaflets ten pairs lanceolate, an oblong gland at the baſe.

29. Caſſia bracteata.
Lin. ſyſt. 394. *ſuppl.* 232.
Leaflets ten pairs oblong obtuſe without glands, racemes elongated, bractes ovate ſwelling imbricate, legume quadrangular compreſſed.

30. Caſſia auriculata. *Eared Caſſia.*
Lin. ſpec. 542. *Reich.* 2. 255. *fl. zeyl. n.* 151.
Senna ſpuria maderaſpatana, &c. *Pluk. alm. t.* 314. *f.* 4. *Raii dendr.* 110.
Leaflets twelve pairs obtuſe mucronate, ſeveral ſubulate glands, ſtipules kidney-form bearded.]

31. Caſſia javanica. *Java Caſſia.*
Lin. ſpec. 542. *Reich.* 2. 256. *Comm. hort.* 1. 217. *t.* 111.
Leaflets twelve pairs oblong obtuſe ſmooth, no gland.

[32. Caſſia grandis.
Lin. ſyſt. 394. *ſuppl.* 230.
Leaflets twenty pairs, ſomewhat ſilky, without glands.]

33. Caſſia Chamæcriſta. *Dwarf Caſſia.*
Lin. ſpec. 542. *Reich.* 2. 256. *Swartz obſ.* 164. *Gron. virg.* 47, 64. *Brown. jam.* 225. 13. *Comm. hort.* 1. 53. *t.* 37. *Curt. mag. t.* 107.
Leaflets many pairs, a petiolar pedicelled gland, ſtipules enſiform.

34. Caſſia glanduloſa.
Lin. ſpec. 542. *ſyſt.* 395. *Reich.* 2. 256. *Breyn. cent.* 64. *t.* 24. (Chamæcriſta).
Leaflets many pairs with many glands, ſtipules ſubulate.

[35. Caſſia mimoſoides.
Lin. ſpec. 543. *Reich.* 2. 257. *fl. zeyl. n.* 154.
Leaflets many pairs linear, an obſcure gland at the baſe of the petioles, ſtipules ſetaceous.

36. Caſſia flexuoſa.
Lin. ſpec. 543. *Reich.* 2. 257.
not flexuoſa of Miller.
Senna ſpuria. *Herm. lugdb.* 558. *Raii dendr.* 111. 7.
Chamæcriſta. *Breyn. cent.* 65. *t.* 23.
Leaflets many pairs, ſtipules half-cordate.

37. Caſſia nictitans.
Lin. ſpec. 543. *Reich.* 2. 257. *hort. cliff.* 497. *t.* 36.
Senna ſpuria. *Pluk. alm. t.* 314. *f.* 5.
Amæna mæſta. *Rumph. amb.* 6. 147. *t.* 67. *f.* 1.
Leaflets many pairs, flowers pentandrous, ſtem ſomewhat erect.

38. Caſſia procumbens.
Lin. ſpec. 543. *Reich.* 2. 257. *Comm. petrop.* 12. 289. *Lour. cochinch.* 264.
not *procumbens* of Miller, n. 20. ſee *n* 44.
Chamæcriſta mariana, fl. minore. *Pet. ſicc.* 243. *n.* 40.
Leaflets many pairs without glands, ſtem procumbent.]

Other ſpecies in Miller.

39. Caſſia fruticoſa.
Mill. dict. n. 10. *Houſt. reliq. t.* 17. *Herb. Amm. in muſ. petrop.* 2. 601. *n.* 6.
Leaflets two pairs ovate-lanceolate ſmooth, flowers terminal, pods long round, ſtem ſhrubby.

40. Caſſia arboreſcens.
Mill. dict. n. 15.
Senna ſpuria tetraphylla arborea, ſiliquis compreſſis anguſtis longiſſimis pendulis. *Houſt. M. S.*
Leaflets two pairs oblong-ovate villoſe beneath, flowers corymbed, ſtem erect arboreous.

41. Caſſia villoſa.
Mill. dict. n. 4.
S. ſp. arborea villoſa, fol. latis mucronatis, ſiliquis articulatis. *Houſt. M. S.*
Leaflets three pairs oblong-ovate equal villoſe, pods jointed, ſtem erect arboreous.

42. Caſſia uniflora.
Mill. dict. n. 5.
S. ſp. herbacea Orobi Pannonici fol. rotundioribus, fl. parvo, ſiliquis erectis. *Houſt. M. S.*
Leaflets three pairs ovate-acuminate villoſe, flowers ſolitary axillary, pods erect.

43. Caſſia fruteſcens.
Mill. dict. n. 2.
S. ſp. americana frut., fol. mucronatis minoribus, ſil. teretibus duplici ſeminum ordine fætis. *Houſt. M. S.*
Leaflets five pairs ovate ſmooth, the outer ones longer, ſtem ſhrubby.

44. Caſſia tetraphylla.
C. procumbens. *Mill. dict. n.* 20.
S. ſp. tetr. herbacea proc., ſil. hirſutis. *Houſt. M. S.*
Leaflets two pairs ovate, flowers ſolitary axillary, ſiliques hirſute, ſtems procumbent.

45. Caſſia minima.
C. biflora. *Mill. dict. n.* 14.
S. ſp. minima procumbens, foliorum pinnis ſubrotundis, caule pubeſcente. *Houſt. M. S.*
Leaflets four pairs oblong-ovate, ſtems procumbent, flowers axillary, peduncles two-flowered.

[*Species in Hortus Kewenſis,* and *Swartz.*

46. Caſſia patula. *Shining Caſſia.*
Ait. hort. kew. 51.
Leaflets five pairs oblong ſharpiſh ſmooth, a gland at the baſe of the petioles, branches even.

47. Caſſia ſtipulacea. *Large-ſtipuled Caſſia.*
Ait. hort. kew. 52.
Pſeudo-Acacia fol. mucronatis, fl. luteo. *Feuillée it.* 3. 56. *t.* 42.
Leaflets about eight pairs ovate-lanceolate, a gland between the lower, ſtipules ovate very large.

48. Caſſia frondoſa. *Smooth-leaved Caſſia.*
Ait. hort. kew. 53.
Leaflets nine pairs oval-oblong ſmooth bluntiſh, a cylindric gland between the lower, petiole without any gland at the baſe.

49. Caſſia ſericea.
Swartz prodr. 66.
Leaflets about four pairs ovate hirſute, a ſubulate gland between the leaflets, peduncles four-flowered, legumes four-cornered.

50. Caſſia lineata.
Swartz prodr. 66.
Leaflets five pairs ſomewhat oblong pubeſcent beneath equal, an obſolete gland beneath the loweſt, peduncles one-flowered.

51. Caſſia virgata.
Swartz prodr. 66.
Leaflets ten pairs ovate-lanceolate villoſe, a petiolar pedicelled gland, peduncles one-flowered, longer than the leaves.

DESCRIPTIONS, *&c.*

1. A ſhrub with a round ſtem. Two ſemiorbiculate obtuſe ſtriated leaves on a ſhort petiole. Sti-

pules covering the whole branches. Weſt-Indies. Annual[a]. Introduced into England 1781, by Mr. Francis Maſſon[b].

2. A ſhrub of twelve feet in height, and very ſmooth. Leaves alternate petiolate; leaflets very ſmooth on both ſides; the lower nicely ovate, the upper more elongated. No ſtipules. Racemes ſolitary few-flowered erect: pedicels hanging down angular. Flowers orange, of a middling ſize. Legume ſo like that of *C. Fiſtula* as not to be diſtinguiſhed from it, ſomewhat curved, cylindric, very ſmooth, ending in a filiform point, a foot long, intercepted within by partitions which do not appear outwardly. Native of Surinam: obſerved by Dalberg[c].

3. A hairy plant, with a ſlender ſtriated ſtem. Leaflets nearly equal. Racemes axillary few-flowered. Legumes one-celled hiſpid, with a few ſtiff hairs. Native of India, Ceylon, Egypt. Annual[d]. Introduced into England in 1777 by Patrick Ruſſell, M. D.[e]

4. Stem ſhrubby, climbing to the height of forty or fifty feet, ſtriated, ſtiff; branches divaricate, looſe, ſtiffiſh, round, ſtriated, ſmooth. Leaves bijugous: leaflets petioled, the lower pair ſpreading, bent down, the end one bent down perpendicularly and approximating, all entire, nerved, veined, very ſmooth. General petioles thickened at the baſe, round, uſually directed one way. Between the petioles of the lower pair is a linear oblong, erect, brown gland. On the adult and old branches there are ſpines. Racemes axillary, ſtiff, ſpreading, many-flowered, ſtriated. Flowers large, on peduncles longer than the flowers. Leaflets of the calyx ovate, reflex, ſpreading, ſmall, pale green. Petals unequal; the four upper ones ſmaller, ovate, with claws, the fifth lower, largiſh, concave. The three hinder filaments barren, ſix ſmaller, ſhort, fertile, the tenth larger, and bent down below the piſtil. Anthers oblong, beaked. Germ pedicelled, linear, longer than the corolla, bent down, and curved back: ſtyle ſubulate. Legume ſhort, compreſſed. Native of Jamaica, in the woods of the higher mountains in the interior of the iſland[f].

Introduced here in 1786, by Mr. Alexander Anderſon[g].

5. A ſmall procumbent ſhrub, with filiform branches. Petioles very ſhort. Folioles four ſemiorbiculate veined, the two outer larger. Stipules cordate or cordate-lanceolate, hairy at the edge. Native of India[h].

6. Stem erect, leſs woody, roughiſh, knotty from the ſcars of the leaves. Branches much expanding. Leaflets ending in a ſoft point: the lower ſhorter, more obtuſe. Stipules linear acuminate hairy. Glands acuminate, brown at the end, not between the outer pair, but between the two lower pairs of leaflets. Flowers pale yellow. Native of the Eaſt-Indies, Japan, Cochin-china, &c. Annual[i].

It uſually grows about four or five feet high (two feet *Dict.*). Leaflets broadeſt at their extremity, where they are bluntly rounded off, (on long pedicels. *Dict.*) Flowers axillary, formed into cloſe ſhort ſpikes, (ſtanding on a ſhort peduncle, of a pale yellow colour. *Dict.*), bright yellow. Pod ſix inches in length, ſwelling in the middle, and having five angles or borders, lengthways, (bending, four inches long, having five longitudinal wings, and ending in a point. *Dict.*) Seeds liver-coloured, a little compreſſed. This plant was diſcovered by Dr. Houſtoun at Campeachy. He entitled it, *Senna ſpuria plerumque hexaphylla; fl. magno, ſiliqua pentagona alata.* It approaches near the *C. ſiliqua quadrangulari* of Dillenius in its leaves; but the flowers are near twice as large, and the pods are much more turgid, with broader wings. It is alſo perennial (biennial *Dict.*), and the ſtem becomes woody, whereas the other is an annual plant. The leaves are ſubſtituted for Senna in the natural place of its growth[k]. Cultivated in 1693 by Jacob Bobart[l].

β. differs in having a recurved ſilique. Quere whether it be a diſtinct ſpecies[m].

7. Arboreſcent and very ſmooth. Siliques roundiſh, coriaceous, with a double, round cell. Only two pairs of leaflets, a globular gland between the loweſt pair. Bractes ventricoſe, ſubimbricate. Silique long. Perennial[n].]

Miller deſcribes his *bicapſularis* to be an annual plant, a foot and half high, with an erect herbaceous ſtalk; three pair of oval leaflets to each leaf; the flowers axillary, ſolitary, ſmall, yellow; the pods taper; the natural place of growth Jamaica and the other ſugar iſlands. [Alſo in the iſland of Madeira. This cannot be the ſame plant with Linneus's.

Cultivated 1739 by Mr. Philip Miller[o].

8. This is a ſmall tree, with a trunk ten or twelve feet high, and ſubdivided, round, aſh-coloured, pubeſcent branches. Leaves pinnate, ſcattered, ſpreading. Common petioles round, two inches long, pubeſcent. Leaflets petioled, blunt, nerved, thickiſh, tomentoſe, hoary beneath. Racemes axillary, ſolitary, patulous, ſhorter than the leaves, many-flowered. Flowers terminating, peduncled, yellow; peduncles one-flowered, ſhort. Three leaflets of the calyx larger, ovate-oblong, patulous, concave-arched, pubeſcent on the outſide. Petals unequal; four with claws, oblong, almoſt of a ſize, but the lower ones ſomewhat ſmaller; the upper petal with a claw, larger, irregular, in form of the letter S placed obliquely, concave, waved at the edge. Filaments very ſhort, equal, ſubulate: anthers the length of the filaments, thick, curved in, fertile. Germ pedicelled, ſubulate, obliquely declined: ſtyle riſing: ſtigma blunt. Legume flat, broad. It flowers in the ſpring, and the ſeeds ripen in auguſt. Native of Jamaica, in dry coppices in the ſouthern part[p].] Mr. Philip Miller ſays, that it was ſent him from Carthagena by Mr. Robert Millar.

It is known by the name of Senna tree in Jamaica, and the leaves of this are ſometimes uſed inſtead of the true ſort.

[9. Height from one to two feet. Stem ſolitary, ſtraight, round, green, ſmooth, the ſize of the little finger below branching from the very bottom. Lower leaflets larger, upper ſmaller, reſembling Italian Senna, enlarging toward the end, obtuſe, but ending in a very ſhort point, covered with a fine down, perceptible to the touch rather than the ſight; at the baſe of the petioles a ſlender ſtipula on each ſide. Both leaves and ſtems have a ſtrong ſmell. The upper part of the ſtem and branches downy. Flowers axillary, few, ſmall, nodding, pale yellow. Annual[q]. The leaves have no odd leaflet. Petioles alternate, ſpreading, roundiſh, thickened at the baſe, channelled in the middle, even. Leaflets ſubſeſſile, entire: between the loweſt pair a minute, yellow, linear gland, on a ſhort petiole. Peduncles ſolitary, ſhorter than the petioles, two-flowered; pedicels quadrangular, three times as long as the peduncles. Leaflets of the calyx ovate; two larger, convex, hairy at the edge. Petals nearly equal, with claws; the three upper ones ſpreading, the two lower contiguous, rather ſmaller. The four upper filaments minute, barren without anthers, four middle, larger fertile, two lower, bent down. Anthers perforate at the tip. Germ oblong, acuminate: ſtyle ſubulate, recurved: ſtigma ſimple, pubeſcent. Legume pedicelled, linear, four or five inches long, cylindric-angular, curved, even; containing from twenty to twenty-four ſeeds[r].

The ſeeds were ſent from the Havanna in Cuba: and it is a native of Jamaica.

10. Leaflets gradually half as big again, the outmoſt therefore largeſt; three or four pairs, tapering to the baſe, almoſt ſeſſile; the inner ſide of the leaflets broader and more gibboſe, the lower towards the baſe moſt narrowed: by which mark it differs

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[a] Linn. ſpec. [b] Hort. kew. [c] Linn. ſuppl. [d] Linn. [e] Hort. kew. [f] Swartz. [g] Hort. kew. [h] Linn. ſpec. [i] Linn.

[k] Mill. fig. [l] Hort. kew. [m] Linn. [n] Ibid. [o] Hort. kew. [p] Swartz. [q] Dillenius. [r] Swartz.

from all the other ſorts. Perhaps, however, it may be only a variety of n. 12. Native of America[s].

11. Stem erect, roundiſh, obtuſely grooved, branches ſcarcely pubeſcent. Leaflets very ſmooth, paler green beneath, ovate-oblong, the outmoſt gradually longer, ſo as to become rather linear than lanceolate. An oblong ſubulate gland between or below the loweſt pair, and an acuter one between the outmoſt pair; ſeldom any between the intermediate pairs. Petiole erect roundiſh. Stipules linear acute ſhort. Legume four-cornered, rough with hair, ſhort. It ſleeps at night by erecting the petiole cloſe, and hanging down the leaflets near the ſtem. Native of America. Perennial[t].

12. Stem a foot and half high, rough with irregularly ſcattered dots, ſcored downwards from each petiole with two grooves. Leaflets ſmooth, acuminate, fœtid, growing gradually larger to the outer ones. Raceme terminal. Flowers pale yellow without any ſpot. The leaves in the young plant have five pairs of leaflets, but in the adult only three[u].

According to Browne, this plant riſes generally to the height of two feet and a half, or more: it is looſe in its ramifications, and well ſupplied with flowers, diſpoſed in looſe ſpikes at the extremities of the branches. The gland, which is common to moſt ſpecies of Caſſia, on ſome part of the common petiole, is in this ſort ſituated very low, and near the inſertion of the rib.

It is very common about Kingſton in Jamaica, and is called there *Stinking-weed*. The tops of the plant are commonly employed in all reſolutive baths, and it is accounted a very powerful ingredient on ſuch occaſions.

Cultivated by Mr. Miller in 1759[x].

13. Siliques linear compreſſed ſwelling where the ſeeds are, the ſutures a little prominent[y]. Native of South-America.]

14. This tree riſes to the height of forty or fifty feet, with a large trunk, dividing into many branches. The leaflets are equal at the baſe, have many tranſverſe nerves, and the midrib is very prominent on the under ſide. The ſtipules are ſcarcely apparent. The flowers are produced in long ſpikes at the end of the branches, each ſtanding upon a pretty long peduncle; they are of a deep yellow colour, and are ſucceeded by cylindrical pods, from one to two feet long, having a dark-brown woody ſhell, with a longitudinal ſeam on one ſide, divided into many cells by tranſverſe partitions, each containing one or two oval, ſmooth, compreſſed ſeeds, lodged in a ſweetiſh, black pulp.

[This pulp is an eaſy gentle laxative, opening the paſſages without irritating the inteſtines: but it grows rancid when it has been long out of the cells, and then acquires an acrimony that renders it precarious, and even dangerous[z]. Native of both Indies.

It was cultivated in 1731, by Mr. Miller[a].

15. Stem the height of a man, woody, aſh-coloured, very branching. Branchlets and petioles ſcarce manifeſtly pubeſcent. Petioles having ſubferruginous atoms ſcattered over them, not channelled. Leaflets green on both ſides, tomentoſe to the touch; the lower ones ſmaller, more obtuſe, ſubemarginate, the inner edge of the baſe not ſmaller. Stipules ſubulate, frequently permanent from the falling of the leaves of the year preceding. Obſerved in America by Jacquin[b].

16. Stem from one to two feet high, herbaceous, ſubdivided, upright, round, hirſute, reddiſh. Branches ſhort, almoſt upright. Leaflets oppoſite, ſubſeſſile, oblong, rounded at the tip, ſharp, with a very ſmall briſtle, fixed obliquely to the petiolule, veined, a little hirſute at the edge. Common petioles thicker at the baſe, round, hirſute. Glands extremely minute, pedicelled, concealed in the hairs under the loweſt pinnas. Stipules oppoſite, ſeſſile, ſickle-ſhaped, acuminate, entire, hirſute. Flowers two or three together, axillary, ſmall, yellow. Peduncles filiform, long, one-flowered, ſmooth, purpliſh. Bractes two, whitiſh, under the flowers. Calycine leaflets lanceolate, ſpreading. Petals nearly equal, roundiſh, with claws, concave, waved about the edge. Filaments ſeven, two of them minute, barren. Anthers linear, white, bearing pollen at the tip. Germ oblong-lanceolate, villoſe, white: ſtyle cylindric, thick, recurved: ſtigma ſimple, obtuſe. Legume ſubcylindric, linear, pedicelled, pubeſcent. Native of Jamaica; flowering towards the end of the year[c].]

17. The plant which produces the leaves commonly known in medicine by the name of Senna is annual, and riſes with an upright branching ſtalk about a foot high. The leaves are pinnate, and have four pairs of ſmall ſpear-ſhaped leaflets, ending in acute points. The flowers are yellow, and produced in looſe bunches at the top of the ſtalk.

[It grows naturally in Perſia, Syria and Arabia, whence the leaves are brought, dried and picked from the ſtalks, to Alexandria in Egypt;] and being thence annually imported into Europe, it has the title *alexandrina* added to it.

[Theſe leaves are oblong, ſharp pointed at the ends, about a quarter of an inch broad, and not a full inch in length, of a lively yellowiſh green colour, a faint but not very diſagreeable ſmell, and a ſubacrid, bitteriſh, nauſeous taſte. Some worſe ſorts are brought from Tripoli and other places, which may eaſily be diſtinguiſhed by their being either narrower longer and ſharper pointed, or larger broader and round pointed, with ſmall prominent veins, or large and obtuſe, of a freſh green colour, without any yellow caſt.

Mr. Miller diſtinguiſhes that which is vulgarly called Italian Senna from this ſpecifically, by its having five pairs of blunt leaflets.]

This is alſo an annual plant, riſing with a branching ſtalk a foot and half high. The leaves have five pairs of obcordate leaflets, of a ſea-green colour, and a thick conſiſtence. The flowers are larger, and of a brighter yellow colour. It grows naturally in India.

[Swartz deſcribes it, as it is found on the coaſt of the iſland of Jamaica, near Port-Royal; where however it is not originally a native.

Stem ſhrubby, branched, even, with ſubdivided branches. Leaves compoſed of five, ſeldom ſix pairs of leaflets. Common petioles alternate round, thickened at the baſe. Leaflets oppoſite, oblong, rounded at the tip where there is a very ſhort briſtle, veined, glaucous, on very ſhort petiolules. Stipules at the baſe of the common petiole, oppoſite, acuminate. Racemes terminating, erect, many-flowered; the flowers on ſhort peduncles, bent down, pale yellow. Calycine leaflets lanceolate. Petals convex, patulous. Three filaments ſuperior, four middle ſmaller, three inferior. Anthers of the ſuperior filaments large, of the middle ones ſmall, of the lower ones barren. Germ lanceolate: ſtyle incurved: ſtigma acute. Legume ſhaped like the ſtomach, pedicelled, winged on each ſide for each ſeed, the lower margin crenate. Seeds eight, oblong, compreſſed.

Swartz ſeems to doubt whether it be the genuine Senna: and in having blunt leaflets it agrees with that which Miller ſays he received from the Eaſt-Indies.]

In the Weſt-Indies, the inhabitants make uſe of the leaves of ſeveral ſpecies of Caſſia, inſtead of the true Senna; and alſo of the Poinciana, or Flower-fence, which is frequently called there true Senna.

[The accurate Gærtner, who diſtinguiſhes Senna from Caſſia generically, deſcribes the legume as ovate-reniform, membranaceous, leafy-compreſſed, toroſe where the ſeeds are, marked with capillary, tranſverſe parallel ſtreaks, having from ſix to nine cells, and two valves: partitions tranſverſe, very thin. Seeds ſolitary, obcordate-oblong, beaked, flattiſh on both ſides, towards the periphery declining to a ſharp edge, wrinkled, pale aſh-colour, with a pale linear mark, and above that a ſmall ſhining cheſtnut ſpot on both ſides.

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[s] Linn. cliff. [t] Linn. ſuppl. [u] Linn. [x] Hort. kew.
[y] Royen. [z] Browne. [a] Hort. kew. [b] Linn. mant.

[c] Swartz.

Senna is one of the moſt general purgatives in the materia medica. For this purpoſe it is uſed in infuſion, and is not unfrequently mixed with other ſubſtances, as manna, &c. It is ſufficiently efficacious, and operates without violence: it is however ſometimes apt to excite tormina, and it has the diſadvantage of being nauſeous to the taſte; but to remedy this inconvenience, compoſitions of various kinds are prepared in the ſhops. Thus, for example; ſix drams of tamarinds and two of cryſtals of tartar are boiled in a pint and half of water till half a pint is waſted, and the ſtrained liquor poured boiling hot upon one, two, or three drams of Senna: after maceration for four hours, the ſtrained infuſion is ſweetened with an ounce of ſyrup of violets, and flavoured with half an ounce of ſimple cinnamon-water. Or, three drams of Senna are infuſed in a quarter of a pint of boiling water for four hours, or till the liquor has grown cold, with the addition of a ſcruple of ginger; or with half a dram of leſſer cardamom-ſeeds huſked, and three fourths of a dram of chryſtals of tartar, which laſt are previouſly boiled in the water till diſſolved; or with two drams of freſh lemon peel, and two drams by meaſure of lemon juice. This laſt, which is the *Infuſum ſennæ limoniatum*, is conſidered as the moſt agreeable form in which the infuſion of Senna can be contrived.

18. This has the ſtature of *Orobus niger*. Leaflets oval-oblong, blunt, with a very ſmall briſtle-ſhaped point. Flowers yellow. Pods linear, compreſſed[d]. Native of the Weſt-Indies. Cultivated in 1766, by Mr. James Gordon[e].

This is not *C. biflora* of Miller: ſee n. 45.

19. This is an elegant ſhrub, the height of a man. Stem erect, round. Leaflets on very ſhort petioles, oppoſite, the upper gradually a little larger; the rib about a foot long. Peduncles ſolitary and axillary towards the ends of the twigs, ſuſtaining from three to ſix flowers on ſhort pedicels. The peduncles, baſe of the petioles, and young branches are ſlightly pubeſcent. Leaflets of the calyx pale green, very concave, obtuſe and ſpreading. Petals yellow, the three upper twice as broad, and a little longer than the two lower, on which three longer filaments lie; theſe are much declined, and bear larger anthers: Germ columnar, ſmooth; ſtigma capitate. Legume ſtraight, a little compreſſed, ſmooth, ending in a blunt, roundiſh beak, about four inches long. Seeds ovate, a little compreſſed, ſhining, black, with hardly any pulp. Theſe were gathered on the rocks of Madeira, by Maſſon[f].

20. Native of America. The leaves have ſix pairs of ovate-lanceolate, ſeſſile leaflets: both they and the petiole are covered on both ſides with a white wool[*].

21. This alſo is a ſhrub the height of a man. The young branches, petioles, peduncles, under ſurface and edges of the leaves are villoſe. Leaflets on very ſhort petioles, blunt, with a ſmall point. Racemes at the ends of the twigs, having about five flowers in each. Leaflets of the calyx villoſe, concave, yellow, very blunt, ſpreading, unequal. Petals yellow, blunt, almoſt twice as large as the calyx, the three upper ones very large. Legume linear, browniſh aſh-colour, ſlightly villoſe and ſoft to the touch, blunt, toruloſe, about three inches long. Seeds ſubovate, blunt, hardly compreſſed, black and very ſhining, without any pulp. Found by Maſſon in the gardens of Teneriffe[g]: and introduced by him into England in 1779. It flowers here moſt part of the ſummer[h].

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[d] Linn. amoen.
[e] Hort. kew.
[f] Jacquin.
[*] Linn. hort. cliff.
[g] Jacqu.
[h] Hort. kew.

22. This is a tree with round flexuoſe branches, covered with a thick ſoft white pile, which is yellow when they are dry. Leaflets linear-lanceolate, acute, quite entire, beneath white or pale yellow, and tomentoſe. Petioles tomentoſe. Stipules ſemilunar, or lanceolate, tomentoſe, deciduous. Panicles axillary, on the top of the ſtem, ſolitary. Peduncles tomentoſe. Flowers of a middling ſize, pale yellow. Pods ſtraight, compreſſed, very-tomentoſe. It was found in South-America, by Mutis[i].

23. Stems three or four inches long, ſimple, ſomewhat upright, but depreſſed at the baſe, ſtiff, round, villoſe. Leaflets from ſeven to nine pairs, oppoſite, ſomewhat ſickle-ſhaped, ſeſſile, approximating, flat, oblique; terminated by a very ſhort briſtle, and ſomewhat villoſe. Common petioles filiform, ſhort, thickened at the baſe, round, hirſute. Beneath the loweſt pair of leaflets are two flat, ſeſſile, roundiſh, perforated, red glands. At the baſe of the petioles is a pair of ſtipules, oppoſite, oblique, lanceolate, acuminate; almoſt briſtle-ſhaped at the tip. Flowers not axillary, but crowded above the petioles, ſmall, yellow, on very ſhort pedicels. Calycine leaflets lanceolate, ſpreading. Petals unequal, ovate, obtuſe, concave, ſpreading. Filaments very ſhort. Anthers linear, fertile; the three anterior ones bent down, and ſomewhat larger. Germ compreſſed, oblong: ſtyle thickiſh: ſtigma blunt, pubeſcent. Legume flat, compreſſed, of a broad linear ſhape, margined, blunt, villoſe, containing many ſeeds[k].

This is an annual plant, native of Jamaica, in dry paſtures, creeping among the graſs.

24. Stem ſix or ſeven feet high or more, the thickneſs of the little finger, ſlightly angular, putting forth many deeply ſtriated branches from top to bottom. Leaflets from ſix to eight pairs, but ſeven the moſt common. The axillas, upper part of the ſtem, edges and backs of the leaves are finely pubeſcent. The lower leaflets are ſhorter. Flowers many, terminating, yellow. Pods at firſt incurved, afterwards ſtraighter, flat, an inch broad, two inches long, and more. The leaves and flowers have ſomewhat of a fetid ſmell.

Native of the iſle of Providence, and other iſlands in the Weſt-Indies[l].

It was brought from the Bahama iſlands in 1726, by Mr. Mark Cateſby; and flowered firſt in Sir Charles Wager's, and the Chelſea garden[m].

25. Stem ſubherbaceous, ſix feet high and more, branched, upright, furrowed, ſmooth, with ſimple ſtriated branches. Leaves large, from one to two feet in length, with ſix pairs of leaflets (eight to ten *Lin.*) Common petiole thickened at the baſe, three-ſided, excavated at top, in a manner winged. Leaflets gradually larger from the baſe to the tip, on very ſhort petioles, obovate, obtuſe, entire, nerved, ſmooth on both ſides, paler underneath, pubeſcent. Glands none. Stipules ſemicordate. Racemes terminating, ſpiked, from one to two feet in length, ſolitary, round, upright, many-flowered. Flowers large, yellow, pedicelled. Bractes roundiſh-ovate, concave, entire, the colour of the flowers, and covering them, looſely imbricate like ſcales. Pedicels ſcattered, ſhort, round, ſmooth. Calycine leaflets oblong, concave, coloured, tender. Petals unequal, with claws, roundiſh, concave, entire; the ſuperior fifth petal a little larger than the others, waved with a fringed border. The three lower filaments very ſmall, with barren anthers; the four middle ones ſmaller and fertile; the two upper ones longer, with very large recurved anthers, bifid at the baſe, retuſe at the tip. Germ ſhortly pedicelled, long, declined, recurved, ſtriated: ſtyle ſhort, recurved: ſtigma obtuſe. Pods two-valved, quadrangular, the oppoſite angles winged, the margin crenate. Seeds ſeparated by alternate membranaceous partitions, rhomboidal, compreſſed[n].

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[i] Linn. ſuppl.
[k] Swartz.
[l] Dillenius.
[m] Mart. dec.
[n] Swartz.

It lives but a few years, though it puts on the appearance of a ſhrub in its growth; and when cultivated, riſes ſometimes to the height of ſeven or eight feet, but ſeldom exceeds four in its native ſoil. Ants are very fond of the flowers. The juice of the leaves or buds is ſaid to cure the Ring-worm, whence it is called in Jamaica the Ring-worm Buſh[o]. The French in St. Domingo, where it alſo grows wild, call it *Herbe à dartres*; and Rumphius for the ſame reaſon names it *Herpetica*. It flowers in the ſpring[p].] Mr. Miller ſays that the whole plant has a ſtrong fetid odour. [It was cultivated by him in 1731[q].]

26. Root perennial, compoſed of a great number of black fibres, ſending out in the ſpring ſeveral upright ſtems, four or five feet high, [dividing into many branches pointing obliquely upwards. The ſtem, branches, petioles, edges of the leaves, peduncles and calyxes have a few whitiſh hairs on them. Leaflets from ſix to nine pairs, but moſt commonly eight; and ſometimes an odd leaflet. At the baſe of the petiole there is a ſlender ſtipule on each ſide. Flowers (two or three together) from the axillas of the upper leaves,] and in looſe ſpikes at the end of the ſtem. [Before they open they hang down, but are afterwards erect. The petals are very narrow, ſlightly concave, ſcarcely differing in ſize, of a pale yellow colour. Calyx pale or greeniſh yellow[r].

Native of North-America. Peter Collinſon received this ſpecies from Maryland in 1723[s].

27. Native of the Havanna[t].

28. The leaflets are acute ſmooth nearly equal and on very ſhort petioles. Flowers in ſmall racemes from the axillas. Corollas very pale yellow with brown veins. The three upper anthers are very ſmall and barren; the three loweſt are bowed, and the four middle ones ſtraight[u]. Native of the Eaſt-Indies, China, and the iſland of Tongatabu in the South Seas.

29. Leaves more than a foot long, with eight or ten pairs of leaflets, which are four inches long, linear, rounded at the end, ſoft and hoary beneath. Petiole compreſſed, and channelled between the leaflets. Raceme very large, compoſed of flowers thick heaped together, amid large ovate ſwelling imbricate nerved pubeſcent bractes, falling off immediately before the flowers unfold. Corollas yellow. Legumes incurved, compreſſed, having four angles. Found at Surinam by Dalberg[w].

30. Leaflets oval-oblong, ſmooth, petioled, nearly equal. On the common petiole between each pair there is a ſhort gland. Stipules broad, ſtem-claſping, very obtuſe, with one briſtle at the baſe on each ſide. Flowers three, four, or five in a corymb, orange-coloured. The three upper anthers are barren; the three lower oblong, bowed, the four middle ones ſtraight[x].

Native of the Eaſt-Indies. Introduced in 1777, by Daniel Charles Solander, LL.D.[y].]

31. This riſes to a great magnitude, with a large trunk, dividing into many branches. Leaves very long, compoſed of twelve or fourteen pairs of ſmooth leaflets, of a light green, and placed near together. The flowers come out in looſe ſpikes at the ends of the branches; they are of a pale carnation colour, and are ſucceeded by large cylindrical pods, [two feet long, and the thickneſs of a ſlender arm[z];] divided by tranſverſe partitions into many cells, in which the ſeeds are lodged, ſurrounded with a black purging pulp. This is called Horſe Caſſia, becauſe it is generally given to horſes, but is ſeldom uſed by the human ſpecies on account of its griping quality. [It is a native of the Eaſt-Indies, as Linneus's trivial name implies, and ſeems to be confounded by Miller with one of the Weſt-Indian ſorts.—Introduced in 1779[*].

32. This is a ſtout tree, and the branches are covered with a fine ſilky down. Leaflets oblong, obtuſe, of equal breadth. Pods a foot and half in length, ſomewhat compreſſed, three fingers broad, very heavy, acuminate; the ſutures elevated, round, ſtanding out, one of them doubled. Native of Surinam[b].

33. Stem herbaceous, a foot high or more, diffuſed, ſmooth, round; with hirſute branches. Leaves pinnate, with twenty-four or twenty-five pairs of leaflets. Common petioles round, hirſute, thicker at the baſe. Leaflets on very ſhort petiolets, oppoſite, lanceolate, rounded at the baſe, oblique, blunt at the end and terminated by a very ſmall briſtle, nerved, ſmooth. Glands beneath the loweſt pair of leaflets, pedicelled, capitate, truncate, turbinate at the tip. Stipules lanceolate, acuminate, oppoſite, at the baſe of the petioles, half-claſping, ſmooth but pubeſcent at the edge. Flowers among the ſtipules above the petiole, and not axillary; on very ſhort, ſolitary, three-flowered pedicels. Corollas ſmall, yellow; with two minute oppoſite bractes on the pedicels. Calycine leaflets linear, equal, acute, reflex, pubeſcent. Petals unequal; the two upper ones ſmaller, with a duſky ſpot; the other three larger, having claws, roundiſh, concave, waved about the edge. Filaments unequal, the ſeven hinder ones ſmaller, the three forward ones longer. Anthers linear, angular, bearing pollen at the tip. Germ oblong, white, very hirſute: ſtyle recurved, thick: ſtigma blunt. Legume compreſſed. It is an annual plant, native of the Weſt-Indies, in dry paſtures[c]: and was cultivated here in 1699, by the Dutcheſs of Beaufort[d].

C. Chamæcriſta of Miller does not ſeem to be the ſame with this; and he affirms that his plant, which he had from Vera Cruz by Dr. Houſtoun, is very different from the Chamæcriſta pavonis major.

34. Stems ſuffruticoſe, with almoſt naked branches. Leaflets lanceolate, with a pedicelled gland on the petiole between each pair. Peduncles axillary, double, one-flowered, ſhorter than the leaf. The flowers have ſix filaments, and two of the anthers are very long. The pods are like thoſe of Orobus[e]. Native of the Weſt-Indies.

35. Stem erect (not flexuoſe), very ſimple, round, more than two feet high. Stipules lanceolate, terminated by a briſtle. From the axils ſpring two erect filiform one-flowered peduncles, with a double lanceolate bracte towards the end. Seven of the ſtamens have oblong anthers. Legumes linear. Native of the iſland of Ceylon[f].

36. This is an annual plant, and native of Braſil[g].

37. The petiolar gland is pedicelled and brown. The peduncles are uſually three-parted and three-flowered, coming out in the ſpace above the axils. It is an annual plant, and native of Virginia[h]. Linneus refers alſo to Rumphius's Amboina.

38. This alſo is annual, and native both of the Indies and Virginia[i]: of Japan, Cochinchina and Africa.

The following ſpecies are added from Miller, who received them from Dr. Houſtoun.]

39. This grows upwards of twenty feet high with ſeveral ſtems covered with brown bark, and dividing into many branches at top. The leaves have two pairs of leaflets, which in the lower ones are oval; but thoſe of the upper are five inches long, and two and a half broad in the middle, ſmooth, and of a light green. The flowers are produced in looſe ſpikes at the extremity of the branches; they are large, of a gold colour, and ſucceeded by taper brown pods about nine inches long, having many tranſverſe partitions, in which the ſeeds are lodged in a thin pulp. Native of La Vera Cruz.

40. This riſes with a ſtrong upright trunk to the height of twenty-five or thirty feet, dividing into many branches covered with an aſh-coloured bark. Leaves on long foot-ſtalks, compoſed of two pairs

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[o] Browne.
[p] Swartz.
[q] Hort. kew.
[r] Dillenius.
[s] Mart. dec.
[t] Linn. ſpec.
[u] Linn. ſuppl.
[x] Linn. zeyl.
[y] Hort. kew.
[z] Linn. ſpec.
[*] Hort. Kew.

[b] Linn. ſuppl.
[c] Swartz.
[d] Hort. kew.
[e] Linn. ſpec.
[f] Linn. zeyl. & ſpec.
[g] Linn. ſpec.
[h] Ibid.
[i] Ibid.

of leaflets, four inches long, and near two broad, ſmooth, of a dark green on their upper ſide, but paler underneath. The flowers are produced ſometimes from the ſide of the ſtalks, where they are few and ſcattering; but the ends of the branches have large round bunches of flowers, which branch out from one centre; they are of a deep yellow inclining to orange colour, and are ſucceeded by compreſſed pods, near nine inches long, having a border on each ſide, and containing one row of oval ſmooth compreſſed ſeeds. Native of La Vera Cruz.

41. This riſes with a woody ſtem to the height of fourteen or ſixteen feet, ſending out many lateral branches. The flowers come out in looſe bunches at the ends of the branches, are of a pale ſtraw-colour and ſmall. The pods are long, narrow and jointed, each ſeed being lodged in a ſort of iſthmus: the ſeeds are oval and brown. Native of Campeachy.

42. This is a low herbaceous plant, ſeldom riſing a foot high, with a ſingle ſtem. The flowers come out ſingle from the ſide of the ſtem; they are of a pale yellow and ſmall; and are ſucceeded by narrow taper pods two inches long and growing upright. It is an annual plant, and a native of Campeachy.

43. This riſes with a ſhrubby ſtalk five or ſix feet high, ſending out many branches towards the top. The leaves have five pairs of oval leaflets, of which the upper ones are longeſt. The flowers are yellow, come out from the ſide of the ſtalks, and alſo terminate the branches in looſe ſpikes. The pods are long, taper, and contain two rows of ſeeds. Native of Jamaica.

44. This is an annual plant, with ſeveral trailing herbaceous ſtalks, about two feet long. The leaves are on long footſtalks, and at a conſiderable diſtance from each other. The flowers come out ſingle from the ſide of the branches, are of a pale yellow colour, and are ſucceeded by ſhort flat hairy pods, containing one row of flat ſeeds. Native of La Vera Cruz.

45. This alſo is an annual plant, and ſends out from the root two or three ſlender ſtalks, which trail on the ground. The leaves have four pairs of pale green roundiſh leaflets. At the inſertion of the foot-ſtalk ariſes the peduncle, which is jointed, divided into two ſhorter at the top, and ſuſtaining two ſmall yellow flowers. Native of Jamaica.

[46. Sometimes the leaves have ſix pairs of leaflets. It differs from *C. occidentalis* and *planiſiliqua* in the leaflets not tapering to the extremity. Native of the Weſt-Indies. Mr. Gilbert Alexander introduced it into England in 1778. It flowers in auguſt and ſeptember.

47. This is a native of Chili; and was introduced in 1786, by Monſ. Thouin.

48. This is a native of the Weſt-Indies; and was introduced about 1769. It flowers in march and april [k].

49, 50, 51. Theſe three are natives of Jamaica [l]. In the 49th, Swartz refers to *C. ſericea* of Miller: but Miller has no ſpecies under that title.]

PROPAGATION AND CULTURE.

Many of theſe plants are preſerved in curious gardens, though ſeveral of them have not much beauty to recommend them. The moſt beautiful are the 8th, 14th, 31ſt, 39th, 40th, and 41ſt; theſe all make a good appearance in the ſtove when they are in flower, and as they retain their leaves all the year, they give an agreeable variety in winter. All the ſpecies contract their leaves every evening as the ſun declines, and open them again with the riſing ſun: the under ſurface of the leaflets is turned outward, the upper ſurfaces being clapped cloſe together. Moſt plants whoſe under ſurface is thus turned outward, grow on dry ſandy land, where the roots do not find a ſufficient ſupply of moiſture; the lower ſurface of the leaves being generally covered with a ſhort ſoft down, detains the nightly dews and inhales it. Thoſe plants which have the upper ſurface of the leaves turned outward, do not ſtand in need of this ſupply; and accordingly that ſurface being ſmooth, the moiſture is caſt off, and not imbibed.

All the ſpecies are propagated by ſeeds, which as they moſtly come from very hot climates, muſt be ſown on a hot-bed in the ſpring; and when the plants are fit to remove, they muſt be each planted in a ſeparate pot, filled with light earth, and plunged into a moderate hotbed, where they ſhould be ſhaded till they have taken freſh root; after which they ſhould have freſh air admitted to them every day in proportion to the warmth of the ſeaſon, and ſhould be frequently watered. When the plants have filled the pots with their roots, they ſhould be ſhifted into larger; and if they are too tall to remain in the hot-bed, they muſt be placed either in the ſtove, or a glaſs caſe, where they may be defended from cold, but in warm weather have plenty of air. With this management the plants will flower in july or auguſt, and perfect their ſeeds in october, but may be preſerved through the winter in a ſtove, where they will continue flowering a long time. In warm ſummers they may be placed in the open air towards the end of june, and will flower very well there; but they will not perfect their ſeeds, unleſs they are removed into the ſtove in autumn.

14. The ſeeds of *Caſſia Fiſtula* may be eaſily procured from the druggiſts who import the pods for uſe; theſe muſt be ſown on a hot-bed treated in the ſame manner as before directed, during the firſt ſummer; but in autumn muſt be removed into the ſtove, and plunged into the tan-bed: during the winter they ſhould have very little water; for as theſe trees grow naturally in dry ſandy land, moiſture is a great enemy to them, but eſpecially during that ſeaſon. In the ſummer they ſhould have a good ſhare of air admitted to them in warm weather, but they will not thrive in the open air in this country at the warmeſt time of the year, ſo ſhould conſtantly remain in the ſtove.

17. The officinal Senna muſt be treated in the ſame manner with the other ſorts; but being an annual plant, unleſs it is brought forward in the ſpring, it will not flower; it muſt therefore be kept conſtantly in the hot-bed all the ſummer, admitting plenty of air to it in warm weather. It is very rare that it perfects ſeeds in England.

26. The Maryland Caſſia, will live abroad in a warm border and dry ſoil. The ſeeds will come up in the full ground, if ſown in april, and in autumn the plants may be removed into the borders where they are deſigned to remain.

Some of the moſt tender ſorts (8, 14, 25, 31, 33, &c.) muſt be plunged into the tan-bed, and be watered very ſparingly in winter.

Cassia. See *Canella* and *Laurus*.

Cassida. See *Scutellaria*.

CASSINE.

Lin. gen. 371. *Reich.* 401. *Schreb.* 504. *Juſſ.* 378. *Gærtn. t.* 92. Maurocenia. edit. 1. and *Mill. dict.*

Claſſ. 5. 3. Pentandria Trigynia.

Nat. order of *Dumoſæ*. *Rhamni* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* quinquepartite, inferior, very ſmall, obtuſe, permanent.

Cor. quinquepartite, ſpreading. *Diviſions* ſubovate, obtuſe, larger than the calyx.

Stam. *Filaments* five, ſubulate, ſpreading. *Anthers* ſimple.

Pist. *Germ* ſuperior, conic. *Style* none. *Stigmas* three, reflex, obtuſe.

Per. *Berry* roundiſh, trilocular, umbilicated with the ſtigmas.

Seeds ſolitary, ſubovate.

Obs. *Corolla pentapetalous*. S. V. p. 243. R.

ESSENTIAL CHARACTER.

Calyx quinquepartite. *Petals* five. *Berry* triſpermous.

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[k] Hort. kew.

[l] Swartz.

SPECIES.

1. Caſſine capenſis. *Cape Caſſine*, or *Phillyrea*.
Linn. ſyſt. 295. *mant.* 220. *ſuppl.* 184. *Reich.* 735.
Maurocenia Phillyrea. *Mill. dict. n.* 2.
Celaſtrus *Burm. afr.* 239. *t.* 85.
Phillyrea capenſis, folio celaſtri. *Dill. elth.* 315. *t.* 236. *f.* 305. *Seb. muſ.* 1. 46. *t.* 29. *f.* 5.
Leaves petioled ovate-oblong retuſe crenate.

2. Caſſine Peragua.
Lin. ſpec. 384. *ſyſt.* 295. *Reich.* 735. *mat. med.* 88. *hort. cliff.* 72. *Plenck. ic. t.* 239.
C. corymboſa. *Mill. dict. n.* 1. *fig. t.* 83. *f.* 1.
Leaves petioled ſerrate elliptic ſomewhat acute, branchlets ancipital.

[3. Caſſine barbara.
Lin. ſyſt. Reich. 735. *mant.* 220.
Leaves ſeſſile ſerrate-toothed cordate oblong, branchlets quadrangular.]

4. Caſſine Maurocenia. *Great Hottentot Cherry.*
Lin. ſpec. 385. *Reich.* 736. *Gærtn. fruct.* 2. 70.
Maurocenia. *Lin. hort. cliff.* 108.
M. Frangula. *Mill. dict. n.* 1.
Frangula ſempervirens, fol. rigido ſubrotundo. *Dill. elth.* 146. *t.* 121. *f.* 147.
Leaves ſeſſile quite entire obovate coriaceous.

DESCRIPTIONS, *&c.*

1. Cape Caſſine has a woody ſtalk, which in this country ſeldom riſes more than five or ſix feet high, ſending out many branches, covered with a dark purpliſh bark. Leaves ſtiff, oppoſite, about an inch and half long, and a little more in breadth, of a light green, on ſhort foot-ſtalks. The flowers are produced in roundiſh bunches from the ſide, and at the end of the branches; they are white, and have five ſmall petals ſpreading open. Germ roundiſh, crowned by a bifid or trifid ſtigma. [Corymbs very ſhort as in the *Maurocenia*, from which it is hardly diſtinct. The leaves vary in form, but this being gradual in the ſame tree ſhows the variation. The flowers are ſometimes quadrifid and quinquefid. This ſhrub is a native of the Cape[a]; and was cultivated in 1726 at Eltham by James Sherard, M. D.[b]]

2. It riſes with two or three ſtems which ſend out many ſide branches their whole length and become buſhy; they are ſeldom more than eight or nine feet high. Towards the upper part of the branches, the flowers come out from the ſides in roundiſh bunches; they are white, and divided into five parts almoſt to the bottom.

The leaves are extremely bitter. They continue green very late in autumn, if the ſeaſon prove mild, and they come out early in the ſpring. The flowers appear in july and auguſt. Native of Virginia and Carolina.

[3. Leaves ſlightly embracing the ſtem, emarginate at the baſe, with raiſed veins, ſmooth, ſhining, with diſtinct ſerratures ſtanding out. Peduncles axillary filiform, half the length of the leaves, commonly three-flowered[c]. Native of the Cape of Good Hope.]

4. At the Cape of Good Hope, where this ſhrub grows naturally, it riſes to a conſiderable height, but here it is rarely more than five or ſix feet high. The ſtalk is ſtrong, woody, and covered with a purpliſh bark, ſending out many ſtiff branches. Leaves very thick, for the moſt part oppoſite, about two inches long and almoſt as broad, of a dark green colour. The flowers come out from the ſide of the old branches in cluſters, three, four or five together, on one common ſlender peduncle. Petals five, plane, equal, acute, firſt greeniſh yellow, but changing to white, ſpreading wide open. Germ oval, crowned by a trifid ſtigma. Between each petal a ſtamen; theſe ſpread open in the ſame manner as the petals, and are terminated by obtuſe anthers. The fruit changes to a dark purple colour when ripe. [It is a berried drupe, ſuperior, globular, crowned with the three ſtigmas: rind fleſhy, thin; ſhell cruſtaceous, thin, three-celled. Seeds fixed to the cells by the top, without any receptacle; they are ſolitary, ovate, acuminate above, black with a minute whitiſh umbilicus[d].

Introduced in 1690 by Mr. Bentick[e].

It flowers in july and auguſt, and the fruit ripens in winter.

Linneus gave this ſhrub the name of *Maurocenia*, in honour of the Venetian Senator *Franc. Moroſini*, who had a fine garden at Padua, a catalogue of which was publiſhed by Ant. Tita.]

Mr. Miller has two other ſpecies of *Maurocenia*. 1. M. Ceraſus. *The ſmaller Hottentot Cherry*, which is *Celaſtrus lucidus* of Linneus.

2. M. Americana. n. 4.—with obovate emarginate leaves, and ſolitary axillary flowers. Frangula folio ſubrotundo rigido ſubtus ferrugineo. *Houſt. Mſs.*

Stalk woody, from fifteen to twenty feet high, covered with a rough brown bark, and dividing into many branches. Leaves ſtiff, alternate, about an inch and half long, and a little more in breadth, gray on their upper ſide, but of a ruſty iron colour on their under, having a ſtiff reflex border, and ſtanding upon ſhort foot-ſtalks. The flowers come out ſingly along the ſide of the branches: petals five, ſmall, white, acute. Filaments ſlender, ſpreading open: anthers blunt. Stigma bifid, permanent. Berry round, one or two-celled, with one oblong ſeed in each cell.

It was diſcovered by Dr. Houſtoun at the Paliſadoes in Jamaica.

[*Caſſine Paragua* of Miller is *Ilex Vomitoria*. *C. Peragua* of the Mantiſſa, is *Viburnum lævigatum.*]

PROPAGATION AND CULTURE.

The firſt and fourth ſorts are too tender to live abroad in England, but as they require no artificial heat, they may be preſerved through the winter in a good green-houſe, where they deſerve a place for the beauty of their leaves; they may be propagated by laying down thoſe ſhoots which are produced near the root, but they are long in putting out roots. The ſhoots ſhould be twiſted in the part which is laid, to facilitate their putting out roots; if theſe are laid down in the autumn, they will put out roots ſufficient to remove in the following autumn; they may alſo be propagated by cuttings, but this is a tedious method, as they are ſeldom rooted enough to tranſplant in leſs than two years. When this is practiſed, the young ſhoots of the former year ſhould be cut off, with a ſmall piece of the old wood at the bottom, in the ſpring, and planted in pots filled with loamy earth, and plunged into a moderate hot-bed, covering the pots with glaſſes, which ſhould be cloſe ſtopped down to exclude the external air; they ſhould be pretty well watered at the time they are planted, but afterward they will require but little wet; the glaſſes over them ſhould be covered every day with mats, to ſcreen the cuttings from the ſun during the heat of the day, but in the morning before the ſun is too warm, and in the afternoon, when the ſun is low, they ſhould be uncovered, that the oblique rays of the ſun may raiſe a gentle warmth under the glaſſes. With this care the cuttings will take root, but where it is wanting, they ſeldom ſucceed. When the cuttings or layers are rooted, they ſhould be each planted in a ſeparate ſmall pot, filled with ſoft loamy ſoil, and placed in the ſhade till they have taken new root; then they may be removed to a ſheltered ſituation, where they may remain during the ſummer ſeaſon; and, before the froſts of the autumn come on, they muſt be removed into the green-houſe, and treated in the ſame way as the other plants of that country, giving them but little water in cold weather, and in mild weather admitting the free air. In ſummer they muſt be removed into the open air, and placed in a ſheltered ſituation with other exotic plants, and in very warm weather they muſt be watered three times a week, but it muſt not be given them too freely at any time. When the plants have obtained ſtrength, the fourth ſort will produce flowers and fruit, which, in warm ſeaſons, will ripen perfectly; and if the ſeeds are ſown ſoon after they are ripe, in pots, and plunged into the tan-bed in the ſtove, the plants will come up the ſpring following, and may then be treated in the ſame manner as thoſe which are propagated by cuttings and layers.

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[a] Linn. ſuppl.

[b] Dill. elth.

[c] Linn. mant.

[d] Gærtner.

[e] Hort. kew.

The firſt ſort is not altogether ſo hardy as the fourth, and muſt therefore have a warmer place in the green-houſe in winter, and ſhould not be placed abroad quite ſo early in the ſpring, nor ſuffered to remain abroad ſo late in the autumn. As this does not produce ſeeds in England, it can only be propagated by layers and cuttings, and theſe not taking root without difficulty it is ſcarce in Europe.

The ſecond ſort is propagated by laying down the branches, which afford ſhoots in plenty for that purpoſe from the root, and lower part of the ſtem, ſo as to become very buſhy and thick, if they are not cut off; there are numbers of theſe ſhrubs which produce flowers in England every year, but none of them ripen their ſeeds.

The leaves are frequently pinched by the froſt in march, when they appear ſo ſoon.

It loves a light ſoil, not too dry, and ſhould have a warm ſituation; for in expoſed places, the young ſhoots are frequently killed in the winter, whereby the ſhrubs are rendered unſightly; but where they are near the ſhelter of trees or walls, they are very rarely hurt.

All the ſorts delight in a ſoft, gentle, loamy ſoil, not over ſtiff, ſo as to detain the wet, nor ſhould the ſoil be too light, for in ſuch they ſeldom thrive. They retain their leaves all the year, which being remarkably ſtiff and of a fine green, make a good appearance, eſpecially the fourth ſort, the fruit of which ripens in winter, and when it is in plenty on the plants affords an agreeable variety.

Cassine. See *Ilex, Prinos,* and *Viburnum.*

Cassioberry-bush. See *Viburnum.*

Cassitha. See *Cuſcuta.*

Cassutha and **Cassuta.** See *Cuſcuta.*

Cassuvium. See *Anacardium.*

CASSYTA.

Lin. gen. n. 505. *Reich.* 548. *Schreb.* 690. *Oſbeck. Jacqu. amer.* 115. *Juſſ.* 439. *Gærtn. t.* 27.

Claſſ. 9. 1. Enncandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* triphyllous, very ſmall, permanent; *leaflets* ſemi-ovate, acute, concave, erect.

Cor. *Petals* three, roundiſh, acute, concave, permanent. *Nectary* of three glands, oblong, truncate, coloured, length of the germ, ſtanding round it.

Stam. *Filaments* nine, erect, compreſſed; two globular glands ſeated on the ſides of the baſe of the three interior filaments. *Anthers* adjoined to the filaments below the tip.

Pist. *Germ* ovate, within the corolla and calyx. *Style* thickiſh, length of the ſtamens. *Stigma* obſcurely trifid, obtuſe.

Per. *Receptacle* growing out into a depreſſed-globular *drupe,* crowned with the converging calyx and corolla; perforated with a navel.

Seed. *Nut* globular, acuminate with the converging ſtamens.

Obs. *There is no calyx, but a ſexpartite corolla; therefore the calyx is now regarded as part of the corolla.* Syſt. Veget. p. 318. R.

ESSENTIAL CHARACTER.

Cor. calycine, ſexpartite. *Nectary* of three truncate glands ſurrounding the receptacle. Interior *filaments* glanduliferous. *Drupe* monoſpermous.

SPECIES.

1. Caſſyta filiformis.
Lin. ſpec. 530. *ſyſt.* 384. *Reich.* 2. 230. *Jacqu. amer.* 115. *t.* 79. 58. *t.* 116. *Gærtn. fruct.* 1. 133.
Cuſcuta. *Camell. luz.* 1. *n.* 1. *Pet. gaz. t.* 49. *f.* 12. *Pluk. alm. t.* 172. *f.* 2. *Rumph. amb.* 5. 491. *t.* 184. *f.* 4.
Acatſia-valli. *Rheed. mal.* 7. 83. *t.* 44. *Raii ſuppl.* 551.
Volutella aphylla. *Forſk. ægypt.* 84. *n.* 56.
Filiform lax.

2. Caſſyta corniculata.
Lin. ſyſt. 385. *Reich.* 2. 231. *mant.* 237. *Burm. ind.* 93. *t.* 33. *f.* 1. *Rumph. amb.* 7. 52.
Branches woody ſpinous.

DESCRIPTIONS, &c.

1. This plant grows naturally in both Indies. I have received it from Barbadoes, Jamaica, and the Spaniſh Weſt Indies; and that it grows alſo in the Eaſt Indies, is plain from its figure in the Hortus Malabaricus. It riſes with taper ſucculent ſtalks, which divide into many ſlender ſucculent branches: theſe come out frequently by threes or fours at the ſame joint, afterward they ſend out ſide branches ſingly without order, and become very buſhy: the flowers come out on the ſide of the branches ſingly, ſitting very cloſe thereto, having no calyx; the corolla is oval, white, with a ſmall tincture of red, opening like a navel at the top, including the germ, ſtamina, ſtyle, and nectareous glands ſo cloſely, as not to be diſcovered till the corolla is cut open.

[This paraſitical plant is generally ſaid to be abſolutely leafleſs, and Jacquin affirms that he has always found it to be ſo. The author of the *Hortus Malabaricus* however ſays, that on the green tender twigs there a few very ſmall leaves, coming out ſeveral together. The twining thread-like ſtems put out many warts, like the feet of caterpillars, by which they adhere to the leaves and ſtems of ſhrubs ſo ſtrongly as not to be ſeparated without tearing them; and when they have fixed themſelves to theſe, they no longer draw any nouriſhment from the ſoil. The ſpikes of flowers are lateral, very looſe, thick, alternate at different diſtances. The flowers are very ſmall, and have no ſcent. The fruit is pellucid, white, ſhining, ſweet to the taſte, the ſize of a pea; and contains a black ſtone, with a yellow kernel in it[a].

Jacquin found it in the iſland of Tierra Bomba near Carthagena. It alſo occurs in the Society and Friendly iſlands.

The Eaſt Indian plant may poſſibly be a different ſpecies. Gærtner is of opinion that it is, and names it *Caſſyta zeylanica.* He ſays, that the belly of the calyx does not cover the whole nut, and that it has at the edge ſix pale, obtuſe, concave, diſtant ſcales, like ſo many toothlets, three of them ſhorter, and a little without the others, but all converging. Stamens only ſix, in a ſingle row within the ſcales; three ſhorter, correſponding with the larger ſcales and ſubulate; the other three placed within the ſmaller ſcales, longer, and having a globular gland on each ſide near the baſe, as in the other. The nut is globular, produced at top, with a ſhort ſtyle and three ſtigmas, it is of a dark cheſnut colour, ſmooth, one-celled and valveleſs[b].

Linneus obſerves, that it has the herb of *Cuſcuta,* and the fructification of *Laurus:* but the fructification being now better known, it appears to be as different in that from *Laurus* as in the habit.

2. Branches a foot long, woody, the thickneſs of a finger. Spines ſolitary, recurved. Leaves ſmaller than the ſpines, lanceolate-linear. Berries ſubſeſſile. Mountains of the iſland of Celebes, among rotten trunks of trees. *Lin. mant.* In Java. *Burm.* who ſays that he received it in 1758.

Juſſieu (gen. 440.) doubts whether this be of the ſame genus with the foregoing, ſince it differs ſo much from it in the ſpines, and diſpoſition of the parts.]

PROPAGATION AND CULTURE.

This plant is eaſily propagated by planting cuttings of it during the ſummer months, but as theſe cuttings are ſucculent, it will be proper to cut them off a week before they are planted, laying them in the ſtove, that the part cut may have time to heal over before they are planted. Theſe cuttings ſhould be planted in ſmall pots, which muſt be plunged into a moderate hot-bed, where, if they are not over watered, they will take root in ſix weeks; then they may be parted, planting each into a ſeparate ſmall pot, filled with light ſandy earth, and may be plunged again into the hot-bed to forward their taking new root; after which they ſhould be removed into a dry ſtove, where they ſhould conſtantly remain, giving but little water in winter, and in ſummer admitting a large ſhare of air in warm weather, for this plant is too tender to thrive in the open air in this climate.

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[a] Jacquin. [b] Gærtner.

[Castanea. See *Fagus*.]

Castanea equina. See *Æſculus*.

[CASTILLEIA. (*So named by Mutis, in memory of Caſtilleius, a botaniſt of Cadiz.*)

Linn. ſuppl. 47. *n.* 1408. *Gen. Schreb. n.* 1059. *Smith, ic. ined.* 40. *Juſſ.* 100.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ*. *Pediculares* Juſſ.

GENERIC CHARACTER.

Cal. one-leafed, tubular, longitudinally cloven in front beyond the middle, nerved, pubeſcent, coloured, ſomewhat ſwelling at the baſe, compreſſed at top; *upper lip* bifid, obtuſe; *lower* none.

Cor. monopetalous, ringent. *Upper lip* very long, curved inwards, emarginate, pubeſcent on the back: *lower* very ſhort, trifid, with acute ſegments.

Nectary? two glandular corpuſcles inſerted into the throat of the corolla between the diviſions of the upper lip.

Stam. *Filaments* four, inſerted into the baſe of the corolla, the length of the upper lip, filiform, ſmooth; the lower pair a little ſhorter. *Anthers* twin, linear, oblique.

Pist. *Germ* ſuperior, oblong, compreſſed. *Style* filiform, the length of the ſtamens. *Stigma* ſimple, obtuſe.

Per. *Capſule* ovate, acuminate, compreſſed, even, two-celled, the partition contrary to the valves.

Seeds numerous ſmall.

ESSENTIAL CHARACTER.

Cal. tubular, compreſſed: upper lip bifid, lower none. *Cor.* lower lip trifid, with two glands between the ſegments. *Capſ.* two-celled.

SPECIES.

1. Caſtilleia fiſſifolia.
Lin. ſyſt. 548. *ſuppl.* 293. *Smith, ic. ined.* 2. 40.
Leaves pinnate-gaſhed at the tip.

2. Caſtilleia integrifolia.
Lin. ſyſt. 548. *ſuppl.* 293. *Smith, ic. ined.* 2. 39.
Leaves linear-lanceolate entire.

DESCRIPTIONS, &c.

1. *Root* branched, fibrous. *Stem* herbaceous, ſometimes ſuffruticoſe, from three to four feet high, upright, roundiſh, little branched, leafy, pubeſcent; twigs axillary, from upright ſpreading, leafy, many-flowered. *Leaves* alternate, ſeſſile, ſpreading very much, ovate at the baſe, entire, pinnatifid at the tip, with ſpreading blunt almoſt alternate ſegments, pubeſcent on both ſides, three-nerved. Stipules none. *Flowers* towards the ends of the larger branches, axillary, ſolitary, peduncled, ſpecious, probably ſcarlet. Proper bractes none. Peduncles round, pubeſcent, upright, one-third only of the length of the leaves.

Native of New Granada; where it was found by Mutis.

2. *Stem* herbaceous, round, upright, branched, leafy, ſlightly rough with hairs. *Leaves* alternate, ſeſſile, ſpreading, obtuſe, ſlightly channelled, nerved, pubeſcent on both ſides. Stipules none. *Flowers* on the elongated ends of the branches, forming a ſort of raceme, each from the axil of its own bracte-ſhaped leaf. Peduncles filiform, upright, ſhorter than the leaves. The ſtructure of the flower is the ſame in this as in the other ſpecies, but all the parts are a little ſmaller. The fruit ſeems to be the ſame in both.

This alſo was diſcovered in New Granada, by Mutis[c].

The *integrifolia*, according to the Supplement, reſembles the *fiſſifolia* ſo much, that Linneus ſuſpected it to be no more than a variety. For this however there ſeems to be no foundation.]

Castorea. See *Duranta*.

[CASUARINA.

Forſt. gen. n. 52. *Lin. ſuppl.* 62. *n.* 1428. *Schreb.* 1395. *Juſſ.* 412. *Gærtn. t.* 91.

Claſſ. 21. 1. Monoecia Monandria.

Nat. order of *Coniferæ*.

GENERIC CHARACTER.

* *Males* in a filiform ament.

Cal. *Common ament* looſely imbricate, conſiſting of ſmall one-flowered one-leafed ſcales.

Cor. *Scales* two-parted ovate minute.

Stam. *Filament* capiliary, longer than the calyx. *Anther* twin.

* *Females* on the ſame plant.

Cal. *Ament* ovate-cylindric; with ovate, acute, keeled, imbricate ſcales.

Cor. none.

Pist. *Germ* minute. *Style* filiform, longer than the calyx, bifid. *Stigmas* two.

Per. *Strobile* of bivalve ſcales gaping perpendicularly.

Seeds ſolitary, conic, with a membranaceous edge.

ESSENTIAL CHARACTER.

Male. *Cal.* of the ament. *Cor.* ſcalelets two-parted.

Fem. *Cal.* of the ament. *Cor.* none. *Style* bifid. *Strobile.*

SPECIES.

1. Caſuarina equiſetifolia. *Horſe-tail Caſuarina.*
Lin. ſyſt. 840. *ſuppl.* 412. *Thunb. diſſ.* 53. *Ait. hort. kew.* 3. 320.
C. littorea. *Rumph. amb.* 3. 86. *t.* 57.
Monoecous; whorls of the ſtamens approximating.

2. Caſuarina nodiflora.
Lin. ſyſt. 840. *Thunb. diſſ.* 54. *Gærtn. fruct.* 2. 63. *Rumph. amb.* 3. 87. *t.* 58.
Monoecous; whorls of the ſtamens remote.

3. Caſuarina ſtricta. *Upright Caſuarina.*
Ait. hort. kew. 320.
Dioecous; branchlets erect; ſcales of the ſtrobiles unarmed, ſmoothiſh; male-ſheaths multifid ſmooth.

4. Caſuarina toruloſa. *Cork-barked Caſuarina.*
Ait. hort. kew. 320.
Dioecous; branchlets flaccid; ſcales of the ſtrobiles villoſe roughened with tubercles, male-ſheaths quadrifid.

5. Caſuarina africana.
Lour. cochinch. 549.
Fronds filiform, ſwelling at the tip and floriferous; ſtrobiles roundiſh axillary.

DESCRIPTIONS, &c.

1. A very large, ſpreading, and lofty tree. Branchlets ſcattered, round, aſh-coloured, knotted and whorled with deciduous leaves; the laſt hiſpid with recurved dried leaves: the branchlets are long, lax, and ſubdivided. The laſt branchlets are ſcattered, aggregate, filiform-capiliary, lax, covered with decurrent leaves, jointed, ſtriated, flowering at the end, of a finger's length. Leaves, if they be truly ſuch, in whorls of eight together, decurrent far down, at bottom ſubconnate, erect, ſpreading at top, ſubulate. Flowers on the laſt branches verticil-ſpiked. Male ſpike thicker than the branchlet, ſubclavated, an inch long. Female ſtrobile oblong, obtuſe, ſolitary on the branchlets below the males, erect, the ſize of a walnut, on a peduncle ſcarcely a line in length[d].

The leaves, if they may be ſo called, or rather branchlets, hanging down in bunches from twelve to eighteen inches in length, like a long head of hair, or a horſe's tail, all jointed from top to bottom, like the Equiſetums or Horſe-tails, is a very remarkable character of this ſingular tree[c].

---

[c] Smith.

[d] Thunberg.

It is a native of the Eaſt Indies and the South Sea Iſlands; was introduced in 1766 by Admiral Byron; and flowers in october and november[f].

2. A lofty tree. The branches and branchlets more deeply ſtriated. The male flowers on the laſt branchlets in whorls, remote, diſtinct[g].

Gærtner deſcribes the ſtrobile as ſubglobular, echinate and pedicelled. The ſcales of the calyx, when ripe, thicken very much, and become ſuberous or like cork; they are retuſe, white, in pairs, and placed ſo cloſe as to appear one body handſomely teſſulated in quadrangular figures. The valves of the calyx much lengthened out, coriaceous and concave, incloſe the ſeed in a ſort of ſheath.—Native of the Eaſt Indies and New Caledonia.

3. A native of New South Wales. Introduced 1775 by Kennedy and Lee. It flowers in november and december.

4. A native of New South Wales. Sir Joſeph Banks, Bart. introduced it 1772[h].

5. This is a tree above the middle ſize, with few, long, diffuſed branches, and leaf-bearing reclining branchlets. Fronds in bundles at the ends of the branchlets, a foot long, ſubcylindric, very ſtiff and ſtraight, ſcarcely equalling the leaves of the Pine in thickneſs, ſomewhat jointed: *leaflets* tubular, longiſh, entirely ſheathing, ſeven-furrowed, ſeven-cleft at the end, the ſegments ſharp and preſſed cloſe. Male flower apetalous, terminating the frond, which is there thickened into an ament, compoſed of ſcales like the leaflet, but thicker, ſhorter, ſheathing and ſeven-parted; each ſegment bearing a ſingle filiform filament, longer than the ſcale, and terminated by an ovate, erect, two-celled anther. Female flower in a ſhort ament at the axil of the frond; ſcales like thoſe of the male, but thicker, ſeven-parted, acute, ſheathing. Strobile roundiſh, half an inch long, woody, opening perpendicularly by twelve valves; each fiſſure opening three or four cells, having one ſeed in each: the partial valves acute. Seed ſubovate, terminated by a membranaceous wing.—Native of the ſandy eaſt coaſt of Africa. The wood is very hard and heavy.

The firſt ſpecies would not be very different from this, if the ſtrobiles were alike, and the ſwelling tips of the fronds were converted into male aments, as in this[i].

Catalpa. See *Bignonia.*]

CATANANCHE. (*From* κατὰ *and* ανάγκη *violence: being once fooliſhly ſuppoſed to give a violent impulſe to love.*)

Lin. gen. n. 920. *Reich.* 999. *Schreb.* 1250. *Gærtn. t.* 157. *Vaill. A. G.* 1721. 56. 11. *Juſſ.* 171. Catanance. *Tourn.* 271.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of compound flowers—diviſion, *Semifloſculoſæ. Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* imbricate, turbinate; *leaflets* very many, looſely incumbent, acute, ſcarioſe; the *ſquamulæ* ovate-acuminate, concave, lax, gloſſy, permanent.

Cor. *Compound* generally imbricate, uniform; *corollets* hermaphrodite, very many; the exterior ones longer.

Proper monopetalous, ligulate, linear, truncate, five-toothed.

Stam. *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular.

Pist. *Germ* oblong. *Style* filiform, length of the ſtamens. *Stigma* bifid, reflex.

Per. none. Calyx unchanged.

Seeds ſolitary, turbinate-ovate. *Down* from a five-awned calycle.

Rec. chaffy.

Obs. *There is a ſpecies in which the compound corolla is not imbricate.*

ESSENTIAL CHARACTER.

Receptacle chaffy. *Calyx* imbricate. *Down* awned from a five-briſtled *calycle.*

SPECIES.

1. Catananche coerulea.
Lin. ſpec. 1142. *ſyſt.* 722. *Reich.* 3. 664. *Gouan. hort. monſp.* 418. 1. *Villars dauph.* 3. 58.
Chondrilla. *Bauh. pin.* 130. 6. *Dod. pempt.* 638. *Barr. ic.* 1134. *Raii hiſt.* 257.
β. C. fl. pleno coeruleo. *Tourn. inſt.* 478.
Ch. cær., cyani capitulis, altera. *Bauh. pin.* 431.
The lower ſcales of the calyx ovate.

2. Catananche lutea.
Lin. ſpec. 1142. *ſyſt.* 722. *Reich.* 3. 664. *Gærtn. fruct.* 2. 356. *Gouan. hort. monſp.* 418. 2.
Chondrilla. *Bocc. muſ.* 2. 21. *t.* 7. *Barr. ic.* 1135.
The lower ſcales of the calyx lanceolate.

3. Catananche græca.
Lin. ſpec. 1142. *ſyſt.* 722. *Reich.* 3. 665.
Scorzonera græca. *Tourn. cor.* 36. *itin.* 1. *t.* 223–86.
Leaves gaſhed.

DESCRIPTIONS, &c.

1. The firſt ſort ſends out many long, narrow, hairy leaves, which are jagged on their edges like thoſe of Buckſhorn Plantain, but the leaves are broader, the jags deeper, and at greater diſtances; theſe lie flat on the ground, turning their points upwards, which are very narrow. Between the leaves come out the flower-ſtalks, which are in number proportionable to the ſize of the plant; for from an old thriving root, there is frequently eight or ten, and young plants do not ſend out more than two or three. Theſe ſtalks riſe near two feet high, dividing into many ſmall branches upward, with leaves like thoſe below, but ſmaller, and have few or no jags on their edges: each of the peduncles are terminated with ſingle heads of flowers, having a dry, ſilvery, ſcaly calyx, in which are included three or four florets, whoſe petals are broad, flat, and indented at their ends; theſe are of a fine blue colour, having a dark ſpot at bottom, and in each the ſtamens, with their yellow ſummits, ſtanding a little above the petal, make a pretty appearance.

There is a variety of this with double flowers, which is not very common in the Engliſh gardens.

[Perennial. The leaves are hoary and brittle[a]; linear-lanceolate, with one or two toothlets on each ſide[b]. It is a native of the South of Europe; was cultivated, as appears from Parkinſon, in 1640; and flowers from july to october[c].]

2. The ſecond ſort has broader leaves than the firſt, ſmoother, and leſs jagged on their edges: from each root ariſe two or three ſtalks, which grow a foot and a half high, ſending out two or three ſlender peduncles, each ſuſtaining a ſingle head of yellow flowers, incloſed in a dry ſcaly calyx, of a darker colour than thoſe of the firſt: as theſe flowers are ſmall, they make but little appearance.

[Annual. The leaves are green, flexile and three-nerved. The later flowers are ſeſſile at the root, hardly unfolded, but more fertile[d].

Native of the iſle of Candia. Cultivated in the botanic garden at Chelſea, in 1714. It flowers in june and july[e].]

3. Tournefort mentions a third ſort with a narrow leaf, in which it differs from the ſecond; but if there is ſuch a diſtinct ſpecies, I have not happened to meet with it; for although I have frequently received the ſeeds from ſeveral parts of Europe by this title, yet I could not find any difference between the plants, and thoſe of the ſecond ſort; therefore I ſuppoſe Tournefort may have found the plants growing on a ſterile ſoil, where the leaves were much narrower than thoſe growing in a garden, or in better ground, which may have induced him to ſuppoſe they were diſtinct ſpecies. Both theſe plants grow naturally in the South of France, in Spain, Italy, and Candia, from whence it had the title of Candia Lions Foot.

[*C. græca* differs from *lutea* not only in having gaſhed leaves, but the pappus or aigrette of the ſeed twelve-leaved; whereas in the *lutea* it is five-leaved[f]].

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[f] Hort. kew. [g] Thunb. [h] Hort. kew. [i] Loureiro.

[a] Linn. ſyſt. [b] Gouan. [c] Hort. kew. [d] Linn. ſyſt. [e] Hort. kew.

PROPAGATION AND CULTURE.

The firſt of theſe plants is a perennial, and may be propagated by heads taken off the mother plant, either in ſpring or autumn; but thoſe plants which are raiſed from ſeeds, are much ſtronger than thoſe from ſlips. Theſe plants are commonly planted in pots filled with light ſandy ſoil, in order to ſhelter them in the winter from ſevere froſts; but if they are planted in warm borders, near walls, pales, or hedges, in a moderately dry ſoil, they will endure abroad very well. It begins flowering in may, and continues till auguſt or ſeptember (eſpecially if the ſummer is not too dry,) is a pretty ornament to a garden, and is eaſily kept within bounds. This may alſo be propagated by ſeeds, which ſhould be ſown in a border of good light earth in march; and in may, when the plants are come up, they may be either tranſplanted into pots or borders, where they are to remain for flowering. Theſe plants ſhould remain unremoved when they are planted in the full ground, which will cauſe them to flower better, and they will produce more ſeeds. The ſeeds ripen in auguſt.

The ſecond ſort is an annual plant, and therefore only propagated by ſeeds, which ripen very well in this country. The time for ſowing them is early in march, in beds or borders of light earth where they are to remain, which will come up in a month or five weeks time, and require no other care but to keep them clean from weeds, and thin the plants where they are too cloſe. Theſe flower in june, and perfect their ſeeds in auguſt or ſeptember; but as they have little beauty, they are not often kept in gardens.

[CATAPPA, See *Terminalia.*

CATAPUTIA. See *Euphorbia* and *Ricinus.*

CATARIA. See *Dracocephalum, Hyſſopus,* and *Nepeta.*

CATCHFLY. See *Lychnis.*

CATECHU. See *Areca.*

CATELÆ-VEGON. See *Ariſtolochia.*

CATERPILLARS. See *Scorpiurus.*]

CATESBÆA. (*Named by Gronovius in honour of Mr. Mark Cateſby, author of the Natural Hiſtory of Carolina.*)

Lin. gen. n. 130. *Reich.* 136. *Schreb.* 166. *Juſſ.* 199. *Gronov.*

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Luridæ.* *Rubiaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-toothed, ſuperior, very ſmall, acute, permanent.

COR. monopetalous, funnel-form. *Tube* extremely long, ſtraight, gradually widening upwards. *Border* ſemi-quadrifid, broad, erect-flat.

STAM. *Filaments* four, growing within the neck of the tube, *Anthers* oblong, erect, almoſt longer than the corolla.

PIST. *Germ* roundiſh, inferior. *Style* filiform, length of the corolla. *Stigma* ſimple.

PER. *Berry* oval, crowned, unilocular. (bilocular *Sw.*)

SEEDS many, angulate.

ESSENTIAL CHARACTER.

Cor. monopetalous, funnel-form, extremely long, ſuperior. *Stamens* within the mouth. *Berry* polyſpermous.

SPECIES.

1. Cateſbæa ſpinoſa. *Lily-thorn.*
Lin. ſpec. 159. *Reich.* 311. *Cateſb. car.* 2. *t.* 100. *Curtis magaz. t.* 131.
C. longiflora. *Swartz prodr.* 30.
Tube of the corolla very long, berries oval.

[2. Cateſbæa parviflora.
Swartz. prodr. 30.
Tube of the corolla four-cornered abbreviated, berries roundiſh.]

DESCRIPTIONS, *&c.*

1. This ſhrub was diſcovered by Mr. Cateſby, near Naſſau town, in Providence, one of the Bahama iſlands, where he ſaw two of them growing, which were all he ever ſaw; from theſe he gathered the ſeeds, and brought them to England in 1726, from which many plants were raiſed in the Engliſh gardens, ſome of which have ſince flowered here.

It riſes with a branching ſtem to the height of ten or twelve feet, covered with a pale ruſſet bark; the branches come out alternately from the bottom to the top, with ſmall leaves, reſembling thoſe of the Box-tree, in cluſters all round the branches, at certain diſtances; the flowers come out ſingle from the ſide of the branches, hanging downward; and are of a dull yellow colour. The berry is the ſize of a middling Plum, hollow within, with ſmall angular ſeeds.

[Mr. Cateſby relates that the largeſt of the trees which he ſaw was about four inches thick, and twelve or fourteen feet in height; the bark ſmooth, of a greeniſh ruſſet colour, and the wood ſeemingly tough and hard; the leaves like thoſe of Box, but ſmaller, growing in cluſters at intervals of about an inch; from every cluſter two ſharp pliant ſpines ſhooting out. The flowers are about ſix inches long, in form of a Roman trumpet, except that they are divided at the verge into four deep ſegments, uſually reflex. The fruit is the ſize of a pullet's egg, the pulp like that of a ripe apple, with a ſmooth yellow ſkin, and has an agreeable tartneſs[g].

It flowers moſt part of the ſummer, but not ſo freely as many other ſtove plants[h].

2. Native of Jamaica[i].]

PROPAGATION AND CULTURE.

This ſhrub is propagated by ſeeds, which muſt be procured from the country where it naturally grows. If the entire fruit be brought over in ſand, the ſeeds will be better preſerved: when they arrive in England, the ſeeds muſt be ſown in ſmall pots filled with light ſandy earth, and plunged into a moderate hot-bed of tanners bark, and now and then moderately watered. If the ſeeds are good, the plants will appear in about ſix weeks after ſowing: when, if the heat of the bed declines, the tan ſhould be turned over to the bottom, and, if neceſſary, ſome freſh added to renew the heat, for theſe plants make but little progreſs the firſt year. When the pots are plunged again into the tan-bed, they muſt have freſh air admitted to them every day in proportion to the warmth of the ſeaſon, and frequently refreſhed with water, in ſmall quantities, for much wet will certainly kill them; if the nights ſhould prove cold, the glaſſes ſhould be covered with mats every evening. As theſe plants grow ſlowly, they will not require to be removed out of the ſeed-pots the firſt year. In the autumn the pots ſhould be removed into the ſtove, and plunged into the tan-bed. During the winter, the plants ſhould be watered with great caution, and in ſpring they ſhould be carefully taken up, and each planted in a ſeparate ſmall pot filled with light ſandy earth, and plunged into a freſh hot-bed of tanners bark, being careful to ſhade them until they have taken freſh root, as alſo to refreſh them with water gently, as they may require it; and in ſummer, when the weather is warm, they ſhould have a good ſhare of air admitted to them; but in autumn muſt be removed into the ſtove, where they ſhould conſtantly remain, and muſt be treated afterward in the ſame manner as other tender exotic plants.

This plant may be propagated by planting cuttings in ſmall pots filled with light earth, during the months of june and july. The pots ſhould be plunged into a moderate hot-bed of tanners bark, and the cuttings cloſely covered with ſmall bell-glaſſes to exclude the external air. If this is properly performed, the cuttings will put out roots in about two or three months, when they may be carefully ſeparated, planting each into a ſmall pot filled with light earth, and plunged into the hot-bed again, and afterward muſt be treated as the ſeedling plants.

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[f] Gærtner.

[g] Cateſby.

[h] Curtis.

[i] Swartz.

Moſt of thoſe plants which were raiſed from Mr. Cateſby's ſeeds, were killed by the ſevere winter in 1739; but afterwards I received ſome freſh ſeeds, which ſucceeded ſo well, as to enable me to communicate plants to ſeveral curious perſons in England and Holland.

[None were ſo ſucceſsful in raiſing it, as Mr. Powers, a ſkilful and curious gardener, at Mr. Blathwait's, of Derham near Bath, who raiſed a plant, which flowered in 1734[k].

CATIANG. See *Dolichos.*

CATI-MARUS. See *Kleinhovia.*

CAT-MINT. See *Nepeta.*

CATRICONDA. See *Coix.*

CAT'S-TAIL. See *Typha.*

———— GRASS. See *Phleum.*

CAT-THYME. See *Teucrium.*

CATTU-GASTURI. See *Hibiſcus.*

CATTU-SCHIRAGAM. See *Conyza.*

CATTU-TIRPALI. See *Piper.*

CATULLI-POLA. See *Pancratium.*

CATURUS.

Lin. gen. Reich. 1206. *Schreb.* 1499. *Juſſ.* 390.
Claſſ. 22. 3. Dioecia Triandria.
Nat. order of *Tricoccæ. Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

CAL. none.

COR. monopetalous, tubular, ſemitrifid; *diviſions* ovate, concave, acute, permanent.

STAM. *Filaments* three, capillary, longer than the corolla. *Anthers* roundiſh.

* *Female.*

CAL. *Perianth* tripartite; *leaflets* ovate, flat, permanent.

COR. none.

PIST. *Germ* villoſe. *Styles* three, long, pinnate-multifid. *Stigmas* acute.

PER. *Capſule* roundiſh, tricoccous, trilocular.

SEEDS ſolitary, round.

OBS. *I have had but an indiſtinct view of the male flowers.*

SPECIES.

1. Caturus ſpiciflorus.
Lin. ſyſt. 882. *Reich.* 4. 239. *mant.* 127, 519.
Acalypha hiſpida. *Burm. ind.* 303. *t.* 61. *f.* 1.
Watta-Tali. *Rheed. mal.* 5. 63. *t.* 32.
Cauda-felis agreſtis. *Rumph. amb.* 4. 84. *t.* 37.
Spikes axillary pendulous.

2. Caturus ſcandens.
Lour. cochinch. 612.
Spikes axillary upright, leaves oblong ſubſerrate, ſtem ſcandent.

DESCRIPTIONS, *&c.*

1. This is a tree about twenty feet in height, with many branches diffuſed all round; the wood is white and cloſe, with a thick, duſky, unctuous, inodorous bark, and a yellow pith within. Leaves alternate, ſtipulaceous, roundiſh, acuminate, petioled, of a bright green above, greeniſh beneath, inodorous, inſipid; the midrib pale green, hairy, with a few other nerves running from it. The flowers are ſmall, of an herbaceous colour, and have two petals with two ſtamens. The fruit is a round, yellowiſh-green, inſipid berry, incloſing one round, green ſeed[l].

Native of the Eaſt Indies: where a conſerve of the flowers is uſed in the Diarrhæa and all diſorders ariſing from a laxity of the veſſels[m].

2. This is an unarmed ſhrub, with a long branching ſtem, climbing but without tendrils. Leaves acuminate, incurved, veiny, ſmooth, alternate. Flowers very ſmall, white, in cloſe, ſhort ſpikes, with ſmall, ſubulate bractes. The male flower has three petals, and three filaments longer than the petals, both diverging elaſtically.—Native of the woods of Cochinchina[n].

CATURUS RAMIFLORUS. See *Boehmeria.*

CATU TSIERU. See *Limonia.*

CAVALAM. See *Sterculia.*]

CAUCALIS. (Κάυκαλις; *Hippocr. & Theoph. Caucalis, Plin. from the form of the ſeeds, which reſemble oblong hemiſphærical veſſels.*)

[*Lin. gen. n.* 331. *Reich.* 362. *Schreb.* 464. *Gærtn. t.* 20. *Tourn.* 171. *Juſſ.* 224.
Claſſ. 5. 2. Pentandria Digynia.
Nat. order of *Umbellatæ,* or *Umbelliferæ.*

GENERIC CHARACTER.

CAL. *Umbel univerſal* unequal, with very few rays.
Umbel partial unequal, with more copious rays, of which the five exterior are longer.
Involucre univerſal with leaflets of the number of the rays, undivided, lanceolate, membranaceous at the edge, ovate, ſhort.
Involucre partial with conſimilar leaflets, longer than the rays, often five.
Perianth proper five-toothed, protruded.

COR. *Univerſal* difform, radiate. *Florets* of the diſk abortive.
Proper one of the diſk male; ſmall. *Petals* five inflected-cordate, unequal, the exterior one very large, bifid.

STAM. in all the flowers. *Filaments* five, capillary. *Anthers* ſmall.

PIST. *Germ* of the ray oblong, rugged, inferior. *Styles* two, ſubulate. *Stigmas* two, ſpreading, obtuſe.

PER. *Fruit* ovate-oblong, with longitudinal ſtreaks, hiſpid with little rigid briſtles.

SEEDS two, oblong, convex on one ſide, armed in the direction of the ſtreaks with ſubulate points, flat on the other ſide.

OBS. *The univerſal involucre in ſome of the ſpecies is wanting.* R.

ESSENTIAL CHARACTER.

Cor. radiated, in the diſk male. *Petals* inflex-emarginate. *Fruit* hiſpid with briſtles. *Involucres* entire.

SPECIES.

1. Caucalis grandiflora. *Great-flowered Baſtard Parſley.*
Lin. ſpec. 346. *ſyſt.* 275. *Reich.* 1. 644. *mant.* 350. *Gærtn. fruct.* 1. 81. *Hall. helv. n.* 740. *Pollich pal. n.* 270. *Crantz. auſtr.* 224. *Jacqu. auſtr.* 1. 33. *t.* 54. *Krock. ſileſ. n.* 403. *Ger. prov.* 237. 6. *Villars dauph.* 2. 655. *Bauh. pin.* 152. 4. *Ger. herb.* 868. *emac.* 1021. 1. *Park. theat.* 920. *f.* 1. *Mor. umb. t.* 1. *f.* ν, ξ. *Raii hiſt.* 466. 1.
Daucus grandiflorus. *Scop. carn. n.* 308.
Echinophora. *Col. ecphr.* 1. 91. *t.* 94. *f.* 1. *Riv. pent. t.* 25.
Lappula canaria, fl. pulchro magno albo. *Bauh. hiſt.* 3. 79.
Each involucre five-leaved, one leaflet double the ſize of the reſt.

2. Caucalis daucoides. *Carrot-leaved Baſtard Parſley.*
Lin. ſyſt. 276. *mant.* 351. *Gærtn. fruct.* 1. 82. *Hall. helv. n.* 739. *Leers herborn. n.* 194. *Jacqu. auſtr.* 2. *t.* 157. *Krock. ſileſ. n.* 404. *Ger. prov.* 236. 3. *Villars dauph.* 2. 653.
C. leptophylla. *Lin. ſpec.* 347.
Echinophora. *Col. ecphr.* 1. 96. *t.* 97. *f.* 2. *Riv. pent. t.* 24.
Umbels trifid leafleſs, umbellules three-ſeeded three-leaved.

3. Caucalis latifolia. *Broad-leaved Baſtard Parſley.*
Lin. ſyſt. 276. *Reich.* 1. 665. *mant.* 350. *hort. cliff.* 91. 1. *Ait. hort. kew.* 1. 334. *Gærtn. fruct.* 1. 81. *Hudſ. angl.* 113. *Wither. arr.* 271. *Relh. cant. n.* 212. *Hall. helv. n.* 738. *Pollich pal. n.* 271. *Jacqu. hort.* 2. *t.* 128. *Ger. prov.* 237. 5. *Villars dauph.* 2. 654. *Mill. fig. t.* 85. *Riv. pent. t.* 26.
Tordylium latifolium. *Lin. ſpec.* 345. *Mill. dict. n.* 8.
C. arvenſis echinata latifolia. *Bauh. pin.* 152. *Raii hiſt.* 468. *ſyn.* 219. *Ger. emac.* 1021. 2. *Park. theat.* 920. *Mor. hiſt. ſ.* 9. *t.* 14. *f.* 2. *row.* 1. *Petiv. brit. t.* 27. *f.* 6.
Echinophora. *Col. ecphr. t.* 97. *f.* 1.
Lappula canaria latifolia. *Bauh. hiſt.* 3. 80. *f.* 2.
Involucres and involucrets membranaceous, univerſal umbel with about four rays; briſtles of the ſeeds cluſtered and hiſpid, leaves pinnate gaſhed and hairy.

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[k] Cateſby.

[l] Hort. malab.

[m] Burm. & Rumph.

[n] Loureiro.

4. Caucalis mauritanica. *Barbary Baſtard Parſley.*
Lin. ſpec. 347. *Reich.* 1. 666.
Univerſal involucre one-leafed, partial involucres three-leaved.

5. Caucalis orientalis. *Eaſtern Baſtard Parſley.*
Lin. ſpec. 347. *ſyſt.* 276. *Reich.* 1. 666. *mant.* 351. *Lour. cochinch.* 177. *Bellon. it.* 3. 49. *t.* 200. *Mor. hiſt.* 3. 308. *ſ.* 9. *t.* 14. *f.* 5.
Umbels ſpreading, partial leaflets ſuperdecompound laciniated, ſmall diviſions linear.

6. Caucalis leptophylla. *Fine-leaved Baſtard Parſley.*
Lin. ſyſt. 276. *mant.* 351. *Hall. helv. n.* 742. *Ger. prov.* 236. 2. *Villars dauph.* 2. 653.
C. pumila. *Jacqu. hort.* 2. 92. *t.* 195.
C. daucoides. *Hudſ. angl.* 112. *Wither. arr.* 271. *Relh. cant. n.* 211.
C. arvenſis echinata parvo flore & fructu. *Bauh. pin.* 152. 5.
C. tenuifolia floſculis ſubrubentibus. *Raii hiſt.* 467. (non deſcr.) *ſyn.* 219.
Lappula canaria fl. minore ſ. tenuifolia. *Bauh. hiſt.* 3. 2. 80. *Mor.* 305. *t.* 13. *f.* 3.
Univerſal involucre ſcarcely any, umbel bifid, involucrets five-leaved.

7. Caucalis arvenſis. *Corn Baſtard Parſley.*
Hudſ. angl. 113. *With.* 272. *Relh. n.* 213. *Ait. hort. kew.* 1. 334. *Hall. helv. n.* 742.
C. helvetica. *Lin. ſyſt.* 276. *Jacqu. hort.* 3. 12. *t.* 16.
C. infeſta. *Curtis lond. n.* 62.
C. ſegetum minor Anthriſco hiſpido ſimilis. *Raii hiſt.* 468. *ſyn.* 220.
C. arvenſis humilior ramoſior. *Mor. hiſt.* 3. 338.
C. pumila ſegetum Goodyero. *Ger. emac.* (Ray).
Univerſal involucre ſcarcely any, ſeeds ovate, ſtyles reflex, leaves decompound, outmoſt leaflet linear-lanceolate, ſtem branching very much.]

8. Caucalis Anthriſcus. *Hedge Baſtard Parſley.*
Hudſ. angl. 114. *Curtis lond. n.* 63. *Wither. arr.* 272. *Relh. cant. n.* 214. *Ait. hort. kew.* 1. 335. *Scop. carn. n.* 311. *Hall. helv. n.* 741. *Ger. prov.* 238. 8. *Villars dauph.* 2. 652.
Tordylium Anthriſcus. *Lin. ſpec.* 346. *ſyſt.* 275. *Reich.* 1. 663. *ſuec. n.* 236. *mant.* 350. *Pollich pal. n.* 296. *Leers herborn. n.* 196. *Jacqu. auſtr.* 3. 34. *n.* 261. *Wither. arr.* 270. *Mill. dict. n.* 7.
Caucalis ſemine aſpero, floſculis rubentibus. *Bauh. pin.* 153. *prodr.* 80.—minor, floſc. rubent. *Ger. emac.* 1022. 5. *Park. theat.* 921. 9. *Mor.* 9. 14. 8. *Raii hiſt.* 468. *Petiv. brit. t.* 27. *f.* 9.—ſem. aſp. hiſpido. *Bauh. hiſt.* 3. 2. 83. 1. *Raii ſyn.* 219.
Involucres many-leaved, ſeeds ovate, ſtyles reflex, leaves decompound, outmoſt leaflet linear-lanceolate.

9. Caucalis nodoſa. *Knotted Baſtard Parſley.*
Hudſ. angl. 114. *Wither. arr.* 273. *Relh. cant. n.* 215. *Ait. hort. kew.* 1. 335. *Scop. carn. n.* 313. *Villars dauph.* 2. 653. *Ger. prov.* 235. *Jacqu. auſtr.* 5. *app. t.* 24. *Riv. pent. t.* 36.
Tordylium nodoſum. *Lin. ſpec.* 346. *ſyſt.* 275. *Reich.* 1. 663. *Mill. dict. n.* 6.
Torilis nodoſa. *Gærtn. fruct.* 1. 82.
Caucalis nodoſa echinato ſemine. *Bauh. pin.* 153. *prodr.* 80. *Bauh. hiſt.* 3. 2. 83. 2. *Ger. emac.* 1022. 6. *Park. theat.* 921. *Mor. hiſt.* 9. 14. 10. *Pet. brit. t.* 27. *f.* 11. *Raii hiſt.* 468. *ſyn.* 220.
Umbels ſimple ſubſeſſile, leaves ſuperdecompound.

[DESCRIPTIONS, &c.

1. Stem very ſmooth and even, two feet in height and branched. Leaves like thoſe of Carrot, decompound with very ſmall narrow leaflets, even, but rugged underneath. Involucres white about the edge: univerſal two or three to five or ſix-leaved; leaflets unequal, lanceolate, membranaceous, permanent: partial frequently five-leaved, with three leaflets large and two ſmall; but ſometimes they have only three or four leaflets. Umbels, but not the umbellets, radiate. Many florets of the diſk barren. Petals white, the outer one remarkably large, bifid almoſt to the baſe[a]. Fruit nearly of the ſame ſize as in the third ſort, but not gibbous like that, or tranſverſely broader, but rather compreſſed or flatted, having four thick dorſal ribs, armed with ſtiff, aſcending, pungent ſpines, alternate or in pairs; and between theſe, three furrows, in which are minute, ſhort, briſtle-ſhaped prickles, divaricated and bent in upwards[b]. The flat ſeeds of this ſpecies connect this genus with *Tordylium*, as *C. Anthriſcus* (n. 8.) does with *Daucus*. The ſtem varies in different ſituations, ſometimes being two feet high, ſtraight, and branching only at top; ſometimes much lower, and branching from the very bottom[c].

It is a native of the South of Europe; was introduced in 1775, by Joſeph Nicholas de Jacquin, M.D. and flowers in july and auguſt[d].

2. Stem a foot high, upright, angular-grooved, branched and even, the joints white with briſtles. Leaves ſuperdecompound; petioles membranaceous at the baſe; both they and the leaves having white briſtles thinly ſcattered over them: pinnules pinnatifid, narrow, bluntiſh, bifid or trifid at the tip. Univerſal umbel of three, ſtrong, four-cornered rays: partial of five, ſeven, or nine rays, of which the outer are ſtronger and bear fruit; but the central ones are more ſlender, and barren. Involucre ſometimes a ſingle lanceolate leaflet, but commonly none, and inſtead of it a heap of white briſtles. Involucret halved, three-leaved, ſpreading; leaflets lanceolate, the length of the florets. The three outmoſt flowers larger, hermaphrodite, fertile; the central ones (two to four and ſix) male and barren. Segments of the calyx lanceolate, the two outmoſt larger than the others. Petals obcordate, emarginate, purpliſh, unequal, the outmoſt three times the ſize of the reſt. Stamens the length of the petals. Germ rugged. The male flowers have none, with a ſmooth calyx. Each umbellet has three, diſtant, oblong, fruits, crowned with the calyx[e]. They are of a middle ſize, and compoſed of two oblong, ſemicylindric ſeeds. They have four thick dorſal ribs, armed with ſtiff, ſpreading, pungent prickles, ſomewhat remote; between the ribs are narrow chinks, from which very minute briſtle-ſhaped ſpinules ſometimes ſpring[f].

Native of the South of Europe.

3. This is the moſt beautiful of our native umbelliferous plants. Stem from a foot to eighteen inches or ſometimes near two feet in height, branched, angular, ſet with ſhort prickles pointing upwards. Leaves ariſing from a membranaceous ſheath, pinnate, the midrib rough like the ſtem; leaflets lanceolate, ſerrate; the lower ones almoſt pinnatifid, the upper ones confluent with the midrib. Peduncles rugged. Umbel of three or four rays. Umbellets ſeſſile, generally with five fruits. Corolla purpliſh, the outer petal large, the reſt ſmall. The barren flowers are ſmaller and leſs irregular. The univerſal involucre is three-leaved, and the partial five-leaved; both are membranaceous[g]. Fruit ovate, compoſed of two, largiſh, ovate, gibbous ſeeds, muricated with ſeven creſts; three broader and thicker, armed with a double row of ſtiff pungent prickles; the other four a little narrower, with a ſingle row of prickles only; the belly flattiſh, with a raiſed ſtreak along the middle, channelled near the baſe[h].

Native of Germany, Switzerland, Italy, France, and England. It is one of our rare plants, and has been obſerved in Cambridgeſhire and Hampſhire, in corn fields; flowering from june to auguſt.

4. Native of Barbary[i].

5. Stem herbaceous, round, ſtraight, ſtreaked, branching, three feet high. Leaves pinnate-gaſhed, jagged, ſmooth. Umbels ſpreading; the rays of the univerſal umbel long and unequal, of the partial very ſhort. Involucres entire, ſubulate, ſhorter than

[a] Haller, Pollich, Scopoli, Krocker, Villars, Linn. mant.
[b] Gærtner. [c] Villars. [d] Hort. kew. [e] Leers.
[f] Gærtner. [g] Woodw. Mſſ. [h] Gærtner.
[i] Linn.

the ray. Flowers floſculous, almoſt naked. Fruit ovate-oblong, echinate-hiſpid [k], with briſtles which ſtand out, and have viſcid glands at the end [l].

Native of the Levant and China.

6. Stem low, round, rugged backwards. Leaves bipinnate, rugged with hairs. Umbellets five-flowered, not radiate, purpliſh white, with one or two barren florets. Fruit ovate, hiſpid with prickles in whorls three-pronged at the end [m].

Gerard (in fl. Gallo-provinc.) thus deſcribes it. Stem round, rugged, divaricate. Leaves pinnate, leaflets pinnatifid, with gaſhed ſegments. Umbel bifid, without an involucre. Involucrets with five linear, acute leaflets. Flowers ſeſſile, fertile, few. Petals unequal, the outer or larger ones bifid. Fruits hiſpid, ſmall, with hooked prickles, on ſhort thick pedicels.

According to Mr. Woodward, who ſuſpected our plant to be C. leptophylla, *ſyſt. veget.* and not C. daucoides; the ſtalks are angular, and rough if drawn through the hand: leaves ſuperdecompound, and extremely elegant. Univerſal umbel of three or four rays, without any involucre: partial the ſame number: involucrets moſtly five-leaved. Seeds large, covered with ſtrong hairs hooked at the extremity.

Native of the South of Europe, and of England, in corn fields and by way ſides. In Cambridgeſhire, Lincolnſhire, Norfolk, *&c.* Flowering in june and july.

7. Stem ſingle, from ſix inches to two feet high, but very ſeldom more than a foot or eighteen inches; dividing near the bottom into numerous, alternate, angular branches, ſpreading very much, a little crooked, below ſmooth and reddiſh, above roughiſh with minute, ſhort, appreſſed hairs, ſtriated and green. Leaves alternate, ſeſſile, ſomewhat remote, turned down a little at the tip, petioled, pinnate, ſlightly hirſute on both ſides with minute white hairs, of a dull green uſually turning purple: leaflets three, five or ſometimes ſeven, oppoſite, lanceolate, ſerrate, hairy; the outmoſt very long, the loweſt petioled and more diſtant than the others, the upper ones confluent. Flowers white with a caſt of yellow, ſmall and without ſcent; in the diſk male. Univerſal umbel with three, four, or five rays; partial crowded, convex. Univerſal involucre of one ſhort, ſubulate leaf, or none: partial of five linear-ſubulate, appreſſed leaflets, ſlightly hirſute, and almoſt the length of the umbellet. Anthers purpliſh. Germ hiſpid with hairs red at the tips [n]. Seeds ovate-oblong, with hairs curved upwards, rugged with minute points, and generally terminated by a hooked point [o].

This ſpecies ſeems not to have been diſtinguiſhed by old writers from the next following. Goodyer appears firſt to have noticed it, and Ray firſt diſcriminated them thus: 1. that is taller, being frequently three feet high: this ſeldom exceeding a foot, certainly not a cubit. 2. That is more upright with longer internodes; this twiſted and diffuſed, with more frequent joints. 3. That has the ſtalk near the ground more hirſute. 4. The florets of that are white or very pale red, with almoſt equal petals, and purple anthers; the petals of this incline to yellow, the two outer ones are evidently larger than the three inner ones, and the anthers are white. 5. The ſeeds of this are much larger, with the permanent ſtyles green; the ſeeds of that are far more fragrant and aromatic, of a darker colour, with purple ſtyles. Finally, that is ſeldom found except in hedges and among buſhes; whereas this commonly grows among corn, never in hedges [p].

If it be n. 742. of Haller, which I doubt, it is wild in Switzerland, probably it is common in other countries as well as England; but it has not been diſtinguiſhed from the Anthriſcus. Ray refers to Goodyer and Johnſon's edition of Gerarde's herbal for this plant; but I cannot find any mention of it in that work. Neither he nor Curtis give the page.

8. Stem from four to ſix feet high, upright, ſomewhat flexuoſe, round, purpliſh, rough, covered with minute, white, rigid briſtles, preſſed downwards to the ſtem, and ſcarcely viſible. Branches numerous, alternate, and nearly upright. Leaves few, nearly a hand breadth in length, diſtant, ſpreading greatly, turned downwards at the tips, on petioles which are hollowed above, broader at the baſe and ſomewhat ſheathing: pinnas three or four pairs with an odd one, ovate, pointed, the lower ones petioled and broader, the upper ones ſeſſile, ſhorter, narrower, the outermoſt very long, linear-lanceolate; leaflets gaſh-ſerrate, a little pointed, covered with very minute yet viſible briſtles. Univerſal umbel flattiſh, thin, unequal, with about eight rays: partial a little thicker, ſomewhat convex, unequal, with about twelve or more rays, the outermoſt longeſt, all hiſpid with briſtles preſſed upwards. Univerſal involucre many-leaved, (five to eight) about half the length of the rays, the leaves uſually as many as the rays, linear, pointed, the margin membranous and white: partial alſo of many leaves ſimilar to the others, preſſed to the rays, the length of the umbellets. Univerſal corolla difform, radiate. Florets white or reddiſh, without ſcent: thoſe of the diſk ſmall, equal and male; thoſe of the ray hermaphrodite, very widely ſpreading, on the under ſide ſlightly villoſe; the outmoſt ſomewhat larger and bifid. Anthers ſmall, double, purple. Germ oblong, hiſpid. Fruit ſmall, ovate, ſlightly flattened: ſeeds on one ſide gibbous, with three grooves, hiſpid with rigid briſtles, white or red, curved upwards; on the other ſide marked longitudinally with one ſmooth hollow groove.

The preſence of the involucre is a ready diſtinction of this from the foregoing ſort, which it reſembles very much; but it is ſometimes ſo cloſely preſſed to the rays, as not to be immediately viſible; the ſtyles too, in general, are bent or bowed backed to a greater degree in this [q].

It is common in hedges and buſhes, flowering in july and auguſt.

Dr. Withering ſays, that horſes are fond of it.

9. Stems two, three or more, round, ſtriated, rough, branched, commonly proſtrate, from a ſpan to a cubit in length. Leaves ſomewhat like thoſe of Parſnep, but ſhorter and fewer, and much more finely cut, winged, ſlightly hairy on each ſide, very dark green [r]. The whole plant is rigid. Umbels ſimple, almoſt ſeſſile; oppoſite to the leaves, with white florets crowded together on unequal rays. Fruit ſubglobular, hiſpid: ſeeds ſemiovate, very gibbous; thoſe on the outſide echinated all over with briſtle-ſhaped, rugged prickles, ſlightly hooked at the end; thoſe in the centre rugged with rough tubercles, like ſhagreen, terminating here and there in ſhort prickles; the belly narrow, with a furrow along it [s]. The umbels are ſometimes on ſhort peduncles [t].

Native of the South of Europe, and of England, on the borders of corn fields and on banks; flowering from may to auguſt. Johnſon (in Gerarde) marks it as growing in the fields and on the banks about St. James's and Piccadilly.

I have retained the old Engliſh name of Baſtard-Parſley for theſe plants. Gerarde ſays, they are alſo called Hen's-foot.

PROPAGATION AND CULTURE.

Theſe plants are all annual, or at moſt biennial, and are ſeldom cultivated, except in botanic gardens. They will riſe readily from ſeeds, where they are permitted to ſcatter: or if any perſon be deſirous of raiſing them, the ſeeds ſhould be ſown in autumn, ſoon after they are ripe. They will grow in any ſoil and ſituation.

Caucalis. See *Conium, Daucus, Echinophora, Sanicula, Scandix, Tordylium.*

Cauliflower. See *Braſſica.*]

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[k] Loureiro. [l] Linn. mant. [m] Ibid. [n] Curtis. [o] Stokes in With. [p] Hiſt. 468.

[q] Curtis. [r] Ray hiſt. [s] Gærtner. [t] Woodw. Mſſ.

CEANŌTHUS. (Κεανωθος *of Theophraſtus.*)
Lin. gen. n. 267. *Reich.* 286. *Schreb.* 361. *Gærtn. t.* 106. *Juſſ.* 380.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Dumoſæ. Rhamni* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, turbinate; *border* five-parted, acute, cloſe-converging, permanent.

COR. *Petals* five, equal, roundiſh, of an arched ſaccular ſhape, compreſſed, very obtuſe, ſpreading, ſmaller than the calyx, ſeated on claws the length of the petal, growing from the interſtices of the calyx.

STAM. *Filaments* five, ſubulate, erect, oppoſite to the petals, the length of the corolla. *Anthers* roundiſh.

PIST. *Germ* ſuperior, triangular. *Style* cylindric, ſemitrifid, the length of the ſtamens. *Stigma* obtuſe.

PER. *Berry* (capſule, *G.*) dry, three-grained, three-celled, obtuſe, retuſe, ſet with tubercles.

SEEDS ſolitary, ovate.

OBS. C. Africanus *differs in the calyx being half five-cleft, and the ſtyle conſiſting of three conjoined, and with three ſtigmas.*

ESSENTIAL CHARACTER.

Petals five, ſaccular, vaulted. *Berry* dry, three-celled, three-ſeeded.

SPECIES.

1. Ceanothus americanus. *American Ceanothus* or *New Jerſey Tea.*
Lin. ſpec. 284. *Reich.* 549. *mat. med.* 69. *Trew. ehret. t.* 94. *Plenck, ic. t.* 143. *Mill. fig. t.* 86. *Duham. arb.* 1. 138. *t.* 51. *Gron. virg.* 32. *Gærtn. fruct.* 2. 110.
Euonymus novi belgii, Corni feminæ fol. *Comm. hort.* 1. 167. *t.* 86. *Raii dendr.* 69. *Pluk. alm. t.* 28. *f.* 6.
Leaves three-nerved.

[2. Ceanothus aſiaticus. *Aſiatic Ceanothus.*
Lin. ſpec. 284. *Reich.* 1. 550. *fl. zeyl. n.* 98. *Thunb. jap.* 95. *Burm. zeyl.* 111. *t.* 48.
Leaves ovate nerveleſs.]

3. Ceanothus africanus. *African evergreen Ceanothus.*
Lin. ſpec. 284. *ſyſt.* 236. *Reich.* 1. 550. *mant.* 342. *hort. cliff.* 73. (Celaſtrus.) *Pluk. phyt. t.* 126. *f.* 1. *Comm. præl.* 61. *t.* 11. (Alaternoides.) *Seba, theſ.* 1. 35. *t.* 22. *f.* 6. (Ricinoides.)
Leaves lanceolate nerveleſs, ſtipules roundiſh.

[4. Ceanothus reclinatus.
L'Herit. ſert. 6.
Rhamnus. *Brown. jam.* 272. *n.* 1. *t.* 29. *f.* 2.
Leaves ovate entire many-nerved, branches hanging down.

5. Ceanothus circumſciſſus.
Gærtn. fruct. 2. 110.
Rhamnus circumſciſſus. *Lin. ſyſt.* 235. *ſuppl.* 152.
Leaves obcordate oppoſite in two rows, prickles ſolitary recurved oppoſite to the leaves.

6. Ceanothus capſularis.
Forſt. fl. auſtral. n. 112.
Leaves ovate-cordate acuminate ſerrate, capſules three-valved gaping.]

DESCRIPTIONS, &c.

1. In England this ſhrub ſeldom riſes more than three or four feet high, ſending out branches on every ſide from the ground upward. The branches are very ſlender, and as it is pretty late in the ſpring before they begin to ſhoot, they keep growing very late; therefore, unleſs the autumn proves dry and mild, the tender ſhoots are often killed down very low by the early froſts; but in favourable ſeaſons, the extreme parts of the ſhoots only are injured by the cold. Theſe branches are garniſhed with oval pointed leaves, having three longitudinal veins running from the foot-ſtalk to the point, and diverging in the broad part of the leaves from each other: the leaves are placed oppoſite, are deciduous, and of a light green colour. At the extremity of each ſhoot the flowers are produced in cloſe thick ſpikes, and are compoſed of five ſmall petals, of a clear white. Theſe appear in july, and make a pretty appearance during their continuance; for, as every ſhoot is terminated by one of theſe ſpikes, the whole ſhrub is covered over with flowers, the branches commonly growing very cloſe to each other; and when the autumn proves mild, theſe ſhrubs often flower again in october.

[The fruit, according to Gærtner, is a corticated, three or four-grained capſule. The rind, before it is ripe, is ſoft and fleſhy, but afterwards dries into a thin ſkin, forming ſpongy tubercles and very narrow creſts on the head and back of the grains. Theſe are cartilaginous, thin, extremely ſmooth within, opening elaſtically by the internal ſuture, and receding from each other ſpontaneouſly when ripe. The ſeeds are ovate-rounded, convex on one ſide, very obſcurely angular on the other, of a ſhining bay colour.]

Native of moſt parts of North America, as Canada, New England, Penſylvania, Virginia, and Carolina. It is there known by the name of New Jerſey Tea: the leaves being dried for the ſame purpoſe as Tea. The Canadians uſe the root in venereal caſes; and the cattle browzing upon the ſhrub, keep it very low. [It dyes wool a fine ſtrong Nankin cinnamon colour.

This ſhrub was cultivated before 1713 by Biſhop Compton, in the epiſcopal garden at Fulham, and in Mr. Derby's garden at Hoxton. For ſeveral years after, it was loſt in England, but has ſince been recovered from America, ſo as to be now pretty common in moſt of our curious gardens and nurſeries[a].

2. Branches alternate, flexuoſe, ſtriated, ſmooth. Leaves alternate, reſembling thoſe of the Pear, acuminate, ſmooth, veined, crenate, unequal, aggregate at the ends of the ſmall branches, ſcarcely an inch in length, on petioles half the length of the leaves. Racemes from each axilla uſually two, ſmall, the length of the petioles, conſiſting of many florets, on very ſhort pedicels, they are caducous, one often remaining which bears fruit; hence the raceme is toothletted from the falling of the flowers. Berries large, cloſely embraced at the baſe by the calyx[b].—Native of Ceylon and Japan. Introduced in 1781[c].

Juſſieu doubts whether the *Tubanthera* of Commerſon, which is the ſame with the *Katapa*, Hort. malab. 5. t. 47. and perhaps alſo with this *C. aſiaticus* of Linneus, be of a different genus. According to Commerſon, the petals are ſhort rolled up with the ſtamens and tubular, there is ſcarcely any ſtyle, the peduncles are axillary and many-flowered.]

3. The third ſort grows naturally at the Cape of Good Hope, from whence it was originally brought to Holland, and has been many years preſerved there; and ſince has been communicated to moſt of the curious gardens in Europe, where it has been long known by the title of Alaternoides, &c.

This riſes to the height of ten or twelve feet, with a woody ſtem, covered with a rough dark-coloured bark, and ſends out many weak branches, which hang downward: theſe while young are green, but afterward change to a purpliſh colour. They are garniſhed with oblong pointed leaves, of a lucid green, ſmooth, and ſlightly ſerrate on their edges. The flowers are ſmall, of an herbaceous colour, coming out from the ſide of the branches; theſe ſometimes appear in july, but are not ſucceeded by ſeeds in this country; nor do the plants often produce flowers; ſo that they are preſerved only for the beauty of their ſhining evergreen leaves, which make a variety in the green-houſe during the winter ſeaſon.

[It was cultivated here in 1712[d].

4. This having a juiceleſs fruit, abſolutely that of *Ceanothus*, with vaulted petals, though ſhorter than in *C. americanus*, is referred by Monſ. L'Heritier to this genus rather than to that of *Rhamnus*. He is however of opinion, that the whole genus of *Ceanothus* might with more propriety be united with *Rhamnus*.—It is a native of Jamaica[e].

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[a] Mill. fig.
[b] Linn. zeyl. & Thunb. jap.
[c] Hort. kew.
[d] Ibid.
[e] Sert. angl.

5. Branches ſimple, oppoſite, ſpreading very much, angular, even. Prickles ſolitary, oppoſite, fixed, horizontal, curved back, ſolid. Leaves petioled, even, obſcurely toothed. Petioles the length of the ſpines. Stipules in pairs very minute. Fructifications lateral, without prickles, umbelled, a little longer than the petioles, ſimple. Calyx bell-ſhaped, circumciſed; border upright, five-parted; teeth ſharp, deciduous. Petals inſerted into the calyx, obcordate, ciliate, ſnow-white, involving the anthers. Filaments alternate, a little ſhorter than the calyx: anthers upright, oblong. Style ſhort, permanent: ſtigma emarginate[f]. Pericarp a ſubglobular capſule, cloſely adhering to the rounded diſk of the calyx, rounded-three-cornered, three-celled, not opening by three valves without preſſure. Partitions ſimple, inſerted into the middle of the valves, the ſubſtance of paper. Seeds ſolitary, roundiſh, convex on one ſide, obſcurely angular on the other, teſtaceous or dark brown, not ſhining; covered with a cruſtaceous, thick, hard outer ſkin, the inner very thin and bay-coloured[g].

Native of the Eaſt-Indies, Ceylon, and Mauritius.

This ſpecies is a connecting link between *Ceanothus* and *Rhamnus*, but having a dry fruit, opening by preſſure into three regular valves, it ſeems to approach nearer to the former, and therefore I have followed Gærtner in placing it here.

6. Native of Otaheite[h].]

PROPAGATION AND CULTURE.

1. This ſhrub is beſt propagated by ſeeds, which ſhould be ſown in the autumn in ſmall pots, and plunged into an old hot-bed, where they may remain during the winter, expoſing them in mild weather to the open air, but in froſt they muſt be protected from cold. In march the pots ſhould be plunged into a moderate hot-bed to bring up the plants, which ſhould be inured to bear the open air by degrees; and as ſoon as they have obtained a little ſtrength, they ſhould be expoſed in a ſheltered ſituation till autumn, when they muſt be placed under a hot-bed frame, to ſcreen them from ſevere froſt in winter; in mild weather they ſhould be fully expoſed to the open air, but while the plants are young, they will not endure the cold of the winter. In the following ſpring, before the plants begin to ſhoot, they ſhould be tranſplanted; ſome of them may be put into ſeparate pots, and the others into a nurſery-bed, in a warm ſituation, where they may remain a year or two to get ſtrength, after which time they may be removed to the places where they are deſigned to remain. They ſhould have a moderately dry ſoil and a ſheltered ſituation, where they will thrive and flower extremely well; but in ſtiff cold land, they are always very late in the ſpring before they come out, ſo that their young ſhoots are full of ſap in the autumn, and the firſt froſt commonly kills their tops, which frequently cauſes them to die great part of their length.

It may alſo be propagated by laying down the young branches, which, in a light ſoil, will put out roots in a year's time, but theſe layers ſhould not be much watered; for as the ſhoots are tender, moiſture will often occaſion their rotting, when it is given in quantities, or too often repeated; therefore the beſt method is to cover the ſurface of the ground in dry weather, all round the layers, either with mulch or rotten tan, which will preſerve a ſufficient moiſture in the ground, provided the ſeaſon is not extremely dry; in which caſe they ſhould have a little water once in eight or ten days, which will be ſufficient.

The beſt time for laying down theſe branches is in autumn; and if after this is performed, the ſurface of the ground is covered over with ſome old tan, taken from a decayed hot-bed, it will prevent the froſt from penetrating the ground, which will ſecure them from injury; and the ſame covering will prevent the winds from drying the ground in the ſpring, and thereby promote their putting out roots. Theſe layers, when rooted, may be taken up the following ſpring, and treated in the ſame manner as thoſe raiſed from ſeeds.

[2. The ſecond may be increaſed by layers or cuttings, and muſt have the protection of the bark-ſtove.]

3. The third may be propagated in the ſame ways, but that by cuttings being moſt ſure and expeditious is generally preferred. They ſhould be planted in ſpring in pots filled with good kitchen-garden earth, and plunged into a very moderate hot-bed, obſerving to ſhade them in the heat of the day, and now and then to refreſh them with water. In two months, or leſs, they will have taken root, when they muſt be gradually enured to the open air, placing them in a ſheltered ſituation till they have obtained ſtrength, when they may be ſeparated, and each planted in a ſmall pot filled with light earth, placing them in the ſhade till they have taken freſh root; then they may be removed, and intermixed with other exotic plants, and treated in the ſame manner.

CEANOTHUS. See *Serratula arvenſis.*

CECROPIA.

Lin. gen. n. 1099. *Reich.* 1260. *Schreb.* 1492. *Juſſ.* 402. *Loefl.* 272. Coilotapalus. *Brown.*
Claſſ. 22. 2. Dioecia Diandria.
Nat. order of *Scabridæ. Urticæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

CAL. *Spathe* ovate, burſting, caducous, containing *Aments* very many, faſciculate, columnar, imbricate with ſcales; the *ſcales* (receptacles) copious, turbinate, compreſſed-quadrangular, obtuſe, with a double perforation.

COR. none, unleſs the ſcales be called nectaries.

STAM. *Filaments* two, capillary, very ſhort, from the perforations of the ſcales. *Anthers* oblong quadrangular.

* *Female.*

CAL. Spathe *Aments* four, columnar, imbricate with germs.

COR. none.

PIST. *Germs* many, imbricate, compreſſed-quadrangular, obtuſe. *Styles* ſolitary, very ſhort. *Stigmas* ſomewhat headed, lacerated.

PER. *Berry* the form of the germ, one-celled, one-ſeeded.

SEED oblong, compreſſed.

ESSENTIAL CHARACTER.

MALE. *Spathe* caducous. *Ament* imbricate with turbinate ſcales, compreſſed-quadrangular. *Cor.* none.

FEM. as in the male. *Germs* imbricate. *Style* one. *Stigma* lacerated. *Berry* one-ſeeded.

SPECIES.

1. Cecropia peltata. *Trumpet-tree*, or *Snake-wood.* *Lin. ſpec.* 1449. *ſyſt.* 878. *Reich.* 4. 221. *mant.* 499. *amæn.* 5. 410. *Loefl. it.* 272. *Jacqu. obſ.* 2. *t.* 46. *f.* 4. *amer. pict.* 126. *t.* 262. *f.* 66.
Coilotapalus. *Brown. jam.* 111.
Ficus ſurinamenſis, &c. *Pluk. alm. t.* 243. *f.* 5.
Yaruma Oviedi. *Sloan. jam.* 1. 137. *t.* 88. *f.* 2. & *t.* 89.
Ambaiba. *Marcgr. braſ.* 91. *Piſ. braſ.* 147. *Raii hiſt.* 1373.

DESCRIPTION, *&c.*

[This tree riſes commonly to a conſiderable height, being ſeldom under thirty-five or forty feet in the moſt perfect ſtate. The trunk and branches are hollow every where, and ſtopped from ſpace to ſpace with membranous ſeptas, anſwering to ſo many light annular marks in the ſurface[i]. Leaves few, alternate, large, at the ends of the branches; they are peltate, divided into many lobes like thoſe of *Carica Papaya*, downy-white underneath, petioled; lobes entire, ſharp, rugged on the upper ſurface, the nerves obliquely tranſverſe, and the veins very much ſo. There are ſtipules between the leaves, as in the Fig, opening on the ſide oppoſite to the leaf, obvolute or imbricate on the edge, ſoon falling off[k]. The fruits riſe four, five or more from the very top of a common peduncle, and ſhoot into ſo many oblong cylindric berries, compoſed of a row of little *acini*, ſomething like our Raſpberry, which they reſemble in flavour when ripe, and are agreeable to moſt European palates on that account.

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[f] Linn. ſuppl.

[g] Gærtner.

[h] Forſter.

[i] Browne.

The wood of this tree, when dry, is very apt to take fire by attrition. The native Indians have taken the hint, and always kindle their fires in the woods by rubbing a piece of it againſt ſome harder wood. [The bark is ſtrong and fibrous, and is frequently uſed for all ſorts of cordage. The trunk is very light, and for that reaſon much uſed for bark-logs and fiſhing-floats. The ſmaller branches, when cleared of the ſeptums, ſerve for wind inſtruments. Both trunk and branches yield a great quantity of fixed ſalt, which is much uſed among the French, to deſpumate and granulate their ſugars. The fruit is much fed upon by pigeons and other birds, and thus the tree is much ſpread and propagated[l].

Native of South America; Jamaica, and other Weſt India iſlands.]

Mr. Miller received ſpecimens of this tree from Dr. Houſtoun, who found it growing naturally at La Vera Cruz in New Spain. [It does not appear however that he ever cultivated it. In the catalogue of the royal botanic garden at Kew, it is ſaid to have been introduced in 1778, by Thomas Clark, M. D.]

PROPAGATION AND CULTURE.

It may be propagated by ſeeds, procured from the places of natural growth. They ſhould be brought over in ſand, for if they are put up moiſt in papers, they will be apt to grow mouldy.

They ſhould be ſown in ſmall pots filled with light earth, and plunged into a moderate hot-bed of tanners-bark, obſerving to water the pots duly, and to admit freſh air whenever the weather is favourable. When the plants come up and are fit to tranſplant, they ſhould be carefully taken up, and each planted in a ſeparate ſmall pot filled with the like light earth, and plunged into the hot-bed again, being careful to water them to ſettle the earth to their roots, and alſo to ſcreen them from the ſun till they have taken new root: after which they ſhould be conſtantly kept plunged into the bark-bed in the ſtove, and treated in the ſame manner as other plants from the ſame country.

CEDAR, Barbadoes. See *Cedrela*.
——— Bermudas, }
——— Carolina. } See *Juniperus*.
——— Jamaica. See *Theobroma*.
——— Libanus or Lebanon. See *Pinus Cedrus*.
——— Lycian, }
——— Phænician, } See *Juniperus*.
——— Virginian. }
——— White. See *Cupreſſus*.

[CEDRELA.

Lin. gen. n. 277. *Reich.* 297. *Schreb.* 383. *Juſſ.* 266. *Gærtn. t.* 95. Cedro. *Loefl.* 183. Cedrela. *Brown. t.* 10. *f.* 1.

Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Miſcellaneæ.* *Meliæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* monophyllous, campanulate, very ſmall, five-toothed, withering.

COR. Funnel-form, pentapetalous, the *tube* bellied below. *Petals* linear-oblong, obtuſe, erect, adjoined to the receptacle at one-third beneath.

STAM. *Filaments* five, ſubulate, ſeated on the receptacle, ſhorter than the corolla. *Anthers* oblong, bent outwards at the tip.

PIST. *Receptacle proper* five-cornered. *Germ* globular. *Style* cylindric, length of the corolla. *Stigma* headed, depreſſed.

PER. *Capſule* ſuperior, woody, roundiſh, five-celled, five-valved; valves deciduous.

SEEDS numerous, fleſhy, imbricate downwards, terminated by a membranaceous wing. *Receptacle* woody, five-angled, free.

OBS. *This genus may be compared with* Swietenia.

ESSENTIAL CHARACTER.

Cal. withering. *Cor.* five-petalled, funnel-form, faſtened by the baſe to the receptacle to one-third of its length. *Capſ.* woody, five-celled, five-valved. *Seeds* imbricate downwards, with a membranaceous wing.

SPECIES.

1. Cedrela odorata. *Barbadoes Baſtard Cedar.*
Lin. ſpec. 289. *Reich.* 562. *Loefl. it.* 183. *Gærtn. fruct.* 2. 84. *Brown. jam.* 158. *t.* 10. *f.* 1.] *Pluk. alm. t.* 157. *f.* 1.
Cedrus odorata. *Mill. dict. n.* 1.
[Pruno affinis arbor, &c. *Sloan. jam.* 2. 128. *n.* 19. *t.* 220. *f.* 2. *Raii dendr.* 43. *n.* 8.
Flowers panicled.]

DESCRIPTION, &c.

This tree riſes with a ſtraight ſtem to the height of ſeventy or eighty feet, while young the bark is ſmooth, and of an Aſh-colour; but as it advances, the bark becomes rough and of a darker colour. Toward the top it ſhoots out many ſide branches, garniſhed with winged leaves, compoſed of ſixteen or eighteen pair of leaflets, ſo that they are ſometimes near three feet long; the leaflets are broad at their baſe, and are near two inches long, blunt at their ends, and of a pale colour; theſe emit a very rank odour in the ſummer ſeaſon, ſo as to be very offenſive. The fruit is oval, about the ſize of a partridge's egg, ſmooth, of a very dark colour, and opens in five parts, having a five-cornered column ſtanding in the middle, between the angles of which the winged ſeeds are cloſely placed, lapping over each other like the ſcales of fiſh.

[According to the deſcription of Loefling, the leaves are alternate; leaflets oblong-acute, ſmooth, entire, ending in a narrow point. Peduncle round, ſlightly compreſſed above, clavated at the baſe; pedicels round, oppoſite. Flowers on a very branching raceme, panicled, the branches ſpreading very much; the branchlets alternate, ſomewhat remote, bearing two or three flowers. Corollas whitiſh fleſh colour, liliaceous, reſembling that of Hyacinth.

The fruit is a capſule continued from a woody peduncle and woody itſelf, brown with irregular pale ſpots, appearing as it were leprous, within of a reddiſh bay colour, the valves opening from the top, but permanent at the baſe, and not falling. The top ſeeds are elliptic, the middle ones oblong-ovate, the lower ones ovate-lanceolate, all ferruginous-cinnamon colour, with a nucleus at top, and terminating below in a membranaceous wing[m].

The trunk is covered with a rough bark, marked with longitudinal fiſſures. This, as well as the berries and leaves, has a ſmell like Aſſa-fœtida, when freſh. The timber however has a pleaſant ſmell[n].]

This is commonly known under the name of Cedar in the Britiſh Weſt India iſlands. The trunk is ſo large as to be hollowed out into canoes and periaguas, for which purpoſe it is extremely well adapted, the wood being ſoft, it may be cut out with great facility, and being light, it will carry a great weight on the water. There are canoes in the Weſt Indies, which have been formed out of theſe trunks, forty feet long and ſix broad; the wood is of a brown colour, and has a fragrant odour, whence the title of Cedar has been given to it: it is frequently cut into ſhingles for covering houſes, and is found very durable; but as the worms are apt to eat this wood, it is not proper for building ſhips, though it is often uſed for that purpoſe, as alſo for ſheathing of ſhips. It is often uſed for wainſcoting of rooms, and to make cheſts, becauſe vermin do not ſo frequently breed in it, as in many other ſorts of wood, this having a very bitter taſte, which is communicated to whatever is put into the cheſts, eſpecially when the wood is freſh; for which reaſon it is never made into caſks, becauſe ſpirituous liquors will diſſolve part of the reſin, and thereby acquire a very bitter taſte.

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[k] Linn. amoen. & Loefling.

[l] Browne.

[m] Gærtner.

[n] Browne.

[o] Hort. kew.

[Dampier mentions ſome of theſe trees in the iſland of St. Andreas near the iſle of Providence, the bodies of which were forty or fifty, and many ſixty or ſeventy feet long.

It was cultivated in 1739, by Mr. Philip Miller[o].

Loureiro has another ſpecies, to which he has given the name of *Cedrela Roſmarinus*. It is a ſhrub, about four feet high, with linear leaves, and axillary one-flowered peduncles: the ſeeds are not winged. It grows wild in Cochinchina and about Macao in China. It yields a fine eſſential oil, and a ſpirit not inferior to that which is drawn from Roſemary.]

PROPAGATION AND CULTURE.

It is propagated by ſeeds, which may be eaſily procured from the Weſt Indies. They muſt be ſown upon a hot-bed in the ſpring, and the plants treated in the ſame manner as the Mahogany. See *Swietenia*.

They are of much quicker growth, for in four years the plants will be upwards of ten feet high.

[CEDRELA. See *Swietenia*.

CEDRO. See *Cedrela*.

CEDRONELLA. See *Dracocephalum*.

CEDRŌTA.

Lin. gen. Schreb. n. 660. Aniba. *Aubl.* 126. *Juſſ.* 438.

Claſſ. 8. 1. Octandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, ſix-parted: *parts* ovate, obtuſe, concave.
COR. none.
STAM. *Filaments* eight, ſhort. *Anthers* roundiſh.
PIST. *Germ* ſuperior, roundiſh, ſurrounded by a gland. *Style* ſhort. *Stigma* obtuſe.
PER.
SEED

ESSENTIAL CHARACTER.

Cal. ſix-parted. *Cor.* none. *Germ* ſuperior, ſurrounded by a gland. *Style* ſhort.

SPECIES.

1. Cedrota guianenſis.
Linn. ſyſt. ed. Gmel. 629.
Aniba guianenſis. *Aubl. guian.* 327. *t.* 126.

DESCRIPTION, &c.

This is a tree forty feet in height, and two feet in diameter, with a thick, unequal, wrinkled bark, full of clefts, and a yellow, heavy, aromatic wood, which however becomes light when dry. It has a great number of large branches at top, ſome ſtraight, others inclined, and ſpreading every way. Theſe are loaded with twigs, having leaves either oppoſite, or in whorls of three or five together: they are ſmooth, thin, entire, oblong, oval, acuminate, on a ſhort petiole channelled above. Flowers very ſmall, looſely racemed, on a long, weak, axillary peduncle

It grows in the great foreſts of Guiana, flowering in may. The inhabitants call it *Bois de Cedre*, and uſe it for making their *pirogues*; they ſay that it is alſo fit for maſts[p].

CEDRUS. See *Cedrela, Cliffortia, Juniperus, Pinus, Swietenia.*]

CEIBA. See *Bombax*.

CELANDINE. See *Chelidonium*.

CELASTRUS. (*Theophraſtus calls ſome wild evergreen trees* Κηλαστρους.)

Lin. gen. n. 270. *Reich.* 290. *Schreb.* 372. *Juſſ.* 378. *Gærtn. t.* 95. Euonymoides. *Iſnard. A. G.* 1716.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Dumoſæ*. *Rhamni* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, half-five-cleft, flat, ſmall; *diviſions* obtuſe, unequal.
COR. *Petals* five, ovate, ſpreading, ſeſſile, equal, reflected at the borders.
STAM. *Filaments* five, ſubulate, length of the corolla. *Anthers* very ſmall.
PIST. *Germ* very ſmall, immerſed in a large flat receptacle, which is marked with ten ſtreaks. *Style* ſubulate, ſhorter than the ſtamens. *Stigma* obtuſe, trifid.
PER. *Capſule* coloured, ovate, obtuſely triangular, gibbous, trilocular, trivalvular.
SEEDS few, ovate, coloured, ſmooth, half involved in an unequal coloured *Arillus* with a four-cleft mouth.
OBS. *There is a ſpecies without any ſtyle, and with a triple ſtigma. and conſequently allied to the order* Trigynia *of this claſs.*

ESSENTIAL CHARACTER.

Cor. five-petalled, ſpreading. *Capſ.* triangular, trilocular. *Seeds* calyptrated.

SPECIES.

1. Celaſtrus bullatus.
Lin. ſpec. 285. *Reich.* 552.
Euonymus. *Pluk. alm. t.* 28. *f.* 5.
Unarmed, leaves ovate quite entire.

2. Celaſtrus ſcandens. *Climbing Staff-tree.*
Lin. ſpec. 285. *Reich.* 552.
C. punctatus. *Thunb. jap.* 97.
Euonymoides. *Duham. arb.* 1. 223. *t.* 95. *Iſn. act. gall.* 1716. *t.* 30.
Unarmed, ſtem twining.

[3. Celaſtrus myrtifolius. *Myrtle-leaved Staff-tree.*
Lin. ſpec. 285. *Reich.* 552. *hort. cliff.* 72.
Unarmed, leaves ovate finely ſerrate, flowers racemed, ſtem erect.

4. Celaſtrus procumbens. *Procumbent Staff-tree.*
Lin. ſyſt. 237. *ſuppl.* 153.
Unarmed, procumbent, leaves ovate ſerrate, flowers axillary ſubſolitary.

5. Celaſtrus filiformis. *Filiform-branched Staff-tree.*
Lin. ſyſt. 237. *ſuppl.* 153.
Unarmed, leaves lanceolate entire, branches filiform, peduncles axillary one-flowered.

6. Celaſtrus acuminatus. *Acuminate-leaved Staff-tree.*
Lin. ſyſt. 237. *ſuppl.* 154.
Unarmed, leaves ovate acuminate ſerrate, peduncles axillary one-flowered, ſtem erect lax.

7. Celaſtrus microphyllus.
Lin. ſyſt. 237. *ſuppl.* 154.
Unarmed, leaves ovate obtuſe entire, cymes terminal dichotomous.

8. Celaſtrus articulatus.
Lin. ſyſt. 237. *Thunb. jap.* 97.
Unarmed, leaves rounded acuminate ſerrate, peduncles axillary ſubtrifid.

9. Celaſtrus dilatatus.
Thunb. in tranſ. Linn. ſoc. 2. 332.
Euonymoides baccis parvis. *Thunb. jap.* 354.
Leaves obovate, cuſped, ſerrate at the tip and ſmooth, ſtem unarmed.

10. Celaſtrus ſtriatus.
Lin. ſyſt. 237. *Thunb. jap.* 98.
Unarmed, branchlets erect ſtriated, leaves ovate acuminate ſerrate, peduncles ſcattered one-flowered.

11. Celaſtrus alatus. *Wing-branched Staff-tree.*
Lin. ſyſt. 237. *Thunb. jap.* 98. *Kæmpf. amæn.* 5. 796.
Unarmed, branches winged.]

12. Celaſtrus buxifolius. *Box-leaved Staff-tree.*
Lin. ſpec. 285. *Reich.* 553. *hort. cliff.* 72.
Lycium. *Pluk. alm. t.* 202. *f.* 3.
Spines leafy, branches angular, leaves obtuſe.

13. Celaſtrus pyracanthus. *Pyracantha-leaved Staff-tree.*
Lin. ſpec. 285. *Reich.* 553. *Gærtn. fruct.* 2. 85. *Mill. fig. t.* 87. *Pluk. alm. t.* 126. *f.* 2, 3.
Lycium. *Comm. hort.* 1. 163. *t.* 84. *Raii dendr.* 72. *n.* 28.
Spines naked, branches round, leaves acute.

[14. Celaſtrus lucidus. *Shining Staff-tree*, or *ſmall Hottentot Cherry.*
Lin. ſyſt. 237. *Reich.* 553. *mant.* 49. *L'Herit. ſt. nov. faſc.* 3. 49. *t.* 25.
Euonymus. *Pluk. alm. t.* 280. *f.* 4.
Leaves oval ſhining quite entire margined.

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[o] Hort. kew.

[p] Aublet.

15. Celaſtrus linearis. *Linear-leaved Staff-tree.*
Lin. ſyſt. 237. *ſuppl.* 153.
Spines leafy, leaves linear entire.

16. Celaſtrus integrifolius. *Entire-leaved Staff-tree.*
Lin. ſyſt. 237. *ſuppl.* 153.
Spines leafy, leaves ovate obtuſe quite entire, cymes lateral.

17. Celaſtrus crenatus. *Notch-leaved Staff-tree.*
Forſt. florul. auſtr. n. 113.
Unarmed; leaves ovate, crenulate; cymes axillary.

18. Celaſtrus corniculatus.
L'Herit. ſert. angl. 6. *n.* 1.
Euonymus. *Breyn. ic. t.* 22. *f.* 3. *Burm. afr. t.* 97. *f.* 1.
Leaves oval quite entire perennial, capſule three-horned.

19. Celaſtrus Caſſinoides. *Crenated Staff-tree.*
L'Herit. ſert. angl. 6. *n.* 2. *t.* 10. *Ait. hort. kew.* 271.
Unarmed; leaves ovate, acute both ways, looſely toothed, perennial; flowers axillary.

20. Celaſtrus phyllacanthus.
L'Herit. ſert. angl. 6. *n.* 3.
Thorns leafy, leaves lanceolate, ſerrate perennial, flowers lateral.

21. Celaſtrus octogonus. *Angular-leaved Staff-tree.*
L'Herit. ſert. angl. 7. *n.* 4. *Ait. hort. kew.* 272.
Unarmed; leaves elliptic angular almoſt nerveleſs perennial, capſules bivalve, one-ſeeded.

22. Celaſtrus undulatus. *Waved-leaved Staff-tree.*
L'Herit. ſert. angl. 7. *n.* 5. *Ait. hort. kew.* 272.
Unarmed; leaves nearly oppoſite lanceolate waved, capſules bivalve many-ſeeded.

DESCRIPTIONS, *&c.*

This genus conſiſts of ſhrubs or ſmall trees, with alternate leaves, and the flowers many together, on axillary ſubdichotomous peduncles. It is ſo nearly allied to *Euonymus*, that ſome would unite it to that genus.]

1. It riſes to the height of eight or ten feet; but in England there are few of theſe ſhrubs much more than half that height. It generally puts out two or three ſtems from the root, which divide upward into ſeveral branches, covered with a brown bark, garniſhed with leaves near three inches long, and two broad, placed alternately on the branches; the flowers come out in looſe ſpikes at the end of the branches, and are white; the capſule is of a ſcarlet colour, ſet full of ſmall protuberances; it opens into three cells, each containing a hard oval ſeed, covered with a thin red pulp. This ſhrub flowers in july, but rarely produces good ſeeds in England.

It grows naturally in Virginia, and many other parts of North America.

2. The ſecond ſort ſends out ſeveral woody ſtalks, which are flexible, and twiſt themſelves round trees and ſhrubs, or round each other, to the height of twelve and fourteen feet or more; girding trees ſo cloſely as in a few years to deſtroy them. The leaves are about three inches long, and near two broad, ſerrate, alternate, of a lively green above, but paler on their under ſide, having ſeveral tranſverſe nerves. The flowers are produced in ſmall bunches towards the ends of the branches; they are of an herbaceous colour, and are ſucceeded by roundiſh three-cornered capſules, which are red when ripe; and ſpread open their three cells, diſcloſing their ſeeds in the ſame manner as our common Spindle-tree. It flowers in the beginning of june, and the ſeeds ripen in autumn.

[Thunberg, who had made a new ſpecies of this under the name of *C. punctatus*, but afterwards corrected his error, adds; that the branches are elongated, polygonous, rough with white dots, ferruginous and naked: branchlets ſcattered, ſtriated, ſpreading much; often recurved, leafy and ſhort. Leaves acute, ſmooth, an inch long, on very ſhort petioles. Flowers ſcattered, ſolitary, on very ſhort, looſe, jointed peduncles. The ſeeds are covered with a yellow wrinkled aril.

Native of North America and Japan.

It was introduced in 1736, by Peter Collinſon, Eſq.[a]

3. Native of North America. The ſynonyms of Sloane and Ray belong to a new ſpecies of *Prunus*, which Swartz has named *P. ſphæroſperma*. Miller's *Celaſtrus myrtifolius* is the ſame plant.

4, 5, 6, 7. Found at the Cape of Good Hope, by Thunberg[b].

8. Stem ſhrubby erect. Branches polygonous, ferruginous, ſmooth, dotted with white. Leaves ſmooth, nerved, ſpreading, an inch and half in length. Petioles channelled, one-third of the length of the leaves. Peduncles bifid and trifid.

9. This is a ſhrub or ſmall tree, upright, with round ſmooth branches. Leaves blunted at the end, but having a point, narrowed below, entire, paler underneath, unequal, from one inch to three in length, on petioles ſcarcely half a line long. The fruits are berries terminating the peduncles, ſeſſile, aggregate, minute, blue.

10. Stem ſhrubby; branches round, ſomewhat wrinkled, aſh-coloured, erect. Leaves oppoſite, on very ſhort petioles, ſmooth, ſpreading, an inch long. Peduncles capillary, jointed, ſpreading much. Capſules one-celled, two, three or four-celled; or rather the capſules are aggregate. It differs from the ſecond ſpecies in having the branches neither dotted nor climbing, and the leaves ſubſeſſile.

11. Stem ſhrubby, a fathom in height: branches oppoſite looſe upright ſmooth: branchlets alſo oppoſite, much ſpreading, ſhort, winged as well as the branches; the wings ſomewhat eroſe, irregularly ſcattered here and there, adhering to the bark, but eaſily ſeparating. Leaves oppoſite, on very ſhort petioles, elliptic, acuminate, very finely ſerrate, ſmooth, ſpreading, an inch long. Flowers ſcattered, on capillary, one-flowered peduncles, an inch long, having two glands above the middle. Capſules one or two-celled, ſeldom three-celled. Seeds arilled.

It is difficult to determine whether this be a *Celaſtrus* or *Euonymus*, the two genera being ſo nearly allied as that perhaps they ought not to be ſeparated: but it ſeems rather to be a Celaſtrus, by its having uſually a one-celled capſule.

This and the three foregoing ſpecies were firſt obſerved by Thunberg in Japan.

The laſt is a handſome ſhrub, ſingular for its winged branches. It is frequently cultivated by the Japoneſe in their gardens; and the young men hang bunches of the flowers before the doors of the houſe, to ſignify their deſire to pay addreſſes to a young woman within[c].]

12. This riſes with a ſlender woody ſtalk to the height of ten or twelve feet, covered with a light aſh-coloured bark, and full of joints, armed with long ſpines, upon which grow many ſmall leaves; the branches are ſlender, armed alſo with ſpines at every joint; but the whole plant is ſo weak as to require ſome ſupport. The leaves come out in cluſters without any order; are ſhaped ſomewhat like thoſe of the narrow-leaved Box-tree, but longer and of a looſe texture. [They are obovate and acutely ſerrate. Both branches and branchlets are angular. The flowers are on peduncled cymes from the axils. The fruit is globular. In the next ſpecies it is triquetrous[d].

It is a native of the Cape of Good Hope; was cultivated by Mr. Miller in 1759; and flowers in may and june[e].]

13. This riſes with an irregular ſtalk three or four feet high, ſending out ſeveral ſide branches, covered with brown bark. Leaves about two inches long, and more than half an inch broad, ſome pointed and others obtuſe; they are ſtiff, of a lucid green, come out irregularly from the branches, and continue green through the year. The flowers are produced from the ſides of the branches in looſe

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[a] Hort. kew.
[b] Linn. ſuppl.
[c] Thunb. jap.
[d] Linn. ſpec. & cliff.
[e] Hort. kew.

tufts, many from one point, on long peduncles, and of an herbaceous white colour. The fruit is of a fine red colour, and opens into three cells, containing one oblong hard ſeed; two of the cells being generally empty.

[The branches and branchlets are roundiſh: the leaves are oval-lanceolate, ſharp to both ends, terminating in the petioles, in the upper part having acuminate ſerratures which are almoſt ſpiny. Cymes peduncled, lateral[f]. Capſule ſuperior, obovate, acuminate at the tip, three-ſided, three-furrowed, reddiſh-ferruginous on the outſide, pale ſtraw-colour within, three-celled, opening into three parts at the top, but entire at the baſe: partitions anſwering to the middle of the valvular grooves. Seeds few, about four in each cell, but ſcarcely two ripening; they are ovate, attenuated towards the navel, brown, and covered with a membranaceous, ſoft, ſcarlet aril, pervious on the ſide oppoſite to the navel, with a four-cleft, unequal mouth[g].]

It is a native of the Cape of Good Hope, whence the ſeeds were firſt brought to the gardens in Holland, and thence communicated to moſt of the curious gardens in Europe.

[It was cultivated in 1752, by Mr. Miller, and flowers moſt part of the ſummer[h].

14. An upright ſhrub, with brown hard branches. Leaves ovate or obovate, ſomewhat obtuſe, veined, on very ſhort petioles, the edge quite entire and turned back. Peduncles axillary, crowded, ſimple, ſhorter than the leaves. Petals concave. Stamens ſhorter than the corolla. Style thick, with three diverging ſtigmas[i].

It differs from *C. pyracanthus* in having rounder leaves, which are concave, and as it were boat-ſhaped; and in the branches being without ſpines[k]. Native of the Cape of Good Hope. Introduced in 1722, by James Sherard, M.D. It flowers from april to ſeptember[l].

15, 16. Found at the Cape of Good Hope by Thunberg[m].

17. Native of the Marqueſas iſlands in the South ſeas[n].

18. It has the appearance of *Euclea*, and is a native of the Cape of Good Hope[o].

19. A native of the Canary iſlands. Mr. Francis Maſſon introduced it in 1779. It flowers in auguſt and ſeptember[p].

20. Found in Senegal by Adanſon. It has flowered in the Paris garden, but has not borne fruit.

21. Leaves glaucous. Flowers perhaps polygamous, the hermaphrodites or females very rare. Seed arilled, two-furrowed. Found in Peru by Dombey. There are other ſpecies from Peru and Chili, which have a bivalve capſule[q].

Introduced in 1786 by Monſ. Thouin. It flowers in october[r].

22. Leaves acuminate, ſometimes having one nerve, the edge whitiſh and revolute. Petals ſpatulate. Stigma obſcurely capitate: capſule one-celled, two-valved. Seeds eight to twelve, naked, not arilled. Thus it recedes from the genus in its pericarp and ſeeds, but not ſufficiently to conſtitute a new genus. Commerſon found it in the iſle of Bourbon, where they call it *Bois de joli cœur*, and uſe it as an *antiſiphylitic*[s].

Introduced in 1785 by Meſſrs. Lee and Kennedy[t].]

PROPAGATION AND CULTURE.

1. It is propagated here by layers, which will take root in one year; the young branches only are proper for this purpoſe, ſo that where there are not any of theſe near the ground, the main ſtalks ſhould be drawn down, and faſtened with pegs to prevent their riſing, and the young ſhoots from them ſhould be laid. The beſt time for doing this is in autumn, when they begin to caſt their leaves, and by that time twelvemonth they will be ſufficiently rooted, when they ſhould be cut off from the old plant, and planted in a nurſery for two or three years to get ſtrength; after which they muſt be removed to the places where they are to remain. This ſhrub grows naturally in moiſt places, and will not thrive well in a dry ſoil. It is very hardy, and bears the cold of our winters very well. It is alſo propagated by ſeeds, which are frequently brought from America; but as theſe rarely arrive here time enough to ſow before the ſpring, the plants never come up the firſt year; therefore the ſeeds may be ſown either in pots, or in a bed of loamy earth, keeping them clean from weeds during the ſummer; and thoſe in the pots ſhould be placed in the ſhade till the autumn, when the pots ſhould be either plunged into the ground in a warm ſituation, or placed under a common frame, to prevent the froſt from penetrating through the ſide of the pots, and if the ſurface of thoſe which are plunged into the ground, and alſo the bed where the ſeeds are ſown are lightly covered with ſome old tan from a decayed hot-bed, it will ſecure the ſeeds from being hurt by ſevere froſts. In the ſpring, when the plants come up, they muſt be kept clear from weeds; and if the ſeaſon proves dry, they ſhould have water now and then, which will greatly forward their growth. If the plants make good progreſs the firſt ſummer, they may be tranſplanted into a nurſery in autumn; otherwiſe they ſhould remain in the ſeed-bed till the ſecond year, when they may be treated in the ſame manner as the layers.

2. The ſeeds of the ſecond ſort generally ripen well in England, and this may be propagated from theſe or by layers, as the former. It delights in a ſtrong loamy ſoil, rather moiſt than dry, and will grow in woods among other trees and ſhrubs; where, when the fruit is ripe, it makes a pretty appearance. It is extremely hardy.

4, 5, 6, 7, 12, 13, 14, 15, 16, 18. The Cape ſorts may be propagated by cuttings; which is more expeditious than raiſing them from ſeeds, becauſe theſe rarely come up the ſame year. The cuttings may be planted any part of the ſummer; but thoſe which are planted early, will have more time to get ſtrength before winter. Put them in ſmall pots filled with good kitchen garden earth, four together: plunge them into a moderate hot-bed, ſhade them from the ſun, and gently refreſh them with water now and then. When they have taken root, expoſe them gradually to the open air, and then place them in a ſheltered ſituation till they have obtained ſtrength. Plant each in a ſmall pot filled with the ſame earth; place them in the ſhade till they have taken freſh root; ſet them with other exotic plants in a ſheltered ſituation till autumn; then houſe them with other hardy green-houſe plants.

12. Riſes eaſily from ſeeds, and will be four feet high in two years, without artificial heat. In mild winters this will live under a ſouth wall, but it ſheds the leaves there.

If the young ſhoots are laid, they will take root in one year, and may then be tranſplanted either into pots, or againſt a warm wall, where if they be covered in ſevere froſts, they may be brought, when old, to live abroad without protection. Thoſe in pots will require a little ſhelter in winter, but ſhould not be tenderly treated, for that will cauſe them to have weak branches, nor will the leaves have ſo much verdure, as when they are expoſed to the open air in mild weather.

21, 22. Are more tender, and muſt be kept in the ſtove.

CELASTRUS. See *Caſſine*, *Ceanothus*, *Euonymus*.

CELERI or Celery. See *Apium*.

CELOSIA.

Lin. gen. n. 289. *Reich.* 312. *Schreb.* 405. *Juſſ.* 88. *Gærtn. t.* 128. *Stachyarpagophora. Vaill. A. G.* 1722.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Miſcellaneæ*. *Amaranthi* Juſſ.

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[f] Linn. ſpec.

[g] Gærtner.

[h] Hort. kew.

[i] Linn. mant.

[k] L'Heritier.

[l] Hort. kew.

[m] Linn. ſuppl.

[n] Forſter.

[o] L'Heritier.

[p] Hort. kew.

[q] L'Heritier.

[r] Hort. kew.

[s] L'Heritier.

[t] Hort. kew.

GENERIC CHARACTER.

Cal. *Perianth* three-leaved: *leaflets* lanceolate, dry, acute, permanent, ſimilar to the corolla.

Cor. *Petals* five, lanceolate, acuminate, erect, permanent, ſtiffiſh, calyciform.

Nectary a margin ſurrounding the germ, very ſmall, five-cleft.

Stam. *Filaments* five, ſubulate, conjoined at the baſe to the plaited nectary, length of the corolla. *Anthers* verſatile.

Pist. *Germ* globular. *Style* ſubulate, ſtraight, length of the ſtamens. *Stigma* ſimple.

Per. *Capſule* globular, ſurrounded by the corolla, one-celled, circumciſed.

Seeds few, roundiſh, emarginate.

Obs. C. trigyna *is furniſhed with three ſtigmas.*

ESSENTIAL CHARACTER.

Cal. three-leaved, leaflets ſimilar to thoſe of the five-petalled corolla. *Stam.* conjoined at the baſe to the plaited nectary. *Capſ.* gaping horizontally.

SPECIES.

[1. Celoſia argentea. *Silvery-ſpiked Celoſia.*
Lin. ſpec. 296. *ſyſt.* 246. *Reich.* 577. *hort. cliff.* 43. 1. *Lour. cochinch.* 163.
Amaranthus. *Rheed. mal.* 10. 77. *t.* 39.
Leaves lanceolate, ſtipules ſubfalcated, peduncles angular, ſpikes ſcarioſe.]

2. Celoſia margaritacea.
Lin. ſpee. 297. *Reich.* 577. *Lour. cochinch.* 164. *Retz. obſ.* 3. 27. *n.* 39, 40.
Amaranthus. *Bauh. pin.* 121. 4. *Mart. cent. t.* 7. *Rheed. mal.* 10. 75. *t.* 38.
Leaves ovate, ſtipules falcated, peduncles angular, ſpikes ſcarioſe.

3. Celoſia criſtata. *Creſted Amaranth*, or *Cock's-comb.*
Lin. ſpec. 297. *ſyſt.* 247. *Reich.* 577. *hort. cliff.* 43. 2. *upſ.* 52. *Thunb. jap.* 106. *Gærtn. fruct.* 2. 215.
Amaranthus panicula conglomerata. *Bauh. pin.* 221. *Ger. herb.* 254. *emac.* 322. *Park parad.* 371. 1. *Raii hiſt.* 202. 1.
β. A major paniculis ſurrectis flaveſcentibus. *Herm. lugdb.* 30.
Buff-coloured Celoſia or *Cock's-comb.*
Leaves oblong-ovate, peduncles round ſubſtriated, ſpikes oblong.

4. Celoſia paniculata. *Panicled Celoſia.*
Lin. ſpec. 298. *Reich.* 578. *Swartz. obſ.* 100. *Brown. jam.* 179. *Sloan. jam.* 1. *t.* 91. *f.* 1.
Leaves ovate-oblong, ſtem riſing panieled, ſpikes alternate terminal remote.

5. Celoſia coccinea. *Scarlet Celoſia*, or *Chineſe Cock's-comb.*
Lin. ſpec. 297. *Reich.* 578.
Amaranthus. *Bauh. pin.* 121. 2. *Bauh. hiſt.* 2. 969. fig. *Ger. herb.* 254. *f.* 2. *emac.* 322. 2. *Park. parad.* 371. 2. *t.* 373. *f.* 4. *Raii hiſt.* 202. 2.
Leaves ovate ſtiff earleſs, ſtem grooved, ſpikes manifold ereſted.

6. Celoſia caſtrenſis. *Branched Celoſia*, or *Cock's-comb.*
Lin. ſpec. 297. *Reich.* 578. *Lour. cochinch.* 163.
Amaranthus. *Cam. epit.* 792. *Barr. rar. t.* 1195. *Bocc. muſ.* 2. *t.* 66. *Rumph. amb.* 5. 236. *t.* 84. *Beſl. eyſt. aut.* 2. *t.* 8. *f.* 1.
Leaves lanceolate-ovate, marked with lines, very much acuminated, ſtipules falcated, ſpikes creſted.

[7. Celoſia trigyna. *Oval-leaved Celoſia.*
Lin. ſyſt. 247. *Reich.* 579. *mant.* 212. *Jacq. hort.* 3. *t.* 15.
Leaves ovate-oblong, raceme lax, piſtil trifid.]

8. Celoſia lanata. *Woolly Celoſia.*
Lin. ſpec. 298. *Reich.* 579. *fl. zeyl. n.* 102. *Jacq. hort.* 3. *t.* 85.
Leaves lanceolate tomentoſe obtuſe, ſpikes crowded, ſtamens woolly.

[9. Celoſia Guaphaloïdes.
Lin. ſyſt. 247. *ſuppl.* 161.
Shrubby, woolly; leaves oppoſite ovate white beneath; head globular peduncled.

10. Celoſia nodiflora. *Knotted Celoſia.*
Lin. ſpec. 298. *ſyſt.* 247. *Reich.* 579. *fl. zeyl. n.* 101. *Retz. obſ.* 4. 24. *n.* 70.
Amaranthoides. *Burm. zeyl.* 16. *t.* 5. *f.* 2. *Pluk. alm. t.* 133. *f.* 2.
Leaves wedge-form ſomewhat acute, ſpikes globular lateral.

11. Celoſia procumbens. *Procumbent Celoſia.*
Lin. ſyſt. 247. *Murr. in comm. gott.* 1782. *p.* 16. *t.* 5. *Jacqu. miſc.* 2. 344. *icon. rar. Ait. hort. kew.* 289.
Gomphrena interrupta. *L'Herit. ſtirp. nov.* 5. *t.* 3. *Swartz obſ.* 108.
Stems decumbent, peduncles very long leafleſs, ſpikes ovate approximating, capſules compreſſed creſted-winged.

12. Celoſia Monſoniæ. *Downy Celoſia.*
Ait. hort. kew. 288. *Retz. obſ.* 2. 13. *n.* 26.
Illecebrum Monſoniæ. *Lin. ſuppl.* 161.
Amaranthoides. *Pluk. mant. t.* 334. *f.* 4.
Spikes compact cylindric, branches brachiate, leaves ſubulate.

13. Celoſia polygonoides.
Retz. obſ. 2. 12. *n.* 25.
Leaves cordate, ſtem hiſpid, raceme ſpiked looſe, flowers three-ſtyled.

14. Celoſia baccata.
Retz. obſ. 5. 23. *n.* 55.
Flowers three-ſtyled, fruits berried.

DESCRIPTIONS, &c.

Celoſias or Cock's-combs, are all herbaceous plants, and annual. The flowers are glomerate in ſpikes or panicles, ſome of which are flatted and ſhaped ſomewhat like the comb of a cock.

1. Stem more upright than in *criſtata*. The leaves approaching by no means to an ovate form, as in that. Spike terminating, ovate, cloſe, erect, acuminate, the thickneſs of the human thumb, the florets all ſeſſile, never branching, the colour white, rarely approaching to red. Sometimes a little ſpike or two from the axils of the upper leaves[a].

Native of the Eaſt-Indies, China, Cochinchina and Japan.

Introduced in 1714, by the Dutcheſs of Beaufort. It flowers from june to ſeptember[b].

2. This, ſays Linneus, bears ſo much ſimilitude to the foregoing ſort, as to be almoſt a variety. There can indeed be little doubt of its being quite ſo.—The leaves are rather ovate, and the ſtamens are purple.

Loureiro keeps them diſtinct, and gives theſe differences. The ſtem of the *margaritacea* is ceſpitoſe and two feet high. Leaves oblong-ovate, ſubrepand. Flowers in oblong, ſubcylindric, cloſe, fulvous ſpikes. The ſtem of the *argentea* is angular, with ſtraight aſcending branches. Leaves lanceolate, quite entire, tomentoſe underneath. Flowers in oblong-conic, white and red ſpikes.

Mr. Miller deſcribes his *margaritacea* as] riſing with an upright ſtalk about two feet high, garniſhed with oval leaves ending in points, of a pale colour; thoſe on the lower part being four or five inches long, and one and a half broad in the middle, but they diminiſh gradually in their ſize upward. Toward the upper part of the ſtalk, there are a few ſide branches ſent out which ſtand erect; each terminated by a ſlender ſpike of flowers, and the principal ſtalk is terminated by one which is much larger; this is two or three inches long, and about as thick as a man's middle finger, the whole ſpike being of a ſilvery colour. But there is a variety of this with ſlender pyramidal ſpikes, intermixed with red toward the top, the ſeeds of which I received from Linneus, by the above title; but I am inclinable to think it is different from that which was figured by Martyn in his Decades of rare plants, and which I have cultivated many years in the Chelſea garden, without its varying. The ſpike of this is much thicker than that of Linneus's, and of equal ſize the whole length; whereas his diminiſhes almoſt to a point at the top, and the colours of both are very different. He ſays that it grows naturally in America; and that he has frequently received the ſeeds from thence.

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[a] Linn. cliff.

[b] Hort. kew.

[Retzius ſays, that a plant ſent him under the name of *Celoſia marilandica* is certainly the ſame with this, anſwering to the Linnean character except that the leaves are rather lanceolate than ovate. The calyx is ſhorter than the corolla: the ſtamens truly monadelphous: a minute nectary ſurrounds the pedicel of the germ preſſed back beneath and the bell-ſhaped filament with a five-toothed tip: and the ſtigma is ſlightly bifid.

Celoſia margaritacea ſent from Tranquebar by Koenig differs from this, in having the calyx longer than the corolla, and ending in long awn-ſhaped tips: the leaves are narrow and lanceolate: the petals linear-lanceolate: the ſtamens ſlightly connected at the baſe. The fabric of the ſtamens in *C. argentea* is the ſame as in the *marilandica.*]

3. This is well known by its common appellation of Cock's-comb, which was given it from the form of its creſted head of flowers, reſembling the comb of a cock. There are many varieties, differing in form, magnitude and colour, from the ſame ſeed. I have raiſed great varieties from ſeeds which came from China, and other countries, but have generally found them alter in a few years, notwithſtanding great care has been taken in ſaving the ſeeds: the principal colours of their heads are red, purple, yellow, and white; but I have had ſome, whoſe heads have been variegated with two or three colours. I alſo raiſed ſome from ſeeds which I received from Perſia, whoſe heads were divided like a plume of feathers, and were of a beautiful ſcarlet colour, but theſe in a few years degenerated. [Linneus remarks, that it varies with narrow and broad leaves. It is a native of Aſia. Thunberg informs us, that the creſts or heads of flowers are frequently a foot in length and breadth in Japan, and extremely beautiful, but that they degenerate in other countries.

It was cultivated here in 1570 [c].

4. Stem ſuffruticoſe, proſtrate, round, ſubdivided, ſtriated: branches diverging. Leaves acuminate, petioled, entire, ſmooth. Spikes racemed, axillary and terminating, ſhort. Flowers diſtinct, whitiſh. The calyx conſiſts of five ovate, acute leaflets, whitiſh within. Corolla none, but a cup-ſhaped, five-cornered nectary, ſurrounding the germ: to the edge of this the filaments are fixed. The anthers are verſatile and purple. Germ ovate: ſtyle ſubulate, ſimple, red: ſtigma trifid. Capſule covered by the permanent calyx, with numerous, ſhining ſeeds [d].]

Mr. Miller ſays, that the ſtems are near four feet in length; and that the ſlender ſpikes are of a pale yellow, ſhining with a gloſs like ſilk: that it grows naturally in moſt of the ſugar iſlands, and that the ſeeds were ſent him from Jamaica by Dr. Houſtoun.

5. This has a furrowed ſtalk, riſing three or four feet high, and terminated by ſeveral ſpikes of flowers variouſly formed, ſome being creſted, others plumed like feathers, of a bright ſcarlet colour, and making a good appearance. The ſeeds even when carefully ſaved are apt to degenerate.

[According to Linneus, it differs from the third ſort, in having leaves three times as thick and brittle; the flowers wholly purple, not red with a purple keel; and the ſtamens ſhorter inſtead of longer than the corolla.]

It is a native of China, whence Mr. Miller ſays that he received the ſeeds: [but it was cultivated long before by Gerarde in 1597 [e].]

6. This is of humbler growth. The branches proceed from the axils of the leaves almoſt the length of the ſtalk, and are terminated by ſlender ſpikes of flowers of no great beauty; the plant therefore is only preſerved in botanic gardens.

[The ſtem, according to Loureiro, is a foot and half in height, red, ſtriated and thick; with ſimple, riſing branches. Leaves quite entire, ſmooth, ſcattered, marked underneath with red lines running obliquely, on ſhort petioles: Linneus adds, that they often grow by threes: Flowers blood-red, in terminating ſpikes which are creſted and large, and in axillary ones which are oblong and ſmall. The capſules have many flatted, black, ſhining ſeeds.

Native of the Eaſt-Indies. Cultivated generally in China and Cochin-china; here by Mr. Miller in 1739 [f].

7. Stem upright, ſimple, ſlightly angular, ſtriated, ſtiff, a foot and half high. Leaves petioled, even, acute. Stipules in pairs, creſcent-ſhaped, horizontal, claſping. Raceme terminating, compoſed of a few crowded white flowers, on ſhort pedicels. Bractes ſcarioſe, ſilvery, ovate, diſtant. Calyx two-leaved, ſimilar to the petals. Corolla ovate, acute, ſcarioſe, white, permanent. Filaments purpliſh, ſhorter than the petals. Style very ſhort, with three purple ſtigmas longer than the ſtyle. Seeds three, ſubglobular [g].

Native of Senegal. Introduced in 1777, by Monſ. Thouin [h].]

8. This riſes with a white woolly ſtalk from two to three feet high. From the upper part come out two or three ſlender ſide branches; which, as alſo the principal ſtalk, are terminated by woolly ſpikes of flowers; the corollas are ſo cloſely wrapped up in their woolly calyxes as to be ſcarce viſible to the naked eye; ſo that they make no great appearance: the extreme whiteneſs however of the ſtalk leaves and ſpikes, makes a pretty variety. It is a native of the iſland of Ceylon.

[Linneus remarks, that it has the appearance of *Halimus:* and Retzius doubts whether it be diſtinct from *Illecebrum javanicum.* (5. 3.)

9. This is very ſimilar in its white woolly ſurface to the woolly *Celoſias* and *Illecebrums*; from which however it differs in having the leaves oppoſite, and a ſolitary globular peduncled terminating head.

It was found in Braſil, on monte Video, by Thouin [i].

10. Stems angular, grooved, even. Leaves like thoſe of Purſlane, obovate, obtuſe with a point, quite entire, ſmooth, ſubpetioled. Spikes ſolitary, peduncled; peduncle commonly ſhorter than the leaf [k]. Inſtead of the calyx there are from one to three linear bractes. Stamens fixed to the nectary at the baſe. Stigma twin-capitate. Seed ſingle, lens-ſhaped. It varies, 1. with oblong leaves and peduncled heads: 2. with ſhort roundiſh leaves ending in a point, and ſeſſile heads: the firſt from Sumatra, and the ſecond from Malabar [l].

It was introduced here in 1780; and flowers in july and auguſt [m].

11. Stems two feet high, proſtrate, round, little branched, geniculated, ſilky with appreſſed hairs, glaucous, ending in a ſubpanicled ſpike, on a long peduncle and leafleſs. Root-leaves and lower ſtem-leaves oblong, narrowing gradually at the baſe into the petiole, quite entire, four or five inches long, dotted on both ſides, ſilky on the reverſe and at the edges, thickiſh, and roughiſh to the touch. Stem-leaves oppoſite, ſmaller, remote; the upper ſubſeſſile and ſubovate. Spikelets oblong, compact, the ſide ones ſeſſile. The proper peduncles viſible only with a glaſs, and defended with a woolly faſcicle. Native of S. Domingo [n]. Introduced 1784, by Monſ. Thouin [o].

12. Stems proſtrate, branching, ending in more elongated branches, a ſpan long, and hoary. Lower leaves crowded almoſt into a tuft; the reſt in whorls and ſubulate. Spikes oppoſite and terminating, ſomewhat oblong, whitiſh and reddiſh, very beautiful [p].

According to Retzius, the root is ſomewhat branched and woody. The ſtem divaricate and tomentoſe, with brachiate branches. Leaves like thoſe of *C. corymboſa* and naked. Stipules, if any, very like the leaves. Spikes numerous, ſolitary, peduncled ſeldom ſeſſile, the thickneſs of a crow quill, the florets imbricate, woolly on the outſide, with a five-leaved calyx.

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[c] Hort. kew.
[d] Swartz.
[e] Hort. kew.
[f] Hort. kew.
[g] Linn. mant.
[h] Hort. kew.
[i] Linn. ſuppl.
[k] Linn. zeyl.
[l] Retz.
[m] Hort. kew.
[n] Jacq. miſc.
[o] Hort. kew.
[p] Linn. ſuppl.

Native of the Eaſt-Indies. Introduced in 1778 by Sir Joſeph Banks, Baronet[q].

13. Stem almoſt upright, ſtriated. Leaves blunt, petioled, rugged. Racemes ſimple; glomerules alternate, remote, ſeſſile, with about two flowers, and even. Calyxes ſcarioſe. Capſule pitcher-ſhaped, with a contracted mouth, lidded, longer than the calyx, many-ſeeded. It reſembles *Achyranthes polygonoides*. *C. trigyna* differs from this in being thrice the ſize, in having an even ſtem, ovate acuminate leaves, many-flowered peduncled glomerules, and a globular capſule.

Sent from Tranquebar by Koenig.

14. Stem upright. Leaves alternate, petioled, cordate, acuminate, entire. Racemes axillary, folitary, and ſeveral long terminating ones. Flowers ſmall, on very ſhort peduncles. The calyx has two minute leaflets preſſed cloſe. Petals ovate, ſomewhat concave. Filaments dark-coloured dilated at the baſe, ſo that they ſurround the germ, which is roundiſh-three-cornered. Stigmas ſimple. Berry black, incloſing three broadiſh ſeeds, concavo-convex, ſhining.

Found in the Eaſt-Indies by Koenig[r].]

PROPAGATION AND CULTURE.

3. In order to have large fine Amaranths, great care ſhould be taken in the choice of the ſeeds; for if they are not carefully collected, the whole expence and trouble of raiſing them will be loſt. The ſeeds muſt be ſown on a hot-bed, which ſhould have been prepared a few days before, that the violent heat may be abated, about the beginning of March; and in about a fortnight's time, if the bed is in good temper, the plants will riſe; but as they are tender when they firſt appear, they require great care for a few days till they get ſtrength; firſt, in giving them a due proportion of air, to prevent their drawing up weak; and next to keep them from too great moiſture, for a ſmall ſhare of moiſture will cauſe their tender ſtems to rot: in ſowing the ſeeds, there ſhould be care taken not to put them too cloſe, for when the plants come up in cluſters, they frequently ſpoil each other for want of room to grow: in a fortnight or three weeks time the plants will be fit to remove, when you muſt prepare another hot-bed, covered with good rich light earth, about four inches thick; which ſhould be made a few days, that it may have a proper temperature of heat; then raiſe up the young plants with your finger, ſo as not to break off the tender roots, and prick them into the new hot-bed about four inches diſtance every way, giving them a gentle watering to ſettle the earth to their roots: but in doing this, be very cautious not to bear the young plants down to the ground by haſty watering.

After the plants are thus planted, they muſt be ſcreened from the ſun till they have taken freſh root; but as there is generally a great ſteam riſing from the fermentation of the dung, which condenſes againſt the glaſſes, and dropping upon the plants, very frequently deſtroys them; the glaſſes ſhould therefore be frequently turned in the day-time, whenever the weather will permit; but if the weather happen to prove bad, it will be of great ſervice to your plants, to wipe off all the moiſture two or three times a day with a woollen cloth, to prevent its dropping upon the plants. When your plants are firmly rooted, and begin to grow, you muſt obſerve to give them air every day (more or leſs, as the weather is cold or hot) to prevent their drawing up too faſt, which greatly weakens their ſtems.

In about a month or five weeks theſe plants will have grown ſo as to meet; therefore another hot-bed ſhould be prepared of a moderate temper, and covered with the ſame rich earth about ſix inches thick, in which they ſhould be planted (obſerving to take them up with as much earth about their roots as poſſible) at ſeven or eight inches diſtance every way, giving them ſome water to ſettle the earth about their roots; but be very careful not to water them heavily, ſo as to bear down the plants, and keep them ſhaded in the heat of the day, until they have taken freſh root; and be ſure to refreſh them often (but gently) with water, and give them air in proportion to the heat of the weather, covering the glaſſes with mats every night, leſt the cold chill your beds, and ſtop the growth of the plants.

In the middle of May you muſt provide another hot-bed, which ſhould be covered with a deep frame, that your plants may have room to grow: upon this hot-bed you muſt ſet as many three-penny pots as can ſtand within the compaſs of the frame; theſe pots muſt be filled with good rich earth, and the cavities between each pot filled up with any common earth, to prevent the heat of the bed from evaporating, and filling the frame with noxious ſteams; then with a trowel, take up your plants with as much earth as poſſible to the roots, and place each ſingle plant in the middle of one of the pots, filling the pot up with the earth before deſcribed, and ſettle it cloſe to the root of the plant with your hands; water them gently, as before, and ſhade them in the heat of the day from the violence of the ſun, by covering the glaſſes with mats; refreſh them often with water, and give them a good quantity of air in the day-time.

In about three weeks more, theſe plants will have grown to a conſiderable ſize and ſtrength, ſo that you muſt now raiſe the glaſſes very much in the day-time; and when the air is ſoft, and the ſun is clouded, draw off the glaſſes, and expoſe them to the open air, and repeat this as often as the weather will permit; which will harden them by degrees, to be removed abroad into the places where they are to remain the whole ſeaſon: but it is not adviſable to ſet theſe plants out until a week in july, obſerving to do it when the air is perfectly ſoft, and if poſſible, in a gentle ſhower of rain.

Let them at firſt be ſet near the ſhelter of a hedge for two or three days, where they may be ſcreened from the violence of the ſun, and ſtrong winds, to which they muſt be inured by degrees: theſe plants, when grown to a good ſtature, perſpire very freely, and muſt be every day refreſhed with water, if the weather prove hot and dry; otherwiſe they will ſtunt, and never produce their plumes ſo fine as they would do if taken care of.

This is the proper management, in order to have fine Amaranths; which, if rightly followed, and the kinds are good, in a favourable ſeaſon, will produce wonderful large fine heads, and are the greateſt ornament to a good garden for upwards of two months: by this method, I have had plants five or ſix feet high, with creſts near a foot in breadth; and I am perſuaded, if the kind be good, (and there be no want of dung, or conveniencies) in a kindly ſeaſon, they will grow much larger.

By the middle or latter end of ſeptember, the Amaranths will have perfected their ſeeds, ſo that you muſt make choice of the largeſt, moſt beautiful, and leaſt branching plants of each kind for ſeed; which you ſhould remove under ſhelter, (eſpecially if the weather prove wet, or the nights froſty) that the ſeeds may be perfectly ripened; be ſure never to take any ſeeds from ſide branches, nor from the neck of the plume, but only ſuch as are produced in the middle thereof, which in many plants, perhaps, may be but a ſmall quantity; but I do aſſure you, it is only thoſe you can depend upon, to have your kinds good the ſucceeding year.

CELOSIA. See *Ireſine*.

CELSIA. (*The name was given to this plant by Linneus, in honour of Olaus Celſius, D. D. profeſſor of the Greek language, and afterwards of Theology, in the univerſity of Upſal.*)

Lin. gen. n. 757. *Reich.* 815. *Schreb.* 1015. *Juſſ.* 124. *Gærtn. t.* 55.

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[q] Hort. kew.

[r] Retz.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Luridæ*. *Solaneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted; *diviſions* lanceolate, obtuſe, length of the corolla, permanent.

Cor. Monopetalous, rotated; *Tube* extremely ſhort; *Border* flat, half-five-cleft, unequal; *diviſions* roundiſh, of which the two ſuperior ones are ſmaller, the inferior one larger.

Stam. *Filaments* four, capillary, inclined towards the ſmalleſt diviſions of the corolla; of which the two longer ones are ſhorter than the corolla, and are outwardly woolly. *Anthers* roundiſh, ſmall.

Pist. *Germ* roundiſh. *Style* filiform; length of the ſtamens. *Stigma* obtuſe.

Per. *Capſule* roundiſh, compreſſed at the tip, acuminate, ſitting on the calyx, bilocular.

Seeds. Very many, ſmall, angular. Receptacles ſolitary, hemiſpherical.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* rotated. *Filam.* bearded. *Capſ.* two-celled.

SPECIES.

1. Celſia orientalis. *Oriental Celſia.*
Lin. ſpec. 866. *Reich.* 3. 150. *hort. cliff.* 321. *upſ.* 179. *t.* 2. *Gærtn. fruct.* 1. 262.
Verbaſcum orientale, Sophiæ fol. *Tourn. cor.* 8. *Buxb. cent.* 5. 17.
Blattaria orient., Agrimoniæ fol. *Buxb. cent.* 1. 14. *t.* 20.
Leaves bipinnate.

[2. Celſia Arcturus. *Scollop-leaved Celſia.*
Lin. ſyſt. 561. *Reich.* 3. 151.
Verbaſcum Arcturus. *Lin. ſpec.* 254. *mant.* 339. *Jacq. hort.* 2. *t.* 117.
Verbaſcum. *Bauh. pin.* 240. *Col. ecphr.* 2. 81. *t.* 82. *Alp. exot.* 123. *t.* 122.
Radical leaves lyrate-pinnate, peduncles longer than the flower.

3. Celſia cretica. *Great-flowered Celſia.*
Lin. ſyſt. 561. *Reich.* 3. 151. *ſuppl.* 281.
Blattaria perennis cretica incana, fol. binis conjugatis. *Mor. hiſt.* 2. 488.
Radical leaves lyrate, ſtem-leaves ſubcordate embracing, flowers ſubſeſſile.

4. Celſia linearis.
Jacqu. collect. 2. 270. *n.* 210. *ic.* 2. *t.* 13. *Curt. magaz. t.* 210.
Leaves tern linear toothletted.]

DESCRIPTIONS, &c.

1. Leaves oblong, finely divided almoſt to the midrib on both ſides, lying flat on the ground: from the centre of theſe a round herbaceous ſtalk riſes near two feet high, with leaves of the ſame ſhape the whole length, but gradually diminiſhing in ſize to the top: they are placed alternately, and at the foot-ſtalk of each come out the flowers, more than half the length of the ſtalk: they are of an iron colour on the outſide, but pale yellow within, ſpreading open like thoſe of common Mullein; but they are not ſo regular. It flowers in june, and the ſeeds ripen in ſeptember.

Native of the Levant. Tournefort ſent the ſeeds from Armenia to the Royal garden at Paris, whence this plant has been communicated to moſt parts of Europe. It is an annual; but in England it will rarely ripen its ſeeds, unleſs the plants come up in the autumn, and live through the winter.

[It was cultivated in 1739, in Chelſea garden[a].

2. Leaves oppoſite (others ſay alternate), the loweſt pinnate or ſublyrate; leaflets lateral minute; the upper ones ſimple. Floral leaves ſeſſile, cordate, ſerrate-toothed. Raceme terminal, long. Peduncles ſolitary, one-flowered, longer than the floral leaves. Corolla yellow. Filaments four only, with a purple beard. Native of Crete[b]. Biennial. Cultivated about 1780[c].

3. Leaves pinnate-lyrate alternate; the upper ones ſimple cordate-ſtem-claſping. Flowers ſeſſile. Calyxes ſerrated. Filaments four, the two upper hairy, the lower gloſſy and the anthers larger. Corolla yellow with two ferruginous ſpots at the upper part of the tube[d]. Native of the Eaſt-Indies. Introduced 1776, by Monſ. Thouin. It flowers in july. Biennial[e].

4. This is an elegant, evergreen, ſmooth ſhrub. The trunk is woody, but weak, the thickneſs of a quill, ſtriated, pale brown, three feet high, putting out numerous ſpreading branches its whole length; the younger ones green, grooved and very leafy. Leaves growing three together, lanceolate-linear, acute, thinly ſerrate, or ſometimes quite entire, ſhining on both ſides, ſubpetioled, ſpreading much, the largeſt two inches long. Peduncles axillary, ſolitary, one-flowered, ſhorter than the leaves, and three together. Corolla brilliant ſcarlet, with a blood-red throat: when expanded irregularly bent back at the ſides[f].—Profeſſor Jacquin received it from Ortega of Madrid. It was found in Peru by Dombey; and was introduced here from France by Mr. Williams[g].]

PROPAGATION AND CULTURE.

1. If the ſeeds are ſown on a warm dry border as ſoon as they are ripe, the plants will often come up and live through the winter, if the ſoil be poor: in rich ground they are apt to grow rank, and then they are generally deſtroyed by the early froſts, or will rot with much wet: but if the plants ſhould not riſe the ſame autumn, there will be little hazard of their growing the following ſpring. They require no other care but to keep them clean from weeds, and thin them if they are too cloſe; for they do not bear removing well, and ſhould therefore be ſown where they are intended to remain.

Sometimes, when the ſeaſon proves warm, the plants ſown in the ſpring produce ripe ſeeds, but theſe cannot be depended on.

[2, 3. The ſecond and third ſpecies require the protection of the greenhouſe.

4. May be propagated both by ſeeds and cuttings. It ſucceeds beſt in a moderate ſtove, but will bear to be treated as a tender green-houſe plant[h].

CELTIS (*Celtis, Plin.*)

Engl. *Lote* or *Nettle-tree*. Fr. *Micacoulier*.
Ital. *Loto*. Germ. *Lotus baum*.

Lin. gen. n. 1143. *Reich.* 1267. *Schreb.* 1591. *Tourn.* 383. *Juſſ.* 408.

Claſſ. 23. 1. Polygamia Monoecia.

Nat. order of *Scabridæ*. *Amentaceæ* Juſſ.

GENERIC CHARACTER.

* *Hermaphrodite* flowers ſolitary ſuperior.

Cal. *Perianth* one-leafed, five-parted; *diviſions* ovate, patulous, withering.

Cor. none.

Stam. *Filaments* five, very ſhort, concealed at firſt by the anthers, but after the ſhedding of the pollen growing longer. *Anthers* oblong, thickiſh, quadrangular, four-furrowed.

Pist. *Germ* ovate, acuminate, length of the calyx; *Styles* two, ſpreading, variouſly inflected, ſubulate, pubeſcent on every ſide, very long. *Stigmas* ſimple.

Per. *Drupe* globular, one-celled.

Seed. *Nut* roundiſh.

* *Male flowers* on the ſame plant, inferior.

Cal. *Perianth* ſix-parted, the reſt as in the Hermaphrodites.

Cor. none.

Stam. ſix, the reſt as in the Hermaphrodites.

ESSENTIAL CHARACTER.

Herm. *Cal.* five-parted. *Cor.* none. *Stam.* five. *Styles* two. *Drupe* one-ſeeded.

Male. *Cal.* ſix-parted. *Cor.* none. *Stam.* ſix.

SPECIES.

1. Celtis auſtralis. *European Nettle-tree.*
Lin. ſpec. 1478. *Reich.* 4. 334. *hort. cliff.* 39. *Gouan. hort. monſp.* 512. *Scop. carn. n.* 1232. *Hall. helv. n.* 1619. *D'Aſſo. arag. n.* 970. *Du Roi, harbecc.* 1. 141. *Pallas, Roſs.* 1. 19. *Villars, dauph.* 3. 800.
Lotus. *Bauh. pin.* 447. *Cam. epit.* 155. *Lob. ic.* 2. 186.
Leaves ovate-lanceolate.

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[a] Hort. kew.

[b] Linn.

[c] Hort. kew.

[d] Linn.

[e] Hort. kew.

[f] Jacq. collect.

[g] Curtis.

[h] Ibid.

2. Celtis occidentalis. *American Nettle-tree.*
Lin. ſpec. 1478. 3. *Reich.* 4. 335. *Mill. fig. t.* 88. *Gron. virg.* 2. 158.
Lotus virginiana, fr. rubro. *Raii hiſt.* 1917.
Leaves obliquely-ovate ſerrate acuminate.

3. Celtis orientalis. *Oriental Nettle-tree.*
Lin. ſpec. 1478. 2. *ſyſt.* 912. *Reich.* 4. 335. *fl. zeyl. n.* 369. *hort. cliff.* 83. (Ulmus 1.) *Thunb. jap.* 114.
Salvifolia arbor, &c. *Pluk. alm. t.* 221. *f.* 4.
Mallam-toddali. *Rheed. mal.* 4. 83. *t.* 40.
Papyrus ſpuria. *Kæmpf. amæn.* 474. *t.* 472. *f.* 2.
Leaves obliquely cordate ſerrate villoſe underneath.

4. Celtis americana.
Mill. dict. n. 4. *Plum. cat.* 18.
Leaves oblong-ovate obtuſe nerved, ſmooth above, golden beneath.

[5. Celtis micrantha. *Jamaica Nettle-tree.*
Swartz prodr. 53. *Ait. hort. kew.* 437.
Rhamnus micranthus. *Lin. ſpec.* 280. *Reich.* 1. 542. *Amoen.* 5. 395. *Brown. jam.* 173. *t.* 12. *f.* 2. *Plum. ic. t.* 206. *f.* 1.
Leaves obliquely cordate ovate-lanceolate ſerrulate ſomewhat rugged on the upper ſurface.

6. Celtis aculeata.
Swartz. prodr. 53. *obſ.* 92.
Rhamnus iguaneus. *Jacqu. amer.* 74. 1.
Leaves cordate-ovate, blunt at the tip, almoſt entire, very ſmooth, branches prickly.

7. Celtis lima.
Swartz. prodr. 53.
Loti arboris folio anguſt. arbor baccifera. *Sloan. jam.* 2. 80. *n.* 9.
Muntingia fol. ulmi aſpero. *Plum. gen.* 47?
Leaves ovate-lanceolate acuminate obliquely cordate ſerrate very rugged above.]

DESCRIPTIONS, &c.

1. The European Nettle-tree, or Lote-tree with a black fruit riſes with an upright ſtem to the height of forty or fifty feet, with many ſlender branches, which have a ſmooth dark-coloured bark, with ſome gray ſpots. Leaves alternate, near four inches long, and about two broad in the middle. Flowers axillary all along the branches; being compoſed of a green calyx without any corolla they make no appearance; they come out in the ſpring at the ſame time with the leaves, and generally decay before theſe are arrived at half their ſize. The fruit is the ſize of a pea and black. [According to Pallas, it is the ſize of a ſmall cherry, firſt yellow, then livid, on a long peduncle.]

It grows naturally in the ſouth of Europe, where it is one of the largeſt trees. [D'Aſſo mentions ſome of a prodigious height and girt in Spain: and Pallas ſays, that they attain the ſize of the Elm in the Cherſoneſus Taurica.] It is not ſo common in England as the ſecond, nor do I remember to have ſeen but two large trees of this ſort in the Engliſh gardens; one of which was formerly growing in the Biſhop of London's garden at Fulham, but was cut down ſome years paſt, with many other curious exotic trees, which were there growing in great perfection: the other was in the garden of Dr. Uvedale at Enfield, which had frequently produced fruit, but was never propagated in this country, nor were any young plants in the gardens, till about 1751, when I procured a good quantity of the fruit from Italy, which I communicated to ſeveral of my friends.

[The wood of this tree is one of the hardeſt we are acquainted with. Evelyn ſays that it was anciently uſed for flutes and other muſical inſtruments, and that hafts for knives and tools were made of the root. When it arrives at any ſize, its hardneſs, toughneſs and flexibility muſt entitle it to more important ſervices. Its fine regular ſpreading head, of a chearful green colour, renders this tree extremely proper for clumps in parks, groves, ſingle trees or avenues [a].

Of the branches are made hoops for caſks, and fiſhing-rods. The berries are eaten by birds, and alſo by children in the ſouth of Europe [b].]

2. The American Nettle tree riſes with a ſtraight ſtem, which in young trees is ſmooth and of a dark colour; but as they advance it becomes rougher and of a lighter green. The branches ſpread very much. The leaves are alternate, and on pretty long foot-ſtalks: [they are tender, ovate-lanceolate, a little pubeſcent; when full grown broad-ovate, acuminate, at the point and baſe quite entire, in the other parts ſerrate, naked, nerve-veined, the hinder ſide only half the ſize of the other.] The flowers come out oppoſite to the leaves upon long peduncles. The fruit is ſmaller than that of the firſt ſort, and when ripe of a dark purple colour.

[It is very nearly related to the foregoing ſpecies [c]; but the leaves are much broader and ſhorter.]

It grows naturally in North-America, and in a moiſt rich ſoil becomes a very large tree. [Evelyn ſays, that John Tradeſcant, junior, firſt brought it from Virginia.]

It flowers in may, and the ſeeds ripen in october. There are many large trees of this ſort in the Engliſh gardens, ſome of which produce great quantities of fruit annually, which in favourable ſeaſons come to maturity; and there are few years in which the fruit is not ſent from America.

This tree comes out late in the ſpring, but it is the lateſt in fading of any deciduous tree; nor do the leaves alter their colour long before they fall, but continue in full verdure till within a few days of their dropping off; ſo that the litter occaſioned by the falling leaves may be ſoon cleared away. There is little beauty in the flower or fruit; but the branches being well clothed with leaves of a fine green colour, the trees, when mixed with others in plantations, make a pleaſing variety during the ſummer ſeaſon.

The wood of this tree being tough and pliable, is eſteemed by coachmakers for the frames of their carriages.

3. The Oriental Nettle-tree riſes with a ſtem about ten or twelve feet high, dividing into many branches, which ſpread horizontally on every ſide, and have a ſmooth greeniſh bark. The leaves are about an inch and half long, and near an inch broad, inclining to a heart ſhape, but oblique, one ſide of the baſe being ſmaller and lower than the other; they are of a thicker texture than thoſe of the common ſort, and of a paler green, alternate as they are, and on ſhort foot-ſtalks. [Linneus adds, that they are very finely ſerrate, and the nerves underneath ſmooth. The peduncles are axillary, very ſhort and branching.] The fruit is oval and yellow, when fully ripe it turns to a darker colour. The wood of this tree is very white.

It is a native of the Levant, and was diſcovered by Tournefort in Armenia, whence he ſent the fruit to the royal garden at Paris. The trees there raiſed produced fruit, and from them the other gardens in Europe have been furniſhed. [Mr. Miller cultivated it in 1748 [d]. It yields a gum like that of the Cherry [e]: and have been found to be a native of the Eaſt-Indies, Japan, and the Society Iſles.]

4. This riſes with a ſtraight trunk near twenty feet high, covered with a gray bark, and dividing at top into many branches. Leaves near four inches long, and two and a half broad, rounded at their extremity, of a thick texture, very ſmooth on their upper ſurface, and on their under of a lucid gold colour. The fruit is round and red.

It was firſt diſcovered by Father Plumier, in the French Weſt India iſlands; and it was found in Jamaica by Dr. Houſtoun, who ſent the ſeeds to England.

[5. This ſhrubby tree ſeldom riſes above ten or twelve feet, and throws out a great number of looſe branches [f].

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[a] Boutcher.

[b] D'Aſſo.

[c] Linn. ſpec.

[d] Hort-kew.

[e] Thunb.

[f] Browne.

Native of Jamaica. Introduced in 1788, by Mr. Gilbert Alexander. It flowers in auguſt and ſeptember[g].

6. This is an inelegant little tree; the branches are pliant, very long, ſcarcely divided, reclining, and have frequently alternate, diſtich branchlets their whole length, the upper ones gradually ſhorter. There are axillary ſpines at the leaves and branchlets, which are ſubulate, very ſharp, ſtrong and ſhort, recurved, ſolitary or in pairs. Leaves lanceolate, acuminate, ſlightly tooth-ſerrate here and there, ſmooth, petioled, alternate, diſtich, commonly three or four inches in length, but ſometimes eight. Racemes axillary, ſmall, one, two or three together. Flowers monoecous, ſmall, yellow: calyx divided into five ovate concave ſpreading ſegments, with hardly any tube, and no ſcales. The females have two patulous ſtyles with bifid ſtigmas. Inſtead of the piſtil in the males, is an oblong truncate body, only half the length of the calyx. Drupe roundiſh or ovate, crowned with the withering ſtyle, yellow, double the ſize of a Pea, containing a ſweet pulp which is eaten by the natives and by children: the ſtone or nut is wrinkled, thick, bony, white, one-celled.

Native of the Caribbee iſlands, and the neighbouring continent[h].

It is remarked by Swartz, that the *Rhamnus iguaneus* of Linneus ſhould be placed in this genus, on account of its monoecous flowers, its calyx without petal-like ſcales, its two ſtyles, and its fruit: he doubts however whether this and that of Jacquin deſcribed above be the ſame plant.

It has the name of *Iguaneus*, becauſe it grows in rocky places, ſuch as are frequented by the Iguana.

7. Height fifteen feet, trunk ſtraight, with a ſmooth reddiſh or light brown bark, and ſeveral branches ſpreading towards the top. Leaves alternate, half an inch diſtant from each other, two inches long, and half as broad near the baſe, dark green, petioled. Flowers axillary, ſmall, greeniſh. Fruits orange-coloured, no bigger than a pin's head, oval, inſipid, having an orange-coloured pulp, and one ſmall black round ſtone or ſeed within[i].

Native of the Weſt Indies.]

PROPAGATION AND CULTURE.

Theſe trees are all propagated by ſeeds, which ſhould be ſown ſoon after they are ripe, when they can be procured at that ſeaſon, for theſe frequently come up the following ſpring: whereas, thoſe which are ſown in the ſpring, will not come up till a twelvemonth after: therefore it is the beſt way to ſow them in pots or tubs, that they may be eaſily removed, for thoſe which are ſown in the ſpring ſhould be placed in a ſhady ſituation in ſummer, and conſtantly kept clean from weeds; but in autumn they ſhould be placed in a warm ſituation, plunging the pots into the ground; and if they are covered over with a little tan from a decayed hot-bed, it will prevent the froſt from penetrating the earth to injure the ſeeds; and if theſe pots are placed on a gentle hot-bed in the ſpring, it will greatly forward the vegetation of the ſeeds, whereby the plants will have more time to get ſtrength before the winter: but when the plants appear above ground they muſt have a large ſhare of air admitted to them, otherwiſe they will draw up weak; and as ſoon as the weather is warm, they muſt be expoſed to the open air, and in ſummer they muſt be conſtantly kept clean from weeds; if the ſeaſon proves dry, they will require water two or three times a week. In autumn it will be proper to remove the pots, and place them under a hot-bed frame, to ſhelter them in winter from ſevere froſt; or where there is not that conveniency, the pots ſhould be plunged into the ground near a wall or hedge; and as the plants, when young, are full of ſap, and tender, the early froſts in autumn frequently kill the upper part of the ſhoots; therefore the plants ſhould be either covered with mats, or a little ſtraw or Peaſe-haulm laid over them to protect them.

In the following ſpring the plants ſhould be taken out of the ſeed-pots, and planted in the full ground: this ſhould be done about the middle or latter end of march, when the danger of the froſt is over: therefore a bed or two ſhould be prepared (according to the number of plants raiſed) in a ſheltered ſituation, and, if poſſible, in a gentle loamy ſoil. The ground muſt be well trenched, and cleared from the roots of bad weeds, and when levelled, ſhould be marked out in lines at one foot diſtance; then the plants ſhould be carefully turned out of the pots and ſeparated, ſo as not to tear their roots, and planted in the lines at ſix inches aſunder, preſſing the earth down cloſe to the roots. If the ground is very dry when they are planted, and there is no appearance of rain ſoon, it will be proper to water the beds, to ſettle the ground to the roots of the plants; and after this, if the ſurface of the ground is covered with ſome old tan or rotten dung, it will keep it moiſt, and prevent the drying winds from penetrating to the roots of the plants.

The following ſummer, the neceſſary care muſt be to keep them conſtantly clean from weeds; but after the plants are pretty well eſtabliſhed in the ground, they will not require any water, eſpecially toward the latter end of ſummer, for that will occaſion their late growth, whereby they will be in great danger of ſuffering by the autumn froſts; for the more any of theſe young trees are ſtopped in their growth by drought towards autumn, the firmer will be their texture, ſo better able to bear the cold.

The plants may remain in theſe nurſery-beds two years, by which time they will have obtained ſufficient ſtrength to be tranſplanted where they are deſigned to remain for good, becauſe theſe plants extend their roots wide every way; ſo that if they ſtand long in the nurſery, their roots will be cut in removing, which will be a great prejudice to their future growth.

Theſe ſorts are hardy enough to thrive in the open air in England, after they are become ſtrong; but for the two firſt winters after they come up from ſeeds, they require a little protection, eſpecially the third ſort, which is tenderer than either of the former. The young plants of this ſort frequently have variegated leaves, but thoſe are more impatient of cold than the plain leaved.

4. The ſeeds of this ſort rarely come up the firſt year, ſo they may be ſowed in pots, and plunged into the tan-bed in the ſtove, where they ſhould remain till the plants come up. Theſe plants muſt be conſtantly kept in the bark-ſtove, and treated in the ſame manner as other tender exotics.

[Mr. Boutcher recommends to ſow the ſeeds of the common Nettle-tree in ſpring, ſoon after they are ripe, which is in january, in pots or boxes, a foot deep, with holes in the bottom, covered with oyſter-ſhells or tile-ſherds, and three or four inches thick of rough gravel over them, to drain the moiſture: then to fill them within an inch of the top with rich looſe compoſt mould; ſow the ſeeds, and ſift over them half an inch more of the ſame earth. Theſe pots or boxes ought not to be ſunk into the earth, but to be raiſed ſix or eight inches by ſtones or logs of wood, and placed where they may receive the morning ſun only, till autumn, when they ſhould be removed under a ſouth wall, and in ſevere weather be put under a covered frame, the covering being taken off in mild weather. About the beginning of april remove them to their firſt ſituation, looſen the earth gently, and ſift on a little freſh mould. The end of april moſt of the plants will appear, when they muſt be frequently but moderately watered, kept clean in ſummer, and protected as before in ſevere weather.

If you would propagate them by layers, let them be layed as ſoon as the leaves begin to tarniſh at the end of ſeptember, or beginning of october. The wood being extremely hard, they will not root ſufficiently till the ſecond year, unleſs the ſeaſon is wet, or you aſſiſt them with plentiful waterings. Take them up the end of march or beginning of april, and plant them in rows at two feet and a half diſtance, and a foot aſunder, giving them frequent waterings, keep the ground clean, and let them remain here two years. They may then be planted out for good or removed again to greater diſtances, to ſtand three years more[a].

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[g] Hort. kew.

[h] Jacquin.

[i] Sloane.

This tree will do in any ordinary land, but ſucceeds beſt in a deep moiſt ſoil, where it will ſoon become a ſtately tree.

Cembra. See *Pinus.*

Cenchramidia. See *Cluſia* and *Theobroma.*

CENCHRUS. (Κεγχρος, *Theoph. & Dioſc.*)
Lin. gen. n. 1149. *Reich.* 1255. *Schreb.* 1574. *Gærtn. t.* 80. *Juſſ.* 30. Panicaſtrella. *Mich.* 31.
Claſſ. 23. 1. Polygamia Monoecia.
Nat. order of *Graſſes.*

GENERIC CHARACTER.

Cal. *Involucres* many, laciniate, echinate, gathered into a head, each ſeſſile, including three calyxes; biflorous.
Perianth a bivalve-glume, lanceolate, concave, acuminate, biflorous, ſhorter than the corolla.

Cor. one male, the other hermaphrodite.
Proper each bivalve; valves lanceolate, acuminate, concave, awnleſs; the interior one ſmaller.

Stam. to each three *filaments*, capillary, length of corolla. *Anthers* ſagittate.

Pist. *Germ* of the hermaphrodite roundiſh. *Style* filiform, length of the ſtamens. *Stigmas* two, oblong, hairy, ſpreading.

Per. none.

Seed roundiſh.

Obs. *There is a ſpecies which has all the flowers hermaphrodite.* R.

ESSENTIAL CHARACTER.

Invol. laciniate, echinate, two-flowered. *Cal.* Glume two-flowered, one male, the other hermaphrodite.
Herm. *Cor.* Glume awnleſs. *Stam.* three. *Seed* one.
Male. *Cor.* Glume awnleſs. *Stam.* three.

SPECIES.

1. Cenchrus racemoſus. *Branching Cenchrus.*
Lin. ſpec. 1487. *ſyſt.* 906. *Reich.* 4. 312. *mant.* 501. *Gouan. hort. monſp.* 514. *Villars dauph.* 2. 178.
Agroſtis. *Lin. mant.* 501. *Schreb. gram.* 45. *t.* 4. *Ger. prov.* 83.
Tragus. *Hall. helv. n.* 1413.
Gramen caninum. *Bauh. pin.* 2. 10. *prodr.* 2. *t.* 2. *Scheuch. gram.* 76. *Barr. ic.* 718.
Panicle ſpiked, glumes muricated with ciliary briſtles.

2. Cenchrus lappaceus. *Bur Cenchrus.*
Lin. ſpec 1488. *Reich.* 4. 313.
Branches of the panicle very ſimple, corollas hiſpid backward, calyxes three-valved two-flowered.

3. Cenchrus muricatus.
Lin. ſyſt. 907. *Reich.* 4. 313. *mant.* 302. *Schreb. gram.* 2. 69. *t.* 34.
Spike muricated, ſcales various mucronated.

4. Cenchrus capitatus. *Oval-ſpiked Cenchrus.*
Lin. ſpec. 1488. *ſyſt.* 907. *Reich.* 4. 314. *Ger. prov.* 107. *Gouan. hort. monſp.* 515. *Loeſl. it.* 172. *Villars dauph.* 2. 178.
Gramen. *Bauh. pin.* 7. *prodr.* 16 *Scheuch.* 74. *t.* 2. *f.* 7. *Col. ecphr.* 1. 340. *t.* 338. *f.* 1. *Barr. rar.* 1176. *t.* 28. *f.* 1. & *t.* 862. *f.* 2. *Monti, ic.* 102. *Reliq. Rudb. t.* 7. *f.* 1.
Spike ovate ſimple.

5. Cenchrus echinatus. *Rough-ſpiked Cenchrus.*
Lin. ſpec. 1488. *Reich.* 4. 314. *Brown. jam.* 367. *n.* 1. *Schreb. gram.* 2. 9. *t.* 23. *f.* 1. *Gærtn. fruct.* 2. 4.
Panicaſtrella. *Mich. gen.* 36. *t.* 31.
Gramen. *Scheuch.* 77. *Pluk. alm. t.* 92. *f.* 3. *Sloan. jam.* 1. 108. 11. *Raii ſuppl.* 602. 13. *Mor. hiſt.* 3. 195. *n.* 5.
Spike oblong conglomerate.

6. Cenchrus tribuloides.
Lin. ſpec. 1489. *Reich.* 4. 314. *Gron. virg.* 122. 160.
Panicaſtrella. *Mich. gen.* 37.
Gramen. *Sloan. jam.* 1. 108. *n.* 12. *t.* 65. *f.* 1. *Raii ſuppl.* 602. 14. *Mor. hiſt.* 3. 195. *ſ.* 8. *t.* 5. *f.* 4.
Spike glomerate, female glumes globular muricate-ſpiny hirſute.

7. Cenchrus ciliaris. *Ciliated Cenchrus.*
Lin. ſyſt. 907 *Reich.* 4. 315. *mant.* 302.
Spike with ſetaceous ciliated four-flowered involucels.

8. Cenchrus granularis.
Lin. ſyſt. 907. *Reich.* 4. 315. *mant.* 575. *Retz. obſ.* 4. 14.
Maniſuris granularis. *Swartz prodr.* 25. *Sloan. jam.* 1. 128. *t.* 80.
Racemes double, fruits globular wrinkle-netted.

9. Cenchrus fruteſcens.
Lin. ſpec. 1489. *Reich.* 4. 315.
Arundo. *Alp. exot.* 105. *t.* 104.
Gr. orientale ſpic. frutic. &c. *Tourn. cor.* 39.
Heads lateral ſeſſile, leaves mucronated, ſtem ſhrubby.

10. Cenchrus ſetoſus.
Swartz prodr. 26.
Spike linear-oblong, involucres briſtly, briſtles unarmed, the interior ones villoſe at the baſe, hairs ciliate, glumes even.

11. Cenchrus purpuraſcens.
Thunb. in Linn. tranſ. 2. 329.
Panicum hordeiforme γ. *Thunb. jap.* 48.
Raceme ſpiked ſimple, florets ſurrounded with very long awns, culm erect.

DESCRIPTIONS, *&c.*

1. Calyx three-flowered, ovate-oblong, cartilaginous, echinated. Corolla membranaceous, ſeſſile, the length of the calyx. The middle flower male, with a one-valved calyx, like the others, echinated and pedicelled. Culm reclining. Leaves ciliate[b]. After the flowering is paſt the glumes grow red[c]. Schreber and Gerard, finding no involucre, and all the flowers hermaphrodite, range this ſpecies under the genus *Agroſtis.*—Native of the ſouthern parts of Europe, on the coaſt of Egypt, and the Eaſt Indies.

Introduced in 1771 by Monſ. Richard. It flowers in july and auguſt[d].

2. Culm branching, even. Leaves cordate-lanceolate, rugged about the edge. Panicle ſpreading very much: branchlets horizontal, quite ſimple, capillary. Spikelets alternate, pedicelled, ovate-oblong. The upper flower barren or male. The outer glume of the corolla having the upper part of the ſides muricated with ſhort ſtiff reflected briſtles, knotted at the baſe.—Native of the Eaſt Indies[e]. Introduced 1773 by John Earl of Bute[f].

3. Culm procumbent, a ſhort ſpan in length, branching, leafy. Leaves ſoft, hairy eſpecially underneath, ſheathing. Peduncle terminal, filiform. Spike oblong, directed one way, naked: rachis membranaceous on both ſides, jointed, flexuoſe. Flowers in little balls heaped at the joints of the rachis, crowded, ſeſſile, ſquarroſe, conſiſting of ſtiff, ſmooth, ſtriated, expanded, mucronated, ovate-lanceolate and ſubulate ſcales mixed. Hence it has the appearance of *Tripſacum androgynum.*——Native of the Eaſt-Indies[g].

4. The culm is only three or four inches high, and has only one joint. Spike round, like a little ball ſet with prickles.—South of France[h] and Italy. Introduced 1771 by Monſ. Richard[i].

5. This is one of the moſt common ſorts of graſs in the open paſtures of Jamaica, and is looked upon both as a wholeſome and pleaſant food for all ſorts of cattle[k].—Native of the Weſt Indies and the Society Iſles. Cultivated 1691, by Mr. Doody[l].

6. Culms many trailing round yellowiſh crooked, a foot and half long, the joints an inch and half diſtant; leaves two or three inches long, harſh like thoſe of the Carex, the ſheaths covering the internodes. Spike an inch and half long, ſet at ſhort intervals with ſmall burs[m].—Native of Virginia and Jamaica.

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[a] Boutcher.

[b] Linn. [c] Gouan. [d] Hort. kew. [e] Linn. ſpec.
[f] Hort. kew. [g] Linn. mant. [h] Gouan and Villars.
[i] Hort. kew. [k] Browne. [l] Hort. kew. [m] Sloane.

7. Culm aſcending, gloſſy, the thickneſs of a thread, a ſhort ſpan in length, with inflected joints. A ſtriated ſheath to the leaves. Spike round, the thickneſs of a finger, but ſhorter: flowers alternate, ſcattered. Briſtles or awns, forming the involucre, brown; the inner ones longer than the florets, which are ſeſſile, oblong and bivalve; two of them hermaphrodites, and two males.

Obſerved at the Cape, by Koenig[n].—Introduced 1777 by Monſ. Thouin[o].

8. Culms branching, naked, even, flat on one ſide. Leaves even: the ſheaths rough with hairs at the baſe. Racemes axillary, often double. Fruits minute, ſcarcely ſo big as a Cabbage ſeed, globular, wrinkle-netted.—Native of the Eaſt Indies[p].

Retzius ſays, that he has it both from Sumatra and Malabar: both have the leaves and ſheaths clothed with longiſh white hairs. Small bractes ſeparating the flowers in the racemes; more than two of which frequently iſſue from the ſame ſheath.

9. Found by Tournefort in Armenia.

10. Native of the Weſt Indies[q].

11. Culm two feet high. Leaves longer than the culm. Raceme looſe, a ſpan long, with peduncles the length of the florets, ſpreading in a double row. Awns purple, ſix times the length of the florets.—Native of Japan[r].]

CENTAURĒA. (Κενταύρειος, or κενταυρεία βοτὰνη, *called alſo* Κενταύριον *by Dioſcorides. Theophraſtus has an herb called* Κενταυρὶς. *All theſe names are from* Κένταυρος, *a Centaur; and ſuppoſed to be ſo named from Chiron.*)

Lin. gen. n. 984. *Reich.* 1066. *Schreb.* 1331. *Juſſ.* 174. Centaurium majus. *Tourn.* 256. Jacea. *Tourn.* 254. *Juſſ.* 173. *Dill. gen.* 13. Cyanus. *Tourn.* 254. *Juſſ.* 174. *Vaill.* Calcitrapa. *Vaill.* 1718. *Juſſ.* 173. Calcitrapoides. *Vaill.* Rhaponticum. *Vaill. Juſſ.* 174. Rhaponticoides. *Vaill.* Jacea. *Vaill.* Amberboi. *Vaill.* Crocodilium. *Vaill. Juſſ.* 173.

Claſſ. 19. 3. Syngeneſia Polygamia Fruſtranea.

Nat. order of *Compound Flowers. Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* imbricate, roundiſh; *ſcales* often variouſly terminated.

COR. *Compound* floſculous, difform. *Corollules* hermaphrodite very many in the diſk. *Females* fewer, larger, lax, in the ray.

Proper of the hermaphrodite monopetalous; *tube* filiform; *border* ventricoſe, oblong, erect, terminated by five *diviſions* which are linear, erect.

Of the *females* monopetalous, funnel-form; *tube* ſlender, gradually enlarged, recurved; *border* oblong, oblique, unequally divided.

STAM. In the hermaphrodites; *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular, length of the corollule.

PIST. In the hermaphrodites; *Germ* ſmall. *Style* filiform, length of the ſtamens. *Stigma* very obtuſe, projecting in a point which in many is bifid.

In the females; *Germ* very ſmall. *Style* ſcarce any. *Stigma* none.

PER. none. *Calyx* unchanged, converging.

SEEDS. In the hermaphrodites ſolitary. *Down* or *egret* in moſt plumoſe or piloſe.

In the females none.

REC. briſtly.

OBS. Calcitrapa. Vaill: *has the calyx furniſhed with large ſtraight ſolitary prickles. Seeds naked or crowned.*

Calcitrapoides. Vaill.: *Calyx with ſmall crowded prickles.*

Rhaponticum. Vaill: *Calyx with ſcarioſe entire membranes.*

Rhaponticoides. Vaill: *Calyx with lanceolate acuminate ſcales.*

Amberboi. Vaill: *Calyx with obtuſe very ſimple ſcales.*

Jacea. Vaill: *Calyx with ciliated ſcales. Seeds with briſtly down.*

Crocodilium. Vaill: *Calyx with aculeated ſcales. Seeds with a feathered down.*

ESSENTIAL CHARACTER.

Recept. briſtly. *Down* ſimple. *Cor.* of the ray funnel-form, longer, irregular.

SPECIES.

* Jaceas: *calyxes even unarmed.*

[1. Centaurea crupina. *Black-ſeeded Centaury; Bearded Creeper.* Ray.

Lin. ſpec. 1285. *ſyſt.* 784. *Reich.* 3. 896. *hort. cliff.* 420. 1. *upſ.* 271. *Gouan. hort. monſp.* 457. *Ger. prov.* 184. *n.* 1. *Allion. pedem. n.* 572. *Mor.* 7. 25. 3.

Jacea. *Garid. aix. t.* 52.

Chondrilla. *Bauh. pin.* 130. 3. *Barr. ic.* 1136. *Park.* 786. *f.* 4. *Ger. emac.* 287. *f.* 4.

Cyanus. *Bauh. hiſt.* 3. 24. *f.* 1. *Raii hiſt.* 331.

Senecio-Carduus apulus. *Col. ecphr.* 1. 32. *t.* 34.

Scales lanceolate; leaves pinnate, ſerrate, ſubciliate.]

2. Centaurea moſchata. *Purple ſweet Centaury,* or *Sweet Sultan.*

Lin. ſpec. 1286. *Reich.* 3. 896. *hort. cliff.* 421. 4. *upſ.* 271.

Cyanus. *Mor. hiſt.* 3. 135. *ſ.* 7. *t.* 25. *f.* 5. *Park.* 482. *f.* 3. *parad.* 327. *n.* 2. *Raii hiſt.* 322. *n.* 5.

β. C. Amberboi. *Yellow Sweet Sultan.*

Mill. dict. n. 9.

Cyanus. *Mor. f.* 9. *Dodart. mem.* 75. *fig.*

Calyxes roundiſh ſmooth, ſcales ovate; leaves lyrate-toothed—β. ſcales obtuſe, leaves laciniate ſerrate.

[3. Centaurea crucifolia.

Lin. ſpec. 1286. *Reich.* 3. 897.

Jacea. *Tourn. inſt.* 444. *Pluk. t.* 39. *f.* 3?

Stæbe. *Bauh. pin.* 273. *n.* 2.

Scales lanceolate; leaves lanceolate ſomewhat toothed.]

4. Centaurea Lippii. *Egyptian Centaury.*

Lin. ſpec. 1286. *ſyſt.* 784. *Reich.* 3. 897. *Gouan. illuſtr.* 72.

Amberboi. *Iſnard. act. par.* 1719. 169. *t.* 10.

Scales mucronate; leaves ſubdecurrent lyrate-toothed.

5. Centaurea alpina. *Alpine Centaury.*

Lin. ſpec. 1286. *Reich.* 3. 897.

Centaurium luteum alpinum. *Bauh. pin.* 117. 3. *prodr.* 56. fig. *Mor. hiſt.* 3. 132. *n.* 4. *ſ.* 7. *t.* 25. *f.* 5. bottom row.—majus. *Corn. canad.* 69. *t.* 70. *Raii hiſt.* 330. *n.* 2. *Park.* 466. *f.* 4.

Scales ovate-obtuſe; leaves pinnated ſmooth quite entire, the odd leaflet ſerrated.

6. Centaurea Centaurium. *Great Centaury.*

Lin. ſpec. 1287. *Reich.* 3. 898. *Gmel. ſib.* 2. 89. *t.* 41.

Centaurium. *Bauh. pin.* 117. 1. *Cluſ. hiſt.* 2. 10. *f.* 2. *Blackw. t.* 93. *Raii hiſt.* 329. 1. *Ger.* 436. *emac.* 546. *f.* 1. *Park.* 466. *f.* 1.

Scales ovate; leaves pinnated, leaflets ſerrated decurrent.

** Cyani: *with the ſcales of the calyx ſerrate-ciliated.*

[7. Centaurea phrygia. *Auſtrian Centaury.*

Lin. ſpec. 1287. *Reich.* 3. 898. *fl. ſuec. n.* 775. *Villars dauph.* 3. 49. *Krock. ſileſ. n.* 1454. *Scop. carn. n.* 1021. *Neck. gallob.* 362. *Gouan. illuſtr.* 72. *Fl. dan. t.* 520. *Lour. cochinch.* 508.

Cyanus. *Hall. helv. n.* 188.

Jacea. *Bauh. pin.* 271. *n.* 7, 8. *Cluſ. hiſt.* 2. 7. *f.* 1. *Raii hiſt.* 327. 19.

β. J. alba, hirſuto capite. *Bauh. pin.* 271. 9.

Calyxes recurve-plumoſe; leaves undivided, oblong ſcabrous.

8. Centaurea capillata. *Feathered Centaury.*

Lin. ſpec. 1287. *ſyſt.* 785. *Reich.* 3. 898.

Cyanus. *Act. gott.* 1. 202. 2. *t.* 6.

Calyxes recurve-plumoſe; bottom leaves pinnated toothed, upper lanceolate.

9. Centaurea uniflora. *One-flowered Centaury.*

Lin. ſyſt. 785. *Reich.* 3. 896. *mant.* 118. *Ger. prov.* 185. 3. *Gouan. illuſtr.* 172. *Villars dauph.* 3. 50.

Cyanus. *Hall. helv. n.* 189. *Bocc. muſ.* 2. 20. *t.* 2. *f.* 3.

Calyxes recurve-plumoſe; leaves lanceolate ſomewhat toothed tomentoſe.

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[n] Linn. mant.
[o] Hort. kew.
[p] Linn. mant.
[q] Swartz.
[r] Thunberg.

Calyxes double-ſpiny crowded terminal; leaves decurrent lanceolate ſinuous unarmed.

52. Centaurea ſicula.
Lin. ſpec. 1298. *Reich.* 3. 914.
Jacea. *Magn. monſp.* 138. *Mor.* 144. *ſ.* 7. *t.* 28. *f.* 26. *Raii hiſt.* 321. *n.* 14.
Calyxes ciliate-ſpiny terminal, leaves decurrent lyrate unarmed hoary.

53. Centaurea centauroides.
Lin. ſpec. 1298. *ſyſt.* 788. *Reich.* 3. 914.
Jacea lutea, &c. *Bauh. pin.* 272. 2. *Col. ecphr.* 1. 33. *t.* 35. *Raii hiſt.* 318. *n.* 2.
Calyxes ciliateſ-piny, leaves lyrate-pinnate quite entire, the end diviſion largeſt.

54. Centaurea collina.
Lin. ſpec. 1298. *Reich.* 3. 914. *Gouan. monſp.* 461. *Scop. carn.* 2. *n.* 1029. *D'Aſſo. arag. n.* 872.
Jacea lutea, &c. *Bauh. pin.* 272. 3. *Cluſ. hiſt.* 2. 8. *Raii hiſt.* 318. *n.* 3.
Calyxes ciliate unarmed ſpiny; radical leaves bipinnatifid; ſtem acutangled.

55. Centaurea rupeſtris. *Rock Centaury.*
Lin. ſpec. 1298. *Reich.* 3. 914.
Jacea laciniata lutea. *Bauh. pin.* 272. *Col. ecphr.* 1. 36. *t.* 35. *f.* 2. *Raii hiſt.* 319. *n.* 4?
Calyxes ciliate-ſpiny; leaves bipinnate linear.

****** Crocodiloidea: *ſpines ſimple.*

56. Centaurea Verutum. *Dwarf Centaury.*
Lin. ſpec. 1299. *Reich.* 3. 915. *mant.* 478. *amæn.* 4. 292. *Gouan. illuſtr.* 73. *Jacqu. ic. collect.* 1. 90.
Calyxes moſt ſimply ſpiny; teeth two oppoſite: leaves lanceolate entire decurrent.

57. Centaurea ſalmantica. *Lyre-leaved Centaury.*
Lin. ſpec. 1299. *Reich.* 3. 915. *mant.* 478. *hort. cliff.* 421. 5. *Jacqu. hort. t.* 64. *Gouan. monſp.* 461. *D'Aſſo. arag. n.* 873. *Mor.* 143. *t.* 26. *f.* 14.
Stoebe. *Bauh. pin.* 273. 1. *Cluſ. hiſt.* 2. *t.* 9. *f.* 1. *Raii hiſt.* 324. 8.
Calyxes ſmooth with a ſubſpiny ſetule ſtanding out; leaves lyrate-runcinate ſerrate.

58. Centaurea cichoracea. *Succory-leaved Centaury.*
Lin. ſpec. 1299. *Reich.* 3. 915.
Jacea. *Raii ſuppl.* 203. *Till. piſ. t.* 27.
Calyxes ſetaceous-ſpiny; leaves decurrent undivided ſerrate-ſpiny.

59. Centaurea muricata.
Lin. ſpec. 1299. *Reich.* 3. 916.
Jacea. *Bauh. pin.* 272. 4. *Mor. hiſt.* 3. 143. *n.* 18.
Calyxes very ſimply ſpiny; lower leaves pinnatifid, upper lanceolate; peduncles very long.]

60. Centaurea peregrina.
Lin. ſpec. 1299. *Reich.* 3. 916.
Centaurium. *Boerh. lugdb.* 1. 144.
Calyxes ſetaceous-ſpiny; leaves lanceolate petioled, toothed at bottom.

[61. Centaurea radiata. *Rayed Centaury.*
Lin. ſyſt. 788. *Reich.* 3. 916.
Xeranthemum erucifolium. *Lin. ſpec.* 1201. *Gmel. ſib.* 2. 108. *t.* 47. *f.* 1.
Calyxes almoſt unarmed and awned radiate; leaves pinnatifid.

62. Centaurea nudicaulis. *Naked-ſtalked Centaury.*
Lin. ſpec. 1300. *Reich.* 3. 916. *Ger. prov.* 187. *n.* 11. *t.* 5. *D'Aſſo. arag. n.* 874.
Jacea. *Herm. par. t.* 190. *Barr. ic.* 1218. *Bocc. muſ.* 2. 60. *t.* 48.
Calyxes ſetaceous-ſpiny; leaves undivided, the upper ones a little toothed; ſtem almoſt naked one-flowered ſimple.

63. Centaurea Crocodilium. *Bluſh Centaury.*
Lin. ſpec. 1299. *Reich.* 3. 917.
Cyanus. *Barr. ic. t.* 503. (good.)
Calyxes ſcarioſe very ſimply ſpiny; leaves pinnatifid quite entire, the outmoſt diviſion larger toothed.

64. Centaurea pumila. *Dwarf Centaury.*
Lin. ſpec. 1300. *Reich.* 3. 917. *amæn.* 4. 292.
Calyxes very ſimply ſpiny; leaves tooth-pinnate villoſe; ſtem none.

65. Centaurea tingitana. *Tangier Centaury.*
Lin. ſpec. 1300. *Reich.* 917.
Cyanus. *Hall. goett.* 370.
Cnicus. *Herm. lugdb. t.* 163.
Calyxes ſpiny at the edge; leaves lanceolate undivided ſerrate-ſubſpiny.

66. Centaurea galactites. *White-veined Centaury.*
Lin. ſpec. 1300. *Reich.* 3. 917. *hort. cliff.* 424. *Gouan. monſp.* 461. *Bauh. hiſt.* 3. 54. *f.* 1.
Carduus tomentoſus, &c. *Bauh. pin.* 382. 1. *Raii hiſt.* 313.
β. Card. creticus non maculatus, caule alato. *Tourn. cor.* 31.
Calyxes ſetaceous ſpiny; leaves decurrent ſinuate ſpiny tomentoſe beneath.

Species from other authors.

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67. Centaurea Triumfetti.
Allion. pedem. n. 579.
Cyanus alpinus major fol. inciſis. *Triumf. obſ.* 26.
Calyxes ſerrate, with white cilias; leaves deeply pinnatifid with two pinnas for the moſt part; decurrent.

68. Centaurea Kartſchiana.
Scop. carn. n. 1027. *t.* 55.
Calyxes ciliate-ſpiny; leaves pinnate, pinnas ſeſſile, lanceolate, decurrent, ending in a point.

69. Centaurea alata. *Upright wing-ſtalked Centaury.*
Ait. hort. kew. 3. 259. *Lamarck. encycl.* 1. 665.
C. ſemialata. *L'Herit. ſtirp. nov.* 2. *t.* 87.
Calyxes ciliate, ſcales flat appreſſed ciliate at the end; ſtem-leaves oblong decurrent.

70. Centaurea intybacea. *Succory-leaved Centaury.*
Ait. hort. kew. 3. 259. *Lamarck. encycl.* 1. 671.
Calyxes ciliate, ſcales flat obtuſe ciliate at the end; leaves pinnatifid; diſk equal to the ray.

71. Centaurea diluta. *Pale-flowered Centaury.*
Ait. hort. kew. 3. 261.
Calyxes ciliate, ſcales acuminate ſomewhat thorny; leaves oblong and pinnatifid; floſcules of the ray longer than the diſk.

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72. Centaurea ſtrobilacea.
Scop. inſubr. 38. *t.* 17.
Calyxes ſcarioſe, ſpiny, ſerrate-ciliated; leaves dotted beneath, pinnated, pinnas lanceolate, falcated, erect.

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73. Centaurea hybrida.
Allion. pedem. n. 593.
Calyxes ciliated ending in a ſpine; leaves pinnated, branch-leaves linear-lanceolate undivided decurrent.

74. Centaurea nicæenſis.
Allion. pedem. n. 594. *t.* 74. *f.* 1.
Calyxes ciliate-ſpiny, leaves ovate rough, radical leaves petioled toothed, ſtem-leaves embracing decurrent.

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75. Centaurea cæſpitoſa.
Cyril. rar. neap. 24. *t.* 8.
Calyxes palmate-ſpiny, leaves ſinuate-toothed, the lower ones petioled, the upper ones half-ſtem-claſping.

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76. Centaurea elegans.
Allion. pedem. n. 599. *t.* 49. *f.* 1.
Stem ſimple, leaves undivided linear, axillas one-flowered, and one terminal flower.

77. Centaurea aurea. *Great Golden Centaury.*]
Ait. hort. kew. 3. 265.
Calyxes moſt ſimply thorned, thorns ſpreading; floſcules equal; leaves hirt, the lower pinnatifid.

DESCRIPTIONS, *&c.*

1. Stem ſtriated, three feet high, almoſt quite ſimple. Leaflets linear, ſcabrous, ſubciliate, very entire; the loweſt recurved. Calyxes ovate, acute; the ſcales purple at the end, and very ſmooth. Florets in the diſk three; in the ray five, quadrifid. Uſually one or two ſeeds in a flower, crowned with a black down, ſo ſtiff as to make the ſeeds creep when held in the hand; hence the trivial name *Crupina*, from the Dutch *cruypen*, to creep. Receptacle chaffy, the chaffs ending in an awn[a].

Native of the South of France, Piedmont, Tuſcany, and the Levant. Annual. Cultivated 1640[b].]

[a] Linn. ſpec. & ſyſt. Gouan & Allioni.

[b] Hort. kew.

2. The ſecond ſort is annual, and has been many years propagated in the Engliſh gardens, under the title of Sultan Flower, or Sweet Sultan. It was brought from the Levant, where it grows naturally in arable land among the corn. This ſends up a round channelled ſtalk near three feet high, which divides into many branches, with jagged leaves, of a pale green, ſmooth, and cloſe to the branches; from the ſide of the branches come out long naked peduncles, each ſuſtaining a ſingle head of flowers, which have a very ſtrong odour, ſo as to be offenſive to many people, but to others very grateful: they are purple, white, or fleſh colour. There is alſo a variety with fiſtular flowers, and another with fringed flowers; but theſe degenerate in a few years, however carefully the ſeeds may be ſaved.

[Native of Perſia, and cultivated 1629[c]. It came to us firſt from Conſtantinople.

β. Differs from the common ſort in having the corollules of the ray large: but the habit of the plant ſhows that one took its riſe from the other[d].] The ſcales of the calyx are obtuſe; and the leaves laciniate and ſerrate. The flowers are of a bright colour, and have a very agreeable odour. It flowers in july and auguſt, and the ſeeds ripen in october.

[Retzius, who examined the living plants, cannot dicover any mark of difference between the red or *C. moſchata* and the yellow or *C. Amberboi.*

3. Root annual. Stem a foot high, furrowed, rough with hairs. Branches erect, many, from top to bottom. Leaves pinnatifid, rough, reſembling thoſe of *Siſymbr. Irio*; pinnules on each ſide about ſix, tooth-angular, the outmoſt and inmoſt ſhorter, but thoſe in the middle larger: upper leaves lanceolate, tooth-angular. Peduncles axillary and terminating, long, rough with hairs, having two or three flowers; frequently there are alſo two or three ſubſeſſile flowers, in a kind of head, at the end of the peduncles. Calyxes pubeſcent. Corolla bright purple[e].

4. This, according to Linneus, bears ſome reſemblance to the Blue-bottle (n. 15.). Stem very branching. Leaves generally ſeſſile, ſeldom decurrent. Calyxes peduncled, ſcales imbricate with a ſcarioſe point at the end of each. Corollas purple, with a large ray. Florets of the ray nine to twelve, linear three or four-parted. Florets of the diſk as many.—Native of Egypt between Alexandria and Roſetta[f]. Cultivated in 1759, by Mr. Miller[g],] who received the ſeeds from Juſſieu, and he had them from Dr. Lippi at Grand Cairo.

5. Root perennial, ſtriking deep into the ground, and ſending out a great number of long, ſmooth, pinnate leaves, of a glaucous hue. Stems near four feet high, dividing at top into many branches, having ſmall leaves on them of the ſame form with the lower. Each ſtem is terminated by a ſingle head of yellow flowers; which come out in june and july, and in dry ſeaſons perfect their ſeeds in autumn.

It grows naturally upon the Alps [in Italy; and was cultivated in 1640[h].]

6. This has a ſtrong perennial root like the foregoing ſort, and a great number of long pinnate leaves, of a lucid green, ſpreading wide on every ſide, proceed from it. The peduncles are ſlender, but very ſtiff, and divide at top into many ſmaller peduncles. Theſe, together with the ſtalks, riſe five or ſix feet high; having at each joint one ſmall pinnate leaf of the ſame form with the others. Each of the peduncles is terminated by a ſingle head of purple flowers, conſiderably longer than the calyx. They come out in july, and in very warm ſeaſons produce ripe ſeeds in England.

It grows naturally on the mountains of Italy, Spain [and Tartary; and was cultivated in 1596, by Gerarde[i].

This is ſuppoſed to be the *triſtia Centaurea* of Lucretius, and the *graveolentia Centaurea* of Virgil, recommended by the latter in diſorders of the Bees.

7. Stem ſomewhat ſhrubby, upright, from eight or ten inches to a cubit in height, often branched, furrowed, hiſpid but not tomentoſe. Leaves hiſpid, thick, ovate-lanceolate, not acute at the baſe; the lower and middle half-ſtem-claſping; ſharply toothed, ſome to the middle, others to the end; one tooth at the baſe larger than the reſt. The upper leaves reſemble theſe, but are leſs claſping; they are toothed or quite entire. The root-leaves are petioled. At the end of the ſtem and each branch a ſingle large flower, with a ſmall leaf or two at the baſe putting out cilias from the end reſembling the ſcales of the calyx; which are oblong, ſmooth, yellowiſh, ending in a brown lanceolate lamina twice or thrice as long as the ſcales themſelves, with many long rufous cilias on the edge, having the appearance of a little reflected feather. Corolla a fine red[k]. Native of Germany, Auſtria, Switzerland.

Haller has two varieties, one loftier in Germany, and the other about eighteen inches high, in the Swiſs alps. Cultivated 1727, by Mr. Miller[l].

8. Stem four or five feet high, angular, hard, branching. Root-leaves with four or five pairs of pinnas; ſtem-leaves ſimply pinnate; uppermoſt tongue-ſhaped, ſimple[m].

Native of Spain and Siberia.

9. A palm or foot in height. Stem ſtiff, altogether leafy, tomentoſe-hoary, ſlightly ſtriated. Leaves thickly tomentoſe, ſcarcely a quarter of an inch broad, an inch and half long, acuminate; the root-leaves ſharply toothed, teeth ſmall, diſtant; all the ſtem-leaves erect, neither ſtem-claſping nor decurrent, and ſcarcely toothed. Flower terminating, ſeſſile, in the midſt of from two to four leaves, the ſame ſize as in *C. nigra.* Corolla purple. Calyx as in *C. phrygia*; the lower hairs of the ſcales black, the upper whitiſh or pale yellow[n].

According to Linneus, it is nearly allied to *C. phrygia*, and an alienated progeny of it. Haller ſays that it is lower than *C. phrygia*, but the head of flowers larger. Leaves very narrow lanceolate, quite entire, covered with a very white pile. Native of the South of Europe.

10. Stem a palm in height, often decumbent, branching from the bottom, furrowed-angular, rough with ſtiff hairs. Branches equal, diffuſed. Leaves entire, rugged, much crowded, ciliate with rigid hairs, near two inches in length, a line or a line and half in breadth, ending in a very ſharp point; thoſe next the root dilated at the baſe and half-ſtem-claſping; on the ſtem and branches ſeſſile. Flower the ſame ſize as in *C. phrygia*, protected with from three to ſix leaves, twice its length. Calyx at firſt pubeſcent, then ſmooth. Corollas purple. It varies with ſhorter thickiſh leaves, ſcarcely ciliate, and an almoſt ſimple erectiſh ſtem[o].

Native of Spain and Italy. Perennial.

11. Calyx as in *C. phrygia*, terminal, ſeſſile. Branches more divaricated. Leaves oblong, ſtem-claſping, the teeth towards the baſe larger. Floral leaves lanceolate, quite entire, pubeſcent[p]. Stems a ſhort ſpan in length and procumbent, tomentoſe, angular at the baſe, grooved at top, as are alſo the branches. Leaves ſhort, ſeſſile, lanceolate, cottony, with large deep diviſions. Pinnas linear. Scales of the calyx the upper half black, with white, capillary, feathered cilias. Corollets pale purple or white, all equal[q].—Native of Spain, South of France and Sileſia.

12. Stem from two to three feet in height, angular, ſcored, ſlightly downy, often tinged with purple: branches alternate, the uppermoſt in this, as well as the *Scabioſa*, riſing above the ſtem, thickeſt towards the top, one-flowered. Leaves pinnatifid or toothed, ſometimes entire, lanceolate, ſeſſile, more or leſs downy, rough and hard. Outer ſcales of the calyx lanceolate, dark purple almoſt black. fringed with long cilias, and theſe hairy; the middle rows yellow, linear at the baſe, with a lanceolate fringed

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[c] Hort. kew. [d] Linn. [e] Gouan. [f] Linn. ſyſt. [g] Hort. kew. [h] Ibid. [i] Ibid.

[k] Gouan, Scop. Krock. [l] Hort. kew. [m] Hall. gott. [n] Gouan. [o] Ibid. [p] Linn. ſpec. [q] D'Aſſo and Villars.

tip : the inner ſcales whitiſh, ſmooth, ſhining, linear, terminated by a broad, roundiſh purple ſcale, ragged not ciliate. Florets all alike, tube whitiſh, long, and narrow ; border purple [r].

According to Linneus, it differs from *C. phrygia*, in the ciliary ſcales being ovate, and from upright ſpreading, not recurved and ſubulate. It reſembles *C. Jacea*, which has been confounded with it, but has no neutral ray. This however is not always the caſe : both Hudſon and Stokes mention its having ſometimes neutral florets in the ray. Long before them, Ray had affirmed this variety to be no leſs frequent than the common ſort in the weſt of England : and Dillenius afterwards obſerved it near Oxford. Nay Thomas Williſell ſhowed Ray plants which had the flowers wholly compoſed of neutral florets. It varies alſo with white flowers : and with leaves entire, or jagged.

Dillenius obſerves, that Parkinſon's figure only agrees with our Engliſh plant [s].

It has many provincial names, as Knap-weed, Knop-weed, Knob-weed, Horſe-knops ; all from Knob or Nob, a head. Alſo Hard-heads, Hard-irons and Matfellon. In Scotland, Horſe-knot.

It is found in Germany, Auſtria, France, *&c.* With us in England it is a bad weed in meadows and paſtures ; being a harſh ſtubborn plant, ſeldom touched by cattle either green or in hay, and being with difficulty extirpated. Linneus marks it as biennial, but our plant is perennial, and increaſes much by the root.

13. Calyx ſurrounded with ſeſſile leaves, and among theſe ſcales of the calyx linear-lanceolate with a black edge, and ciliate at top with yellow briſtles. Leaves on the ſtem often lyrate. Corolla purpliſh with a large ray. It is a low plant [t].—Native of the South of France, Spain, and the Levant. Mr. Miller ſays the ſeeds were ſent him from Portugal, by Robert Moore, Eſq. and that it is biennial : the bottom-leaves oblong-oval, (rather lanceolate and toothed here and there, reſembling thoſe of *Arabis alpina*) but thoſe which come out afterwards divided. Stalks upwards of two feet high, with long narrow pointed leaves, indented on their edges, and frequently growing in cluſters : branches ſeveral, with leaves of the ſame ſhape, but ſmaller, each terminated by a ſingle head of purple flowers, with barren florets in the ray. The ſcales of the calyx are edged with long hairs which turn downwards ; and under it is a whorl of long leaves. It flowers in june and july, and the ſeeds ripen in the autumn [u].

14. Root perennial, running deep into the ground. Stem commonly ſingle, upright, one-flowered ; ſometimes, eſpecially in a cultivated ſtate, it puts forth a branch or two. Leaves quite entire, tomentoſe. Flower large and ſpecious. Calycine ſcales ovate, whitiſh, with black cilias round their edges. Corollets in the ray very long, blue with a white tube, neuter : in the diſk ſhort, purple, fertile.

Scopoli, who mentions ſeveral varieties, deſcribes the common ſort as being a foot and half in height : leaves on the ſtem as far as ſixteen, with one flower at the end. Florets in the ray twelve or thirteen, cut into ſegments from four to ſix. Fertile florets as far as thirty-ſix ; filaments bearded, but ſmooth at the baſe, with a tooth on each ſide ; receptacle ſubpaleaceous ; the chaffs a little villoſe at top. On high mountains it is ſometimes not more than two inches in height, very tomentoſe, the leaves longer than the ſtem, and a red flower. It is alſo found with two flowers on a ſtem, and as far as nineteen florets in the ray.

Native of the South of Europe. I found it on mount Grindelwald. Ray obſerved it about Spa, and on mount Jura, not far from Geneva : but it is common on many parts of the continent. It was cultivated in 1596, by Gerarde [x] ;] and flowers in may and june : it is commonly called Perennial Blue Bottle, and by ſome Batchelor's-Button.

[Haller records varieties with a white flower, and with gaſhed leaves, beſides n. 7. of Miller, differing, as he obſerves,] in having much longer and narrower leaves, which are not ſo white, the heads of flowers are alſo ſmaller ; but whether this be only a variety, I cannot determine, having never raiſed either from ſeeds ; for theſe plants ſpread very much by their creeping roots, which renders them barren, as is frequently the caſe with many other creeping rooted plants : however, this plant has always retained its difference from the year 1727, when I firſt brought it to England ; and as it propagates ſo faſt, it is now become almoſt as common in the gardens, as the broad leaved ſort, and is equally hardy.

[According to Linneus this variety differs from the common ſort, in having ſmaller leaves, leſs decurrent at the baſe, and not running down to the next leaf below. See n. 67.

15. Stem one to two feet high, angular, ſlightly tomentoſe, branched at top. Leaves numerous, white underneath, with three parallel ribs. Branches one-flowered. Scales of the calyx lanceolate, the outer ones green tinged with purple, tomentoſe, ſharply ſerrate ; the inner ones entire. Florets of the ray, with lanceolate irregular pointed ſegments, (ſix to eight) barren. Egret ſhort, ſeſſile, briſtly [y].

Haller remarks that the root-leaves are toothed or even pinnatifid, with the extreme ſegment very large : and that the barren florets (nine) are very wide, two-lipped ; diviſions four or five at top, two or three at bottom. And Scopoli, that the filaments below the anther are ſurrounded with a villoſe ring ; and the ſtyle beneath the ſtigma bearded.

It is a common weed among corn, flowering from june to auguſt. The wild flower is uſually blue, but ſometimes white or purple.

Our old Engliſh writers, beſides *Blue-bottle*, which has commonly obtained, have the names of *Blue-ball*, *Blue-blow*, *Corn-flower*, and *Hurt-ſickle*. In the booke of Huſbandrye aſcribed to Fitzherbert, it ſeems to be called *Hadods* or *Haudod* [z]. Some modern agriculturiſts ſpeak of it under the name of *Buddle*, which is evidently nothing more than a corruption of Bottle. Dr. Stokes informs us, that it is called *Batchelor's-buttons* in Yorkſhire and Derbyſhire : but this is a name given to many other flowers. In Scotland it is called *Blue Bonnets*.

In German, Dutch, Swediſh and Daniſh *Kornblume* : in French *Bluet* : in Italian and Portugueze *Ciano* : in Spaniſh *Aciano*, *Azuleio*.

The expreſſed juice of the neutral florets makes a good ink ; it alſo ſtains linen of a beautiful blue, but the colour is not permanent in any mode hitherto uſed. Mr. Boyle ſays that the juice of the central florets, with the addition of a very ſmall quantity of alum, makes a laſting tranſparent blue, not inferior to ultramarine [a].

16. Stem almoſt woody, ſtiff, ſtriated, or angular, whitiſh, branched, from a foot to eighteen inches and two feet in height. Leaves many, dry, hard, ſmooth or tomentoſe, bipinnate ; pinnas ſlender, narrow, lanceolate, with a few teeth : upper leaves ſimple, linear. Many ſmall flowers terminate the branches. Calyx ſwelling at bottom, contracted at top ; ſcales triangular, black at the end, ſurrounded with hard white cilias. Florets fleſh-coloured or pale purple [b].—Native of the South of France, Switzerland, Germany, Auſtria, Carniola, Italy, Spain. Annual.—Cultivated 1640 [c].

There is a variety with larger flowers, the ſize of thoſe in *C. Jacea* ; the leaves hoary, and differing ſomewhat in its appearance [d].

17. The whole plant is tomentoſe ; the ſmall branches terminate in ſtiff thorns, and the calyx is very ſlightly ciliate [e].—Native of the iſland of Candia. Introduced 1788, by John Sibthorp, M. D. [f]

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[r] Woodw Mſſ.

[s] Raii ſyn.

[t] Linn. ſpec.

[u] Miller's figures.

[x] Hort. kew.

[y] Woodw. Mſſ.

[z] Fol. 14. edit. 1562.

[a] Gentl. magaz. for 1748. See Withering and Lightfoot.

[b] Haller.

[c] Hort. kew. from Park.

[d] Linn. ſpec.

[e] Linn. cliff.

[f] Hort. kew.

18. Leaves white as it were pappous, pinnated with rounded lobes. Flower ſolitary, peduncled. Ray ſmall with long ſtyles. Calyx large, with acute, ciliated, yellowiſh ſcales[g].] It ſeldom riſes more than three feet high in this country, with a perennial ſtalk dividing into many branches. The flowers, which are produced from theſe, on ſhort peduncles, are of a bright yellow. They appear in june and july, but the ſeeds ſeldom ripen in England. As this plant retains its leaves, which are extremely white, all the year, it makes a pretty variety in a garden. Native of the iſland of Candia, and of ſeveral places on the coaſts of the Mediterranean, both in Europe and Africa.

[Cultivated 1714, by the Dutcheſs of Beaufort[h].]

19. Stems near three feet high, branching, from a perennial root. [Leaves white as it were pappous; ſtem-leaves bipinnate, with gaſhed, acute lobes, the outmoſt palmated: branch-leaves pinnatifid. Cilias of the calyx brown. Flower purple with white ſtyles; ray ſcarcely longer than the reſt of the corolla[i].]

Theſe come out in june, and in favourable ſeaſons the ſeeds are perfected in autumn. It retains its leaves through the year. This grows naturally in Italy, on the borders of the fields.—[Cultivated 1731, by Mr. Miller[k].

β. On monte Circello.

20. Stem next the root very tomentoſe. Radical leaves alſo cloſely tomentoſe; leaflets nearly equal, oval, with a ſmall lobe only on the lower ſide of the baſe. Stem-leaves ſimple, wedge-form, with a ſmall tooth at the baſe on one ſide. Flowers yellow. Leaves white, as in the laſt ſpecies. [l] Native of Candia or Crete. Perennial, flowering in july.—Cultivated 1768, by Mr. Miller[m].

21. Leaves tomentoſe, lanceolate, moſt of the radical ones pinnatifid; the lobes turned upward, lanceolate, quite entire, decurrent, the outmoſt larger. Stem-leaves moſtly ſix or ſeven, the upper ones undivided. Stem quite ſimple, ſometimes, but rarely, having one ſmall branch, pubeſcent, ſomewhat grooved. Uſually one flower. Calyx ſwelling: leaflets augmented with an ovate ſcalelet, the ſize of a leaflet of the calyx; they are ſharply ciliate and pale. Corolla purple, ſometimes fleſh-coloured, with a large barren ray. Found in Siberia by Gmelin[n].—Introduced 1782, by Mr. John Buſh[o].

22. Stem round, pubeſcent, gray at bottom. Leaves pubeſcent, ſoft; the lower haſtate. Stipules lanceolate, toward the ſtem generally ſickle-form. Peduncles growing thick at the top. Cilias of the calyx gray. Flowers floſculous. The leaves have an elongated tooth at the baſe; whence the ſtem is as it were furniſhed with ſtipules[p].]

It is a perennial plant, and the leaves continue in verdure through the year, for which it is chiefly valued, for the flower has little more beauty than the common Knapweed. It flowers in june and july, and in warm ſeaſons the ſeeds ripen in ſeptember. It grows naturally in Spain and Portugal; [and was cultivated 1683, by Mr. James Sutherland[q].

23. Stem nearly cylindric, upright, alternately branched, leafy, ſtriated, two feet high. Leaves roughiſh, and ſlightly hairy. Root-leaves on long petioles, with a winged midrib; pinnas ovate, toothed, frequently with pinnatifid appendages at the baſe; the terminating pinna very large, confluent with the next pair. Stem-leaves alſo pinnatifid, with confluent pinnas moſtly entire. Flowers ſolitary, terminating. Calyx bellying, globular, cloſely imbricate, ſcales triangular, acute, and ciliate or rather pectinate at the edge, tipt and edged with black, almoſt ſmooth. Florets of the ray barren, reddiſh purple, ſtriated, deeply divided into four, ſometimes five linear ſegments: thoſe of the diſk deeply divided into five linear purple ſegments, and marked on the outſide with five dark purple lines. Seeds oval, brown, compreſſed, ſhining, viewed with a glaſs ſlightly hairy: crowned with a ſeſſile, yellowiſh, briſtly egret, as long as the ſeed[r].

It varies frequently with white flowers; Haller mentions ſeveral other variations in the colour; as fleſh-coloured, variegated with that and white, pale yellow and full yellow. Native of moſt countries of Europe, except the very ſouthern parts, in meadows, on the borders of corn-fields, among corn, and by road ſides. Perennial; flowering in july and auguſt. Called in Yorkſhire Great Horſe-knobs.

24. It has altogether the flower and calyx of *C. Scabioſa*. The firſt leaves are broad-lanceolate, undivided, quite entire; the reſt are pinnatifid, the diviſions abſolutely without lobes. Native of Siberia. Perennial[s].]

25. Root perennial. Stems near three feet high, branched, with a ſingle leaf at each joint. Flowers ſolitary, terminating. They appear in june, and the ſeeds ripen in auguſt.

[26. The flower is yellow. Cilias of the ſcales white. The root is ſweet and eſculent. It is called *Toſſs* by the Arabs[t].]

27. The ſtems riſe near five feet high, dividing at top into many ſmaller branches. Flowers ſolitary, terminating, yellow. They come out from june to auguſt, and the ſeeds ripen in autumn.

[It differs from *C. Scabioſa*, which it reſembles very much, not only in the corolla being of a brimſtone colour, but particularly in the calyx, the leaflets of which are terminated by an ovate, ferruginous, ciliate ſcale, with pectinated cilias, the length of the ſcale itſelf; whereas in *C. Scabioſa* the edge of the leaves of the calyx is black and ciliate-torn, not lengthened out into a ſcale[u].—Native of Siberia. It was cultivated in 1759, by Mr. Miller[x], to whom the ſeeds were ſent from Peterſburgh.

28. Leaves large, like thoſe of Docks, ſharp, and ſtiff like Pear leaves, with two pairs of ſmaller ones at the baſe, which make them lyrate. Stems eighteen inches high. Flowers oblong, yellow.

At the foot of Mount Libanus in ſhady watery places[y].

29. Stem angular, branched, even. Leaves attenuated at the baſe, of an even ſurface but rugged about the edge. Peduncles filiform, the length of the leaves, naked. Scales of the calyx acute, quite entire.—Native of the Levant. Perennial.

30. Lower leaves pinnatifid, with one, two or three pairs of lobes, the laſt lobe very large with a few teeth: upper leaves elliptic, lanceolate, and even linear: all of them dry, nerved, hirſute and whitiſh, moſt ſo in warmer climates. Stem from two to eighteen inches in height, (ſometimes, according to others, attaining the human ſtature) little branched, with a large flower terminating each branch. Upper part of the ſcales of the calyx brown or whitiſh, ſhining, dry. Florets of the ray long, two-lipped, the two inner diviſions erect, the three lower pendulous: colour bright purple. Florets of the diſk unequally cut. Down on the receptacle much, on the ſeeds very little[z]. Linneus ſays none. Leers affirms that it conſiſts of a few very ſhort briſtles, which ſoon fall off.

According to Scopoli, the branches are angular, leafy. One leaf below the calyx, the ſcales of which are terminated by a brown, lacerated, ciliate lamina. He makes two varieties, 1. with the lower leaves pinnatifid at the baſe, the upper ones entire. This has the ſtature of *C. Scabioſa*; ſcarce any nap on the leaves; the lamina of the ſcales brown, with a ferruginous edge.—2. With all the leaves entire, and looſely toothed. This is more tomentoſe; the ſcales of the calyx are yellowiſh and terminated by a brown ciliate lamina. It is very like *C. nigra*[a]. Villars ſays that it varies very much; in general the leaves are hard and villoſe, more or leſs white, and more or leſs toothed at the baſe; the ſtems are hard, angular, terminated by one or more flowers; the ſcales of the calyx are membranous and dry, often white, and a little torn at the end.

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[g] Linn. ſpec.
[h] Hort. kew.
[i] Linn. ſpec.
[k] Hort. kew.
[l] Linn.
[m] Hort. kew.
[n] Linn. ſpec.
[o] Hort. kew.
[p] Linn. ſpec. & ſyſt.
[q] Hort. kew.

[r] Woodw. Mſs. & Withering.
[s] Linn. ſuppl.
[t] Shaw.
[u] Linn. ſpec.
[x] Hort. kew.
[y] Gronovius.
[z] Haller.
[a] Scop. carn.

The firſt variety has the root-leaves pinnatifid and much toothed, more white, and the ſtem many-flowered, as deſcribed by Haller, Scopoli, &c.

The ſecond is ſtraight and green, the leaves lanceolate and entire. It grows in moiſt mountainous paſtures.

The third is low, creeping and one-flowered. It is the *C. amara* of Linneus, and grows in dry places.

The fourth is like it, but is a little higher, cottony and more white. Well figured by Ambroſini, phytogr. 295.

The fifth has very narrow, very white and toothed leaves; the calyx is whiter and only half the ſize, the ſcales are drier and ruſſet-coloured. Perhaps *Rhaponticum eriophorum* of Scopoli, and approaches to *C. alba* of Linneus. It often varies, like many other of the ſpecies, with a white flower.—Native of the North of Europe, and of the South of France, &c. Perennial. Cultivated 1748, by Mr. Miller[b].

31. Stems two or three from the ſame root, divaricate, decumbent or erect, ſtiffiſh, very ſimple, one-flowered, tomentoſe-hoary, angular. Root-leaves tomentoſe, mucronate, petioled, lanceolate, entire, toothed and pinnatifid: all the ſtem-leaves ſeſſile, uſually falcate, linear, quite entire. Flower of *C. Jacea*, but only half the ſize: ſcales from ferruginous becoming whitiſh, the edge membranous, ſcarioſe, torn, whitiſh.

There is a variety of *C. Jacea*, which much reſembles this, and which gave Gerard (*in Fl. gallopr.*) occaſion to ſuppoſe that the *amara* is nothing more than a variety of the *Jacea*: it may be diſtinguiſhed however by its branching ſtem, and its three-nerved half-ſtem-claſping leaves, which are generally haſtate and have one tooth at the baſe[c].

32. Very nearly allied to *C. Jacea*. Stem panicled. Leaves acuminate, the upper ones only toothed, the uppermoſt quite ſimple. Calyxes terminal, ovate, ſmall; ſcales membranaceous, looſe, mucronate, ſnow-white[d].

Haller ſeems to look upon this as not ſpecifically different from *C. Jacea*, though he ſets it down as a diſtinct ſpecies.—Native of Spain and Switzerland.

Introduced 1773, by Monſ. Richard[e].

33. Stems three feet high, angular, hard, ſmooth, branched, many-flowered. Leaves minutely divided, ſmooth or ſlightly tomentoſe. Flowers purple, with a beautiful ſilvery calyx, conſiſting of dry, round ſcales ending in a harmleſs awn[f].] Biennial, flowering in july; the ſeeds ripen in ſeptember. [In tranſalpine Switzerland, Spain, Siberia.—Cultivated 1597, by Gerard[g].

34. This is a handſome plant. The root is thick, round, black, wrinkled and irregular, ſtrikes deep in the ground, and when dry is aromatic. Radical leaves many, having a white nap underneath, on long petioles, ſubcordate, ſhaped like thoſe of the docks, (or Elecampane). Stem eighteen inches high, (ſometimes three or four feet). Stem-leaves few, on ſhort petioles, ſometimes pinnatifid. Flower ſolitary, large. Floſcules purple, very numerous, without any neuters[h].

Switzerland and about Verona, whence Mr. Miller received the ſeeds.—Cultivated 1656, by Mr. John Tradeſcant, jun[i]. It flowers in july.

The roots of this, and ſeveral of the ſpecies allied to it, are bitter and aſtringent, and formerly were much given in caſes wherein we now give Jeſuit's bark. The plants alſo will dye yellow.

35. It ſeems very nearly allied to *C. glaſtifolia*. Branches angular. Radical leaves lanceolate-ovate, with a few ſmall teeth, having frequently two teeth at the baſe, roughiſh, petioled, the ſize of thoſe of Deadly Night-ſhade (Atropa Belladonna.) Stem-leaves lanceolate, decurrent (as in *C. glaſtifolia*). Calyx ſlightly ſcarioſe. Corolla yellow. Flowers in a thyrſe ſubſeſſile, the pedicels four-flowered or thereabouts. Native of the Levant. Perennial[k]. Cultivated 1748, by Mr. Miller: dict. edit. 5. Jacea 14[l].]

36. Root perennial, ſtriking deep into the ground; from this ſprings a great tuft of long entire leaves, ſhaped like thoſe of Woad, growing upright, with many upright ſtalks, near five feet high, having a ſingle leaf at each joint, of the ſame ſhape, but ſmaller and decurrent; and dividing at top into two or three branches, each terminated by a ſingle head of yellow flowers, in a ſilvery calyx.

[The ray is leſs than the diſk[m].—The leaves have veins prominent on both their ſides[n]. Native of the Levant and Siberia.

Cultivated 1731 by Mr. Miller. Flowering from june to auguſt[o].] but rarely producing good ſeeds in England.

37. Root perennial, ſingle, ſending out in the ſpring ſeveral entire leaves, and afterwards a ſingle ſtalk, more than a foot high, having one divided hoary leaf at each joint; at the top comes out a ſingle, large, ſcaly head, ſhaped like a Pine cone, very taper at the top, where it cloſely ſurrounds the florets, which juſt emerge from the calyx, are of a bright purple colour, and appear in june. [Scarcely a palm high, tomentoſe. Root-leaves quite entire. Calycine ſcales ſhining, pellucid, the upper ones purpliſh[p].

Native of the South of Europe. Cultivated 1757, by Mr. Miller[q]:] who received the ſeeds from Verona.

[38. Lower leaves petioled, undivided, lanceolate-ovate; the upper ones ſeſſile, toothed towards the baſe; the upper ones ſubdecurrent, lanceolate. Stem ſimple, angular. Branch longer than the ſtem. Flower ſolitary, large, often bending the ſtem to the ground. Calyx ovate, green with yellowiſh ſpines, the middle one longeſt, generally recurved. Ray five-cleft, larger, purple: diſk whitiſh, purpliſh at top. On the coaſt of the Mediterranean[r]. Introduced about 1780, by Monſ. Thouin[s].

39. A tomentoſe plant, hardly a foot high, with the ſtems branching a little. Leaves broad-lanceolate, with the ſerratures ſomewhat ſpiny. Calyxes terminal, ovate; the ſcales palmate at the end with nine or more ſetaceous ſpines. Ray of the flower purple, diſk whitiſh with few flowers. Native of Spain. Perennial[t].]

40. Root biennial. Stems three feet in height. Flowers large, red; the calyxes ſtrongly armed with ſpines. It flowers in july, and the ſeeds ripen in ſeptember. It is a native of the Campania of Rome.

41. Root annual. Leaves woolly. The ſtem riſes two feet high, dividing at top into three or four branches, which are terminated by pretty large heads of flowers, with woolly calyxes ſtrongly armed with ſpines. It flowers in july, and in warm ſeaſons ſometimes ripens the ſeeds in ſeptember. Native of Spain and Barbary. This, and the foregoing ſort, were cultivated by Mr. Miller in 1768.

[42. Root perennial. Stems ſeveral, aſcending, about a foot in length, commonly ſquare, hairy, furrowed; the angles reddiſh brown. Lower leaves four or five inches long, reſembling thoſe of Succory; the other leaves of the ſame form, but ſmaller and leſs divided as they are higher on the ſtem or branches; thoſe immediately under the flower (from four to ſeven), an inch long, either entire or having only a few teeth. The flowers are purple, ſolitary, and appear in june and july: they are compoſed of from forty to forty-five regular florets in the diſk, and fifteen to eighteen neuter florets in the ray, compriſed in a conic calyx.—Cultivated in 1717, in the royal garden at Paris: the ſeeds came from Holland[u].

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[b] Hort. kew.
[c] Hort. kew.
[d] Linn. ſpec.
[e] Gouan.
[f] Haller.
[g] Hort. kew.
[h] Haller.
[i] Hort. kew.

[k] Linn. mant.
[l] Hort. kew.
[m] Linn.
[n] Curt. magaz.
[o] Hort. kew.
[p] Gouan.
[q] Hort. kew.
[r] Linn. ſpec. & mant.
[s] Hort. kew.
[t] Linn. ſpec.
[u] Iſnard.

Perhaps this is only a variety of *C. pullata* (n. 13.), or a hybridous offspring of it[x].]

43. Root annual. Stem branching, three feet high. Lower leaves not much unlike thoſe of the Turnep, rounded at the end, and the baſe cut into many ſegments, diminiſhing gradually to the top of the ſtem and winged. Flowers terminating.

[Corolla radiate purple; the neuters five-cleft, the two inner diviſions of the calyx ſmaller than the others[y]. Native of the Archipelago.—Cultivated 1759, by Mr. Miller[z].

44. The winged ſtems, dark-coloured though villoſe leaves, and buſhy habit of the plant, diſtinguiſh this from all others. Spines of the calyx three or five fold. About Montpelier, in Tuſcany and Portugal[a].—Introduced 1772, by Monſ. Richard[b].

45. Root annual. Stem erect, roundiſh, channelled, rough, from one to two feet high, often branched towards the top. Leaves long, elliptical, rough, runcinate or variouſly ſerrate, and barbed with ſharp points, bright green above, underneath whitiſh and reticulated; upper ones ſeſſile, and on one ſide extending along the ſtem, but the lower ones petioled. Flowers incloſed in an involucre of ten leaves, of which the five outer are larger: calyx oval, woolly; ſcales terminated by rigid, pinnate, ſpinous points: florets yellow; thoſe of the ray ſmall and trifid. Seeds oblong, brown, ſtriated, bent, with a hairy down ſimilar to that of the receptacle. Native of Spain and the Levant; flowering from june to ſeptember.

Cultivated in 1597, as appears from Gerarde.

This plant obtained the appellation of *benedictus* from its being ſuppoſed to poſſeſs extraordinary medical powers; for excluſive of thoſe qualities uſually aſcribed to bitters, it was thought to be a powerful alexipharmic, and capable of curing the plague, and other malignant febrile diſorders. It was alſo reputed to be good againſt worms, as well as againſt all ſorts of poiſon. Simon Paulli declares that it has no equal in conſolidating putrid and ſtubborn ulcers, and even cancers. He relates the caſe of a woman whoſe breaſts were waſted by a cancer to the very ribs, and yet was cured by waſhing them with the diſtilled water of this plant, and ſprinkling them with the powder of its leaves: and Arnoldus de Villa nova relates that he ſaw the putrid and hollow ulcers of a man, who had all the fleſh of his legs conſumed to the very bone, and who had tried all other medicines in vain, cured by the following receipt: Take the bruiſed leaves of this plant, and boil them with ſome generous wine; then add ſome melted hog's lard; let them boil a little more, and then put in ſome wheat-flour, ſtirring it about all the while with a ſpatula, till it comes to the conſiſtence of an ointment. Lay this warm on the ulcers twice a day.

In ſpite however of all theſe high commendations, we do not find this plant conſidered as of any great importance in the modern materia medica. In loſs of appetite however, where the ſtomach has been injured by irregularities, it is allowed that the good effects of the infuſion of Card. benedictus have been often experienced. The decoction of it alſo in water or poſſet-drink ſtill maintains its popular reputation as a gentle vomit, for which purpoſe it is to be drank in pretty large quantities.

46. Stem proliferous. Leaves unarmed; thoſe next the root lanceolate, on the ſtem laciniated, on the branches linear. Calyx large, much interwoven with wool. Corolla ſmall, yellow. Neuter florets quadrifid ſhorter than the hermaphrodites. Native of Portugal. Flowering in july[c].—Cultivated 1768, by Mr. Miller[d].

47. Stem a foot high, diffuſed, proliferous-branched, ſpreading. Branches from the axillas of the upper leaves, alternate, terminated by a flower. Leaves alternate, ſeſſile or half-ſtem-claſping, ſubſcabrous; the loweſt pinnatifid, the middle lyrate, the upper lanceolate. Flowers ſubſeſſile, of a middling ſize. Calyx ovate, ſomewhat woolly with a thin pile; the ſcales having a ſlender, purpliſh ſpine, with two briſtly ſpinules on each ſide at the baſe. Corolla white: florets of the ray leſs, quadrifid. Anthers yellow, reddiſh at the tip. Native of Egypt. Annual[e].

48. Root annual. Stem from a foot to eighteen inches and two feet in height, hairy, light green, very much branched, with thorns or prickles: branches alternate, ſpreading. Leaves alternate, half-ſtem-claſping, ſoft, unarmed, ſmooth or very ſlightly pubeſcent. The ſcales of the calyx end in long white ſpines, diverging like the points of a ſtar, very ſharp, convex on the outſide, and channelled within, at the baſe next the calyx armed with a pair or two of ſhorter ſpines. Corollets uſually purple, ſometimes white. The flowers are axillary and ſeſſile. Seeds naked. Receptacle villoſe[f]. Native of England, Switzerland, and the ſouthern parts of Europe.

Linneus (hort. cliff.) affirms that it grows abundantly about London, and in the very city itſelf. I have never found it there; it is extremely common about Cambridge, and is ſaid to have been uſed by the brewers inſtead of hops. The plant and root are both very bitter, and are ſometimes adminiſtered abroad in agues, &c.

49. The whole plant reſembles *C. Calcitrapa*, but the ſtem and leaves are leſs hirſute; the leaves are very finely ſerrate, acuminate, ſtem-claſping. Calyxes axillary, ſeſſile, like thoſe of C. C., but lanuginous at the baſe[g].

Monſ. Villars is of opinion, that it ſcarcely deſerves to be reckoned a diſtinct ſpecies.

Linneus calls it the daughter of the foregoing, but with undivided leaves. Near Niſmes, and in Paleſtine[h].—Cultivated 1683, by Mr. James Sutherland[i].

50. Radical leaves lyrate, acuminate. Flowers terminal, ſolitary. Peduncles very long, leafy; no leaflet at the calyx. Spines of the calyx white, longer under the calyx, toothed only at the baſe[k]. It may be diſtinguiſhed from *melitenſis*, by having the lobes of the leaves acute, eſpecially the terminating one, which is perfectly deltoid. Each ſcale of the calyx ends in a very ſtrong pale-yellow ſpine, half an inch in length, accompanied by ſeveral ſmaller ones. *C. melitenſis* on the contrary has all the lobes of the leaves rounded, the end one remarkably ſo, and perfectly blunt, even retuſe. Calyx fringed with ſmall browniſh ſpines, of which the longeſt is not above one third of the length of thoſe in *C. ſolſtitialis*. Both have bright yellow flowers[l]. Annual. South of Europe.

Diſcovered by Mr. Crowe, in a graſſy field at Arminghall, two miles from Norwich.

51. Radical leaves lyrate, obtuſe. Flowers two or three together, on very ſhort peduncles. Spines not longer than the calyx, toothed above the baſe. One leaf or two to each calyx, the length of the calyx itſelf. About Montpellier, and in the iſle of Malta. Annual[m]. — Cultivated 1739, by Mr. Miller[n].

What we commonly call the *ſolſtitialis* is this ſort.

52. Radical leaves lyrate, obtuſe, toothletted, ſcabrous, ſtem-leaves lanceolate, decurrent. Calyxes large ovate; the ſcales having a large brown ſpine. Native of Sicily. Perennial[o].

53. Scales of the calyx ciliate, with a ſpine at the end; but the inner ſcales ſcarioſe, ſpineleſs. Native of Italy, Spain, and Montpellier.

54. Stem ſcabrous, angular. Bottom leaves twice, upper once pinnate, with linear pinnas. Calyxes rounded at the baſe, yellowiſh green; cilias ferruginous. Florets yellow. Seeds villoſe. Down compoſed of unequal briſtles, twice as long as the ſeed. *Scopoli* mentions ſeveral varieties.

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[x] Linn. ſpec.
[y] Ibid.
[z] Hort. kew.
[a] Linn.
[b] Hort. kew.
[c] Linn.
[d] Hort. kew.
[e] Linn. mant.
[f] Pollich.
[g] Linn. amoen.
[h] Linn.
[i] Hort. kew.
[k] Linn.
[l] Smith.
[m] Linn. ſpec.
[n] Hort. kew.
[o] Linn. ſpec.

D'Aſſo obſerves, that the diviſions of the leaves end in a harmleſs ſpine; and that the neuter florets in the ray are quadrifid. Native of Montpellier, Spain, Carniola, Italy, Meſſina. Perennial.

55. This is allied to the foregoing ſpecies in having the ſcales of the calyx brown ciliate, terminated by a weak, ſimple ſpine, ſhorter than the ſcale itſelf; but the inmoſt ſcales are ſcarioſe. The ſtem is little branched, and ſcarcely angular. Almoſt all the leaves are bipinnate, linear, and except about the edge even; but by no means lanceolate, with the pinnas branched like a ſtag's horn. Native of Italy. Perennial [p].

56. Root annual. Stem erect, eighteen inches high and upwards, angular, having axillary branches, uſually ſimple and one-flowered. Leaves ſomewhat ſcabrous; the loweſt on the ſtem pinnatifid, (lyrate, *Linn.*) all the reſt ſimple, narrow lanceolate, quite entire. Flowers ſolitary, terminating. Calyxes round-ovate, tomentoſe; ſpines long, ſtout, ſubulate, ſpreading, ſtraw-coloured, emitting erectiſh nearly oppoſite ſpinules about the middle, and ſometimes one or two ſimilar ones. Corolla yellow. Seeds oblong, ſhining, cinereous.—Native of Paleſtine [q]. Introduced 1780, by Mr. William Hudſon [r].

57. Stem panicled, with the branches rather ſimple. Flowers terminal. Radical leaves lanceolate, ſerrate, rough with hairs, the ſerratures mucronate; ſtem-leaves runcinate, hiſpid-ſcabrous, the ſerratures ſubſpiny. Calyxes very ſmooth, ovate. Spines of the calyx ſo ſmall as to be ſcarcely apparent. Corollas white or purple: the males four-parted, not larger than the others.—Native of the South of Europe. Perennial [s]. Cultivated 1596, by Gerarde [t].

58. Radical leaves a ſhort ſpan in length, three or four inches over in the wideſt part, entire, with only a few irregular toothlets or ſmall ſpines. Stem-leaves ſmaller, narrower, with toothlets or ſhort ſpinules round the edge, acuminate. Stem clothed to the top with leaves, and terminated by a ſmall head, the ſcales of which finiſh in oblong, recurved ſpinules [u]. Native of Italy, in monte Argentario.

59. Stems tender, dividing into many branches, with very ſmall leaves on them. Lower leaves divided into five or ſeven lobes. Spines of the calyx ſmall. Florets purple. Native of Spain. Annual [x].]

60. The lower leaves ſpread flat on the ground, they are ſoft, hairy, and end in ſharp points, but towards the baſe are cut into ſeveral narrow ſegments. The ſtems riſe near three feet high, with entire leaves at each joint; they are terminated by ſingle large heads of flowers, of a gold colour, incloſed in a prickly calyx; appearing in july and auguſt, but never producing ſeeds in this country. It grows naturally in Auſtria and Hungary, from both which countries Mr. Miller received the ſeeds before 1759.

[61. Calyx narrow with the inner ſcales longer [y]. Native of Siberia.

62. The firſt leaves obovate, quite entire; the reſt ovate-lanceolate, toothed at the baſe. Stem almoſt naked [z]: erect, ſtriated, ſmooth. Leaves ſmooth; the bottom ones petioled, the petioles and baſes of the leaves villoſe at the ſide. Scales of the calyx lanceolate, naked, blackiſh at the end; the upper ones pellucid, yellowiſh. Corollas purpliſh [a]. According to D'Aſſo, the lower leaves are ovate, toothed: the upper linear: and one or two ſmall leaves on the ſtem. Native of Provence, Spain, Italy. Perennial.

63. Stem with ſtriated, ſcabrous branches. Leaves lyrate-pinnate or undivided. Peduncles long, one-flowered. Scales of the calyx ovate, gibbous, with white membranaceous edges, and ending in a ſimple ſpine. Neutral flowers very large, five-cleft, nearly equal, purpliſh: fertile flowers whitiſh, with purpliſh tips, the length of the ray.—Native of Syria. Annual [b].—Introduced 1777, by John Earl of Bute [c].

64. It reſembles *C. acaulis* (n. 26.) but the ſcales of the calyx are not ciliated. There are generally three flowers growing cloſe to the root; the calyxes ovate-oblong, ſmooth; the ſcales membranous at the edge, entire; ending in a ſhort, ſubulate, yellowiſh ſpine. Corolla oblong: the neuter floſcules hardly longer than the others. Found in Egypt, by Haſſelquiſt [d].

65. Having a barren ray it is diſtinct from *Carthamus tingitanus* and *cæruleus*. Native of Tangier. Perennial [e].

66. Calyx ſcarcely villoſe. Receptacle hairy. Down feathery. Seeds ſmooth. Ray but little exceeding the diſk. Neuter corollules almoſt equal, border five-parted, linear. It has the appearance of a Thiſtle; but the neuter florets determine it to be a Centaurea.—Obſerved by Ray in Sicily, Malta, Italy, and about Montpellier [f].

Cultivated 1739, by Mr. Miller [g].

67. It differs from *C. montana* (n. 14.) not only in having the leaves conſtantly laciniate, but the cilias of the ſcales white. However it may be nothing more than a remarkable variety. Mont Cenis, &c. Perennial [h].

68. Smooth, branching. Stem angular. All the leaves pinnate, with two or three pairs of pinnas, and an odd one longer and larger than the reſt. One ſimple leaf beneath the calyx. Each branch is terminated by an oval head: ſcales yellowiſh-green, ſtriated, ovate, ſmooth, not ending in a brown ſcale, but having cilias like ſpines about the edge above the middle. Florets reddiſh. It differs from *C. Scabioſa* (n. 23.) in its habit, and other marks [i]. See Villars dauph. 3. 47. n. 5.

69. Root perennial. This ſpecies has much affinity to *C. babylonica*, but yet differs conſiderably from it. Stems four feet high, ſmooth, a little angular, and branched at top. Root-leaves lyrate, much ſmaller than in the *babylonica*, nerved, and with little down on them. Stem-leaves narrow and entire. The flowers are of a fine yellow, and grow in a ſort of panicle at top; the calyx ſmooth, green. Native of Tartary as ſuppoſed. Cultivated many years in the Paris garden [k], and introduced 1781, into the royal garden at Kew [l].

70. Stem two feet high, upright, hard, ſtriated, branched. Leaves large, almoſt ſmooth, or with ſhort hairs, rough to the touch, and cut almoſt to the midrib, into oblong pinnules, ſome entire, others having a few teeth or deep cuts. Flowers terminating, purple, fleſh-coloured, or white. This ſort is perennial, and native of the South of Europe, on the borders of fields and in dry paſtures [m]. It was introduced here in 1778 [n].

71. Introduced 1781. This alſo is a native of the South of Europe: theſe with the 69th were introduced by Monſ. Thouin [o].

72. It agrees in ſome characters with *C. orientalis* (n. 27.); but differs in having the radical leaves entire, the calyxes twice as large, the ſcales not at all tomentoſe at the baſe, and their laminas laciniated all round. The down alſo is very apparent, whereas in *C. orientalis* there is hardly any. The calyx cloſes during the night. The flowers are pale yellow. The plant has no ſmell. The taſte is bitteriſh. Perennial [p].

73. This ſeems to be a mule between *C. ſolſtitialis* (n. 50.) and *paniculata* (n. 16.). It has the habit of the latter, and the ſame height; the leaves are pinnated like that, but the branch-leaves are linear-lanceolate, undivided and decurrent. A flower terminates each branch, ſomewhat larger than in *C. paniculata*. The florets are of a beautiful yellow,

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[p] Linn. ſpec.
[q] Jacquin.
[r] Hort. kew.
[s] Linn. mant.
[t] Hort. kew.
[u] Ray.
[x] Moriſon.
[y] Linn. ſyſt.
[z] Linn. ſpec.
[a] Ger. prov.

[b] Linn. ſpec.
[c] Hort. kew.
[d] Linn. amoen.
[e] Linn. ſpec.
[f] Linn. cliff.
[g] Hort. kew.
[h] Allioni.
[i] Scopoli.
[k] Lamarck.
[l] Hort. kew.
[m] Lamarck.
[n] Hort. kew.
[o] Ibid.
[p] Scop. inſubr.

but have ſometimes purple ones mixed with them. The ſcales of the calyx are ſurrounded with weak yellow ſpinules or cilias, but end in a long, ſtout, yellow ſpine. This ſpecies perfects its ſeeds. On the hills about Turin. Biennial [q].

74. Stems ſtriate-angular, eighteen inches high, alternately branched. Radical leaves ovate, a little toothed, roughiſh; ſtem-leaves ovate tongue-form, ſinuated. Flower terminal, yellow: fertile florets with five lanceolate ſegments; barren or ray florets with five linear ones. Spines of the calyx yellow, the end one much the ſtrongeſt. Seed crowned with briſtles. The whole plant dark green, and roughiſh. About Nice. Biennial [r].

75. Roots perennial, woody, dry, perpendicular, black on the outſide. Stems dividing from the very bottom into numerous, procumbent branches; they are thickiſh, round, pubeſcent, ſtreaked longitudinally, from a foot to two feet in length. Leaves all ſinuate-toothed, with the end-lobe broader and toothletted, ſlightly pubeſcent, all the teeth mucronate but not pungent. Flowers ſolitary, terminating. Calyx ovate, ferruginous. Corollas both of diſk and ray uniformly purple. At the baſe of the common calyx is a ſort of involucre of four or ſix unequal, concave, inflex leaves, irregularly toothed, lanceolate-ovate at the tip. The flowers have a ſtrong, diſagreeable ſmell. It reſembles the *C. ſonchifolia*, but on compariſon they are very different.

Native of Italy, on the ſea ſhore near Naples, forming very thick tufts in the ſand [s].

76. Height eighteen inches. Stem round. Leaves linear-elliptic, hoary beneath, with ſmall teeth ending in a little ſpine. The lower leaves are oppoſite, the others alternate. Axillary flowers on a peduncle ſhorter than the leaf. Flower blue. Head oblong: ſcales of the calyx imbricate, ſubulate-ſpiny. Neuter florets in the ray. Annual.—Found in the vineyards of Unelia by Dana [t].

77. Native of the South of Europe. Cultivated 1758, by Mr. Miller [u].

There are more ſpecies of this extenſive genus in Vahl and other authors.]

PROPAGATION AND CULTURE.

The numerous ſpecies of this genus may be increaſed without great difficulty, thoſe which are annual by ſeeds, and ſuch as are perennial both that way and by parting the roots.—The ſeeds of the greater part may be ſown either in ſpring or autumn in a bed of light earth, either to remain where they are, and in that caſe only to be thinned and kept clean from weeds; or to be pricked out, when of a proper ſize, into a bed of freſh earth about ſix inches aſunder, there to remain till autumn, when they ſhould be planted where they are to continue. Moſt of the ſpecies are hardy, and none of them are very tender. Some however require a little protection in this climate.

2. The ſeeds of *Sweet Sultan* are commonly ſown upon a hot-bed in the ſpring, to bring the plants forward, and in may they are tranſplanted into the borders of the flower-garden; but if the ſeeds are ſown in a warm border in autumn, they will live through the winter; and theſe plants may be removed in the ſpring into the flower-garden; will be ſtronger, and come earlier to flower than thoſe which are raiſed in the ſpring. The ſeeds may alſo be ſown in the ſpring on a common warm border, where the plants will riſe very well, but theſe will be later in flowering than either of the other. The autumnal plants will begin to flower the middle of june, and will continue flowering till ſeptember; and the ſpring plants will flower a month later, and continue till the froſt ſtops them. Their ſeeds ripen in autumn.

β. The *yellow* Sweet Sultan is much tenderer than the former, and the ſeeds muſt be ſown upon a hot-bed in the ſpring; when the plants are fit to remove, they ſhould be tranſplanted on a freſh hot-bed to bring them forward: when they have taken root in this bed, they muſt have air admitted to them every day, to prevent their drawing up weak, and be refreſhed with water ſparingly, becauſe they are very apt to rot with much wet. When the plants have obtained ſtrength, they muſt be carefully taken up, and planted in ſeparate pots filled with light earth, and ſome of them placed in the ſhade till they have taken root; then they may be placed with other annual plants in the pleaſure-garden, where they will continue long in beauty. But as theſe plants which are placed in the open air rarely produce good ſeeds, there ſhould be two or three plants kept in a moderate hot-bed under a deep frame, where they will come earlier to flower; and being protected from wet and cold, they will ripen their ſeeds every year, which is the ſureſt method to preſerve the ſort.

6. *Great Centaury* may be propagated by parting the roots. As it requires much room, it is not proper for ſmall gardens; but in large open borders, or on the verges of plantations, with other tall-growing plants, it makes a good figure.

14. *Perennial Blue-bottle* is now become a common plant in large gardens, from the facility with which it is increaſed. The roots indeed creep ſo much, that it is apt to become troubleſome. It will grow in any ſoil and ſituation.

15. There are great varieties of colours in the flowers of the common *annual Blue-bottle*, and ſome of them are finely variegated. The ſeeds are ſold under the name of Bottles of all colours. They will riſe in any common border, and require no other care but to be kept clean from weeds, and thinned where they are too cloſe; for they do not thrive well when they are tranſplanted. If the ſeeds be ſown in autumn, they will ſucceed better, and the plants will flower ſtronger than thoſe which are ſown in the ſpring.

18, 19, 20. May be propagated by ſlips, or by planting the young branches, which do not ſhoot up to flower, in a ſhady border, any time during the ſummer. In the autumn they may be removed into warm borders, or put into pots to be ſheltered in winter.—The 18th will reſiſt the cold of our ordinary winters in the open air, if it be planted in dry lime rubbiſh.—The 19th may alſo be propagated by ſeeds, and will live abroad in moderate winters, if it have a warm ſituation and dry ſoil: but ſince both this and the 20th are frequently deſtroyed by froſt, it will be proper to keep a plant or two under a common frame, to preſerve the ſpecies.

22. Is propagated by ſeeds, ſown in april in a bed of light earth. In a dry ſoil, and ſheltered ſituation, it will live in the open air in mild winters; but is frequently deſtroyed by ſevere froſt.

27. May be propagated by ſeeds, or parting the roots. As the plants require a large ſhare of room, they ſhould not be placed too near other plants, nor are they proper furniture for ſmall gardens.

34, 37. Not perfecting their ſeeds in England, good ſeeds muſt be procured from their native countries. They are hardy; and being perennial, may be increaſed, when once obtained, by the root.

36. May be increaſed and treated like the 6th ſort. It is equally hardy, and not ſpreading ſo much, may be allowed a place in ſmaller gardens.

43. This ſort may be increaſed and treated in the ſame manner as the common annual Blue-bottle (n. 15.). Seeds ſown in the ſpring do not always perfect ſeeds.

45. The ſureſt method of cultivating the *Carduus Benedictus* is to ſow the ſeeds in autumn; and when the plants come up, to hoe the ground, to cut up the weeds, and thin the plants; and in the following ſpring to hoe it a ſecond time, leaving the plants a foot aſunder; they will ripen their ſeeds in autumn, and ſoon after decay.

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[q] Allioni.

[r] Ibid.

[s] Cyrill.

[t] Allioni.

[u] Hort. kew.

60. May be eaſily propagated by off-ſets from the roots of the old plants, taken off in autumn. It is very hardy, but ſhould have a dry ſoil.

[72. May be raiſed from ſeeds ſown in the ſpring on a gentle hot-bed: in autumn the plants muſt be removed under ſhelter of a glaſs caſe. It may be propagated by parting the roots.

Centaurea. See *Cnicus*, and *Stæhelina*.

Centaurium. See *Ageratum*, *Centaurea*, *Chironia*, *Cnicus*, *Eranthemum*, *Serratula*.

Centaurium luteum. See *Chlora*, *Theſium*.]

Centaurium minus. See *Achyranthes*, *Chironia*, *Gentiana*, *Eranthemum*, *Exacum*, *Sarothra*.

[Centaury. See *Chlora*, *Gentiana*.

Centella. See *Hydrocotyle*.

CENTUNCULUS. (*The name of a plant in Pliny.*)
Lin. gen. n. 145. *Reich.* 151. *Schreb.* 189. *Gærtn. t.* 50. *Juſſ.* 95. *Dill. gen.* 5. *Anagallidaſtrum. Mich.* 10.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Rotaceæ*. *Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-cleft, ſpreading, permanent; diviſions acute, lanceolate, longer than the corolla.
Cor. Monopetalous, rotated. *Tube* ſubglobular; *Border* four-cleft, flat; diviſions ſubovate.
Stam. *Filaments* four, almoſt the length of the corolla. *Anthers* ſimple.
Pist. *Germ* roundiſh, within the tube of the corolla. *Style* filiform, length of the corolla, permanent. *Stigma* ſimple.
Per. *Capſule* globular, unilocular, opening horizontally.
Seeds very many, very ſmall.

ESSENTIAL CHARACTER.

Cal. four-cleft. *Cor.* four-cleft, ſpreading. *Stam.* ſhort. *Capſ.* one-celled, opening horizontally.

SPECIES.

1. Centunculus minimus. *Baſtard Pimpernel.*
Lin. ſpec. 169. *Reich.* 326. *fl. ſuec. n.* 136. *Hudſ. angl.* 63. *With.* 141. *Lightf.* 119. *Curt. lond.* 3. 11. *Berg. phyt.* 2. 133. *Dill. giſs.* 161. & *app.* 111. *t.* 5. *Raii ſyn.* 1. *Hall. helv. n.* 627. *Pollich pal. n.* 163. *Fl. dan. t.* 177. *Villars, dauph.* 2. 313. *Gærtn. fruct.* 1. 228.
Anagallis. *Vaill. par.* 12. *n.* 3. *t.* 4. *f.* 2.
Anagallidiaſtrum. *Mich. gen.* 14. *t.* 18. 2.
Alſine paluſtris minima, floſc. albis, fructu coriandri exiguo. *Mentz. pug. t.* 7. *f.* 5.

DESCRIPTIONS, &c.

Root annual. *Stem* from half an inch to an inch in height or more, ſimple or branched at bottom, rather upright, round and ſmooth. *Leaves* alternate, ſeſſile, ovate, pointed, entire, ſmooth, ſomewhat fleſhy, ſpreading; ſometimes oppoſite towards the bottom, pellucid at the edge, browniſh underneath. *Flowers* very minute, ſolitary, axillary, ſeſſile. Calyx divided ſometimes into four, but generally into five narrow ſegments to the baſe. The whole corolla is only one line in diameter, and hyaline or of a clear water or glaſs colour: the ſegments equal and much pointed, very thin and tranſparent. The yellow anthers cloſe the mouth of the tube; and the border does not expand, unleſs the ſun ſhines ſtrongly on it. The globular capſules are like ſmall Coriander ſeeds, and ſeſſile in the axils; they open into two hemiſpheres, and contain ſeven or eight ſeeds attached to a receptacle. Theſe capſules contribute moſt to diſcovering this minute plant *.

Italy, France, Germany, Britain, Denmark, Scania; in ſandy and gravelly places, that are a little moiſt.—With us on Hounſlow heath, Aſhford common, near Hampton-court, Chiſlehurſt, &c.—From june to auguſt.

Centunculus. See *Ceraſtium*.

Cepa. See *Allium* and *Pancratium*.

Cepœa. See *Sedum*.

Cephaelis. See *Collooccca*.

CEPHALANTHUS. (Κεφαλος *and* ανθος; *Head-flower*) *Button-wood, Button-tree, Pond-Dogwood.* Fr. *Bois à boutons.*
Lin. gen. n. 113. *Reich.* 119. *Schreb.* 147. *Gærtn. t.* 86. *Juſſ.* 209. *Platanocephalus Vaill. A. G.* 1722.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Aggregatæ*. *Rubiaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth common* none, but the receptacle collecting many floſcules into a globoſe head.
Perianth proper one-leafed, funnel-form, angular, *border* quadrifid.
Cor. *Univerſal* equal. *Proper* monopetalous, funnel-form, acute, quadrifid.
Stam. *Filaments* four, inſerted into the corolla; ſhorter than the border. *Anthers* globoſe.
Pist. *Germ* inferior. *Style* longer than the corolla. *Stigma* globoſe.
Per. none. (Capſule quadripartile. *G.*)
Seeds ſolitary, long, attenuated at the baſe, pyramidal and lanuginous.
Rec. Common globular, villoſe.

ESSENTIAL CHARACTER.

Calyx common none. *Proper* ſuperior, funnel-form. *Receptacle* globular, naked. *Seed* one, lanuginous.

SPECIES.

1. Cephalanthus occidentalis. *American Button-wood.*
Lin. ſpec. 138. *Reich.* 274. *hort. cliff.* 73. *Gron. virg.* 15. 17. *Duham. arb.* 1. *t.* 54. *Gærtn. fruct.* 2. 41. *Lour. cochinch.* 67.
Scabioſa. *Pluk. alm.* 336. *t.* 77. *f.* 4.
Leaves in pairs or in threes.

[2. Cephalanthus anguſtifolius.
Lour. cochinch. 67.
Leaves lanceolate-linear oppoſite.

3. Cephalanthus procumbens.
Lour. cochinch. 67.
Stem procumbent, leaves ovate-lanceolate alternate.

4. Cephalanthus montanus.
Lour. cochinch. 67.
Leaves ovate crenate alternate.

5. Cephalanthus ſtellatus.
Lour. cochinch. 68.
Leaves ſtellate, lanceolate-linear.]

DESCRIPTIONS, &c.

1. This ſhrub ſeldom riſes higher than ſix or ſeven feet in this country. The branches come out by pairs, oppoſite at each joint. The leaves are either in pairs oppoſite, or there are three at the ſame joint, ſtanding round the branch; theſe are near three inches long, and one and a quarter broad, having a ſtrong vein running longitudinally through the middle, and ſome ſmall tranſverſe veins from that to the borders; they are of a light green, and their foot-ſtalks change to a reddiſh colour next the branches; the ends of the branches are terminated by looſe ſpikes of ſpherical heads, about the ſize of a marble, each of which is compoſed of many ſmall flowers, of a whitiſh yellow colour, faſtened to an axis in the middle; theſe appear in july, and, in warm ſeaſons, are ſucceeded by ſeeds, which have ſometimes ripened in England.

[Gærtner deſcribes the fruit as an inferior capſule, crowned with the permanent calyx, inverſely pyramidal, ſmooth, coriaceous, reddiſh-ſtraw or brick colour, four-celled, and diviſible into four parts, two of the cells commonly abortive, but all valveleſs and never opening ſpontaneouſly. Seeds four or two, one in each cell, oblong, flattiſh or angular on one ſide, convex on the other, thicker at top and terminated by a callous epiphyſis, acuminate at bottom, and of a ferruginous red colour. Linneus ſays that the ſeeds are lanuginoſe; and Miller affirms that the capſules are globular and villoſe; whereas thoſe which he ſent to Gærtner himſelf were quite ſmooth and agreed with the figure deſcribed above.

Introduced 1735, by Peter Collinſon, eſq[a].

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* Withering, Curtis, Vaillant.

[a] Hort. kew.

2. This is a middle-ſized tree, with aſcending branches. Leaves quite entire. Flowers pale, in ſmall terminating heads; with an oblong villoſe common receptacle collecting the florets into a ball: ſegments of the calyx ſubulate, hairy, ſet with ſhining coloured peduncled glands. The fruit a ſmall compound berry; the *acini* or component parts roundiſh, crowned, flaccid, two-celled, one-ſeeded, inferior.

3. This is a thick ſhrub, with many long funicular branches. Leaves large, quite entire, tomentoſe, petioled. Flowers violet-coloured, dioecous, in long interrupted terminating racemes. The females on a naked globular receptacle, without any perianth either proper or common. Corollas five-cleft, inferior, very many, on long peduncles, forming a ball or head. Style capillary, equal to the corolla, with a ſimple ſtigma. Seed one ovate compreſſed naked.

4. This is a large tree, with a hempen bark, and ſpreading branches. Leaves acuminate crenate petioled, rough above and tomentoſe beneath. Flowers dioecous, green, on ſolitary axillary peduncles, forming roundiſh heads, on a naked globular receptacle. The females have no corolla: proper perianth almoſt cloſed, four-cleft, ſuperior. Seed one compreſſed, crowned with a ſubpappoſe wing, perhaps from the laciniated tube of the calyx.

5. This is a middle-ſized tree with aſcending branches. Leaves by threes, quite entire, ſmooth. Florets white, terminating, collected into a ball; with a ſmall ovate receptacle, and no common perianth: the proper one is inferior, with four ſubulate ſegments. Corolla ſuperior, with a four-cleft reflex border, four ſubſeſſile anthers, a long ſtyle, and one naked ſeed[b].

Father Loureiro examined the living plants of all the ſpecies in their native ſoil; the firſt and fourth in China, the others in Cochinchina; and found them to differ very much, both from each other and Linneus's generic character.]

PROPAGATION AND CULTURE.

1. The firſt ſort is propagated chiefly by ſeeds (though ſome have been raiſed from cuttings and layers;) theſe ſhould be ſown in pots, for the greater conveniency of removing them either into a ſhady ſituation, or where they may have ſhelter. If the ſeeds can be procured ſo early as to ſow them before chriſtmas, the plants will come up the following ſummer; but if they are ſown in the ſpring, they generally remain a year in the ground; therefore in ſuch caſe, the pots ſhould be placed in the ſhade that ſummer, and in the autumn following removed under a common frame to ſhelter them from froſt, and the ſpring following the plants will come up.

The firſt year, it will be neceſſary to ſhade the plants in hot dry weather, while they are young, at which time they are often deſtroyed by being too much expoſed; nor ſhould the watering be neglected; for theſe plants naturally grow on moiſt ground.

The next autumn, when the leaves begin to drop, the young plants may be tranſplanted into nurſery-beds, which ſhould be a little defended from the cold winds; and, if the ſoil be moiſt, they will ſucceed much better than in dry ground.

In theſe nurſery-beds the plants may remain a year or two, according to the progreſs they may have made, or the diſtance at which they were planted; then they may be taken up in october, and tranſplanted where they are to remain. It may alſo be performed in the ſpring, eſpecially if the ground be moiſt into which they are removed, or that the plants be duly watered, if the ſpring ſhould prove dry, otherwiſe there will be more hazard of their growing when removed at this ſeaſon.

Theſe plants make a pretty variety among other hardy trees and ſhrubs, being extreme hardy in reſpect to cold; but they delight in a moiſt light ſoil, where they will grow very faſt, and their leaves will be larger than in dry land.

[The other ſorts are not at preſent known in Europe.

CEPHALANTHUS. See *Nauclea.*

CEPHALOTUS. See *Thymus.*

CERANTHUS. See *Chionanthus.*]

CERASTIUM: (*From* Κεραтιον, *a little horn: the capſules being generally long, and ſomewhat in that ſhape.*)

Engl. *Mouſe-ear, or Mouſe-ear Chickweed.*
Fr. *Oreille de Souris.*

Lin. gen. n. 585. *Reich.* 637. *Schreb.* 797. *Gærtn. t.* 130. *Juſſ.* 301. Myoſotis. *Tourn.* 126.

Claſſ. 10. 5. Decandria Pentagynia.

Nat. order of *Caryophillei.*

GENERIC CHARACTER.

CAL. *Perianth* five-leaved; *leaflets* ovate-lanceolate, acute, ſpreading, permanent.

COR. *Petals* five; bifid, obtuſe, erect-expanding, length of the calyx.

STAM. *Filaments* ten, filiform, ſhorter than the corolla, the alternate ones ſhorter. *Anthers* roundiſh.

PIST. *Germ* ovate. *Styles* five, capillary, erect, length of the ſtamens. *Stigmas* obtuſe.

PER. *Capſule* ovate-cylindric, or globular, obtuſe, unilocular, gaping with a five-toothed tip.

SEEDS. Very many, roundiſh.

OBS. *Species* 4. 5. *are furniſhed with only five ſtamens. The primary diviſion of the ſpecies is to be taken from the oblong or globular form of the capſule.*

ESSENTIAL CHARACTER.

Cal. five-leaved. *Petals* bifid. *Capſ.* unilocular, gaping at the tip.

SPECIES.

* *With oblong capſules.*

1. Ceraſtium perfoliatum. *Perfoliate Mouſe-ear.*
Lin. ſpec. 627. *Reich.* 2. 398. *hort. cliff.* 173. 1. *Gmel. ſib.* 4. 148. *n.* 49. *t.* 62. *f.* 1. (Alſine).
Myoſotis orientalis perfoliata, lychnidis folio. *Tourn. cor.* 18. *Dill. elth.* 295. *t.* 217. *f.* 284.
Leaves connate.

[2. Ceraſtium vulgatum. *Common* or *narrow-leaved Mouſe-ear.*
Lin. ſpec. 627. *Reich.* 2. 398. *fl. ſuec. n.* 415. *Hudſ. angl.* 200. *With.* 476. *Curt. lond.* 2. 34. *Lightf. ſcot.* 240. *Neck. gallob.* 204. *Pollich pal. n.* 441. *Berg. phyt.* 117. *Villars dauph.* 3. 642.
Myoſotis. *Hall. helv. n.* 893. *Vaill. par.* 142. *t.* 30. *f.* 3.
Leaves ovate; petals equal to the calyx; ſtems diffuſed.

3. Ceraſtium viſcoſum. *Clammy,* or *broad-leaved Mouſe-ear.*
Lin. ſpec. 627. *Reich.* 2. 399. *hort. cliff.* 174. 4. *fl. ſuec. n.* 414. *lapp. n.* 193. *Hudſ. angl.* 200. *With.* 477. *Curt. lond.* 2. 35. *Lightf.* 240. *Neck. gallob.* 205. *Pollich pal. n.* 442. *Villars dauph.* 3. 642.
Myoſotis. *Hall. helv. n.* 895. *Vaill. par. t.* 30. *f.* 1.
Alſine viſcoſa. *Park.* 764. *Raii hiſt.* 1029.
Erect villoſe-viſcous.

4. Ceraſtium ſemidecandrum. *Leaſt Mouſe-ear.*
Lin. ſpec. 627. *Reich.* 2. 399. *hort. cliff.* 173. 2. *fl. ſuec. n.* 416. *Hudſ. angl.* 200. *With.* 477. *Curt. lond.* 2. 33. *Lightf.* 241. *Neck. gallob.* 205. *Pollich pal. n.* 443. *Raii ſyn.* 348. *t.* 15. *f.* 1. *Villars dauph.* 3. 642.
Myoſotis. *Hall. helv. n.* 894. *Vaill. par. t.* 30. *f.* 2.
Centunculus. *Scop. carn. n.* 549.
Flowers five-ſtamened, petals emarginate.]

5. Ceraſtium pentandrum. *Five-ſtamened Mouſe-ear.*
Lin. ſpec. 627. *Reich.* 2. 400. *Loefl. it.* 142. *edit. angl.* 2. 140.
Flowers five-ſtamened, petals entire.

[6. Ceraſtium arvenſe. *Corn Mouſe-ear.*
Lin. ſpec. 628. *Reich.* 2. 400. *fl. ſuec. n.* 417. *Hudſ. angl.* 201. *With.* 478. *Curt. lond.* 62. *Lightf.* 241. *Sowerby engl. bot. t.* 93. *Relh. cant. n.* 341. *Neck. gallob.* 204. *Pollich pal. n.* 444.

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[b] Loureiro.

n. 444. *Fl. dan. t.* 626. *Berg. phyt.* 159. *Villars dauph.* 3. 643.
Myoſotis. *Hall. helv. n.* 889. *Vaill. par. t.* 30. *f.* 4.
Centunculus arvenſis. *Scop. carn. n.* 548.
Caryophyllus holoſteus. *Ger.* 477. 11. *emac.* 595. 15, 16. *Park.* 1339. 7. *Raii hiſt.* 1027.
Leaves linear-lanceolate obtuſe ſmooth, corollas larger than the calyx.]

7. Ceraſtium dichotomum. *Forked Mouſe-ear.*
Lin. ſpec. 628. *Reich.* 2. 400. *Murr. prodr.* 155.
Alſine corniculata. *Cluſ. hiſt.* 2. 184.
Leaves lanceolate ; ſtem dichotomous very much branched ; capſules erect.

[8. Ceraſtium alpinum. *Alpine Mouſe-ear.*
Lin. ſpec. 628. *Reich.* 2. 400. *fl. ſuec. n.* 418. *lapp. n.* 192. *Hudſ. angl.* 201. *With.* 478. *Fl. dan. t.* 6. *Villars dauph.* 3. 647.
Myoſotis. *Hall. helv. n.* 888.
Centunculus alpinus. *Scop. carn. n.* 550.
Alſine. *Raii ſyn.* 349. 5. *t.* 15. *f.* 2.
Leaves ovate-lanceolate ; ſtem divided ; capſules oblong.]

** *With roundiſh capſules.*

9. Ceraſtium repens. *Creeping Mouſe-ear,* or *Sea-Pink.*
Lin. ſpec. 628. *ſyſt.* 436. *Reich.* 2. 401.
Stellaria repens. *Scop. carn. n.* 547.
Myoſotis. *Vaill. par. t.* 30. *f.* 5 ?
Ocymoides. *Col. phytob.* 115. *t.* 31. *Raii hiſt.* 1031. 23.
Leaves lanceolate ; peduncles branching ; capſules roundiſh.

[10. Ceraſtium ſtrictum.
Lin. ſpec. 629. *Reich.* 2. 401. *Allion. pedem. n.* 1729 ? *Villars dauph.* 3. 643.
Myoſotis. *Hall. helv. n.* 892. *t.* 14. *f.* 1.
Caryophyllus. *Bauh. prodr.* 104. *n.* 7.
Centunculus anguſtifolius. *Scop. carn. n.* 551. *t.* 19 ?
Leaves linear acuminate ſmooth ; peduncles one-flowered ſubtomentoſe ; capſules globular.

11. Ceraſtium ſuffruticoſum.
Lin. ſpec. 629. *Reich.* 2. 401.
Myoſotis tenuiſſimo fol. rigido. *Tourn. inſt.* 205.
Stem perennial procumbent ; leaves linear-lanceolate ſubhirſute.

12. Ceraſtium maximum.
Lin. ſpec. 629. *Reich.* 2. 402. *Gmel. ſib.* 4. 150. *n.* 51. *t.* 62. *f.* 2.
Leaves lanceolate ſcabrous ; petals crenated ; capſules globular.

13. Ceraſtium aquaticum. *Water Mouſe-ear.*
Lin. ſpec. 629. *Reich.* 2. 402. *fl. ſuec. n.* 413. *Hudſ. angl.* 202. *With.* 480. *Curt. lond.* 1. 34. *abr. t.* 22. *Lightf.* 242. *Relh. n.* 342. *Pollich pal. n.* 445. *Leers herb. n.* 347. *Berg. phyt.* 157.
Stellaria aquatica. *Scop. carn. n.* 546.
Alſine. *Bauh. pin.* 250. 10. *Camer. epit.* 851. *Mentz. pug. t.* 2. *Dod.* 29. 1. *Ger.* 488. 1. *emac.* 611. 1. & 613. 10 ? *Raii hiſt.* 1030. 19. *Hall. helv. n.* 885.
Leaves cordate ſeſſile ; flowers ſolitary ; fruits pendulous.

14. Ceraſtium latifolium. *Broad-leaved Mouſe-ear.*
Lin. ſpec. 629. *ſyſt.* 436. *Reich.* 2. 402. *Hudſ. angl.* 202. *With.* 478. *Lightf.* 242. *Villars dauph.* 3. 646.
Myoſotis. *Hall. helv. n.* 887.
Caryophyllus. *Bauh. pin.* 104. *n.* 5.
Herba facie auriculæ muris. *Mart. ſpitzb. t.* G. *f.* d.
Leaves ovate ſubtomentoſe ; branches one-flowered ; capſules globular.]

15. Ceraſtium tomentoſum. *Woolly Mouſe-ear.*
Lin. ſpec. 629. *Reich.* 2. 402. *With.* 481. *Berg. phyt.* 69.
Myoſotis. *Hall. helv. n.* 891.
Caryophyllus. *Bauh. prodr.* 104. *n.* 9, 10. *Raii hiſt.* 1028. 7, 13.
Leaves oblong tomentoſe ; peduncles branching ; capſules globular.

[16. Ceraſtium manticum.
Lin. ſpec. 629. *ſyſt.* 436. *Reich.* 2. 403. *amæn.* 4. 315.
Alſine. *Hall. helv. n.* 883. *Segu. veron.* 3. 178. *t.* 4. *f.* 2.
Smooth ; ſtem ſtriated ; leaves lanceolate ; peduncles very long ; capſules globular.

17. Ceraſtium refractum.
Allion. pedem. n. 1728.
C. trigynum. *Villars dauph.* 3. 645.
Myoſotis. *Hall. helv. n.* 890.
Leaves lanceolate ſmooth ; petioles broken.

18. Ceraſtium dioicum. *Spaniſh Mouſe-ear.*
Ait. hort. kew. 2. 121.
Hirt, viſcid ; leaves lanceolate ; flowers dioecous, petals three times larger than the calyx.

DESCRIPTIONS, &c.

None of the *Mouſe-ear Chickweeds* make much appearance, and therefore they are only cultivated in botanic gardens. Some of them are common weeds in moſt parts of Europe ; the ſmoother ſorts however are not diſagreeable to cattle,] and the ſeeds are uſeful to the ſmall birds.

1. The firſt ſort was diſcovered by Tournefort in the Levant, from whence he ſent the ſeeds to the royal garden at Paris : this is an annual plant, which riſes with an upright ſtalk a foot high ; the lower leaves have ſo much reſemblance to thoſe of Lobel's Catchfly, that when the plants are young, it is not eaſy to diſtinguiſh them. The ſtem-leaves are of the ſame ſhape, but ſmaller, placed by pairs, and embracing the ſtalks. The flowers come out at the top of the ſtalks, and alſo from the wings of the leaves, on the upper part of the ſtalks ; they are white, and ſhaped like thoſe of Chickweed : appear in may and june, and are ſucceeded by beaked capſules, containing many roundiſh ſeeds.

[Linneus obſerves that the piſtils are ſhorter than in the other ſorts.

Native of Greece. Cultivated in 1731, by Mr. Miller[a].

2. This ſpecies may be diſtinguiſhed from the third and fourth by the following circumſtances :— 1. It is perennial. 2. The hairs on the ſtalks, leaves and calyx are much longer and coarſer, nor are they terminated by a viſcous globule. 3. It is a larger, more ſpreading plant, and more common. Sometimes it is but thinly covered with hairs, and has been found quite ſmooth. It varies in height from an inch to two feet, alſo in the breadth of its leaves, and the ſize of its corolla. The ſtronger the plant the ſmaller the petals, and *vice verſa*[b].

According to Linneus the capſules are ſmaller than in *C. viſcoſum* ; the leaves leſs lanceolate and more ovate (the reverſe is generally obſervable with us). The peduncles are not viſcid. Stems more copious, more decumbent, flowering later, continuing longer. The outer leaflets of the calyx not membranous at the edge. Linneus marks it as annual, in which he is followed by Hudſon and Lightfoot : others make it perennial.

It flowers during the whole ſummer from may, on walls, by road ſides, among rubbiſh, and in meadows.

3. This alſo is annual. It is diſtinguiſhed by its upright growth, its broad hoary leaves, the narrowneſs of its petals, and the crowded or cluſtered appearance of its flowers before they blow ; its leaves alſo are in general paler. Stem branched at bottom, covered with hairs, each of which is terminated by a gland exuding a viſcid juice.—In meadows, on walls, dry banks and ant-hills, varying in ſize from three inches to a foot ; flowering in april and may[c].

4. Stamens ſometimes only five, according to Haller. Linneus ſays there are always ten ſtamens. Petals ſhorter than the calyx, acutely cut in at top, and frequently irregularly jagged or gnawed, much broader than in the foregoing. Calyx thickly covered with hairs, having glands at their extremities ; membrane terminating the leaflets remarkably long. Stems from two to ſix inches high, purpliſh,

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[a] Hort. kew. [b] Curtis. [c] Ibid.

covered with glandulous hairs. Annual.—Walls, heaths; flowering early and ſoon diſappearing [d].

Linneus ſays, that there are five fertile ſtamens, and five interior ones without anthers; and that there are five nectareous points between the fertile ſtamens, and the petals; according to others, the number of ſtamens is uncertain (five or more): Gerard ſays, from five to ten; Haller affirms that there are five only; Scopoli and Pollich, that there are ten. Germ ovate; ſtyles five, according to Linneus. Gerard ſays, that there are three or five; and Haller confines the number to three.

5. Very ſmall, reſembling the foregoing; from which it differs in the colour being green not hoary, in having only five fertile ſtamens without any barren ones, five ſtyles, the petals much ſhorter than the calyx, lanceolate and acute, not acutely emarginate.—Spain [e].

6. Root perennial, creeping. Stems numerous, four or five inches high, forming thick tufts, hirſute, decumbent. Leaves and calyx hairy. Branches terminated by one, two or three large flowers, axillary, ſolitary, on long peduncles. Corolla very large, white, like that of Stichwort (*Stellaria holoſtea*); petals heart-ſhaped ſtriated. Anthers pale yellow. Germ globular. Capſule cylindrical, ſlender, ſhorter than the calyx, ſplitting into five narrow valves, pellucid and almoſt membranous [f]. The whole plant is often very hairy [g].—May and june to ſeptember, in corn-fields, dry paſtures and heaths, banks, &c.—Near Croydon in Surry, about Newmarket, Bury, and Norwich; in Cambridgeſhire frequent.]

7. Stems about ſix inches high, dichotomous; the flowers come out in the middle of the diviſions, and are ſhaped like thoſe of Chickweed. The whole plant is clammy. It grows on arable land in Spain, is annual, flowers in may, and the ſeeds ripen in july. [Cultivated 1731, by Mr. Miller [h].

According to Murray, it is tender, hairy, viſcid. Stem decumbent, with ſwelling joints; the dichotomy ſcarcely viſible in many ſpecimens, in others plain enough. Leaves lanceolate, ſeſſile. Calyx four times longer than the corolla.

8. Leaves ſometimes pubeſcent, ſometimes quite ſmooth [i]. Root creeping. Stems many, ſix or eight inches high, ſomewhat hairy, Flowers in a terminal umbel, ſix or eight together; peduncles erect, ſomewhat hairy, as is the calyx. Corolla ſtriated, larger than the calyx [k].—On high mountains in many parts of Europe. Snowdon, and other parts of Wales.]

9. This ſends out many weak ſtalks which trail upon the ground, and put out roots at their joints; the leaves are about two inches long, and little more than half an inch broad, very hoary; thoſe next the root are much ſmaller than the upper ones. The flowers come out from the ſide of the ſtalks upon ſlender peduncles, which branch out into ſeveral ſmaller, each ſupporting a white flower. [The petals are often quadrifid or quinquefid.]

It grows naturally in France and Italy, and was formerly cultivated in the Engliſh gardens, under the name of Sea Pink, as an edging for borders; for which uſe it was by no means fit on account of its creeping.

[It is doubted by ſome whether this be really different from the the *arvenſe*; they are certainly very much alike.]

It is ſuppoſed to increaſe the milk of kine and ſheep very much; whence the Neapolitans call it *Erba lattaria* [l]. Cultivated 1759, by Mr. Miller [m].

10. It has the appearance of *Auricula muris pulchro flore, fol. tenuiſſimo.* Bauh. hiſt. 3. 360. but the flower of *Arenaria montana*. Leaves ſtiff, very much acuminated. Stems ſmooth, procumbent. Peduncle one or two-flowered, with two ſhort, lanceolate, broader bractes in the middle: this and the calyx are ſomewhat tomentoſe [n].

Allioni has given a long deſcription, and doubts whether his plant be the ſame with Linneus and Haller's ſince the capſule is cylindric. Scopoli's and Haller's figures are widely different.—Mountains of Switzerland, Auſtria, the Vaudois; M. Cenis, &c. Perennial.

11. In the ſouthern countries of Europe.

12. Found in Siberia, near the river Jeniſea; by Gmelin. Annual.

13. Nearly allied to *Stellaria nemorum*. Accordingly Scopoli has ranged it with the Stellarias.—Haller makes it an *Alſine*, and Mr. Curtis obſerves that it has the greateſt natural affinity with *A. media* or common Chickweed. They are diſtinguiſhable however (according to Dr. Stokes) by the lower ſtem-leaves of *A. media* having petioles, and one edge of the ſtem only being ſet with hairs; while in *C. aquaticum* the hairineſs is general.

Root perennial. Stems from one to two feet high, weak, round or ſcarce perceptibly ancipital, ſmooth, jointed: the joints reddiſh at the baſe. Branches rather few, ſolitary, alternate, ſimple, often as long as the ſtem, hairy above. Leaves ſtem-claſping, waved at the edge, acute, ſmooth, with a ſharpiſh keel; the uppermoſt ſomewhat hairy; the firſt leaves of the branches ſmaller, cordate, with ciliate petioles. Flowers from the boſoms of the upper leaves and the forks of the ſtem: the peduncles and calyxes hairy, viſcid. Corollas white, twice as large as the calyx, with the petals divided almoſt to the bottom. Capſule ovate, obtuſely pentangular, ſcarcely longer than the calyx, five-valved, hollow above; one-celled. Seeds roundiſh, reddiſh brown [o].

The five ſtamens placed between the petals are a little longer than the others, and have a gland at bottom. Anthers white, bilocular [p].—Moiſt places and banks of ditches and rivers; flowering in july and auguſt.

14. The whole plant, except the petals and capſules, is covered with long, ſoft, ſhining hairs. The lower leaves ovate; the upper ovate-lanceolate. Branches terminated by one or two flowers, on ſeparate peduncles, each furniſhed with two oppoſite lanceolate leaves or bractes. Capſules firſt roundiſh, afterwards lengthened into a horn. Stems proſtrate, branching, divaricated at right angles. Flowers large. Calyxes campanulate [q].

According to Haller, the ſtems are ſcarcely ever more than three inches high. One flower, ſeldom two, erect, an inch in diameter, on the top of the plant; petals white, deeply bifid. Capſule roundiſh; as it ripens lengthening into a ſtraight and very broad horn.—On the high mountains of the Valais, next the glaciers. On the higheſt rocks in Wales and Scotland; flowering in may and june. Perennial.

15. The whole plant white with a thick down. Stems in a thickly matted tuft, dichotomous, with ſometimes a ſingle flower on a long peduncle from the diviſion; the diviſions branched but ſpreading; each branch bearing a ſort of umbel. Leaves gradually narrower downwards, the pair below the forks of the ſtem about three lines and a half broad and ten long. Peduncles ſingle, of various lengths. Bractes lanceolate, with membranaceous edges, in pairs at each diviſion of the ſtem. Corolla as long again as the calyx, cloven not half way down, ſegments blunt [r].—Native of Granada, Iſtria, France, Switzerland. Ripton-wood in Huntingdonſhire. Flowers in may and june. Perennial.

It varies with broader and narrower leaves.

16. Root, ſlender, annual. Stem upright, round, half a foot high, commonly ſingle, but ſometimes branched: it has five or ſix joints, farther from each other as they recede from the root. Two upright peduncles, two or three inches in length come out from the top; they are dichotomous, with a ſimple peduncle between them. Petals twice as long as the calyx, white and roundiſh. Capſule ten-toothed at the edge, containing ſubrufous, kidney-ſhaped,

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[d] Curtis.
[e] Linn.
[f] Engl. bot.
[g] Ray.
[h] Hort. kew.
[i] Linn.
[k] Haller.
[l] Columna.
[m] Hort. kew.
[n] Linn.
[o] Linn. ſuec.
[p] Curtis.
[q] Linn. ſyſt.
[r] Woodw. MS.

wrinkled ſeeds[s]. The petals being entire, it probably rather belongs to the genus *Spergula.*

Linneus ſays, that it has the ſtem and ſtature of *Stellaria graminea*, the whole ſmooth, and a foot high. Panicle trifid, with ſmall lanceolate bractes. Styles three.

It is an annual plant, native of the neighbourhood of Verona (in ſylvula Mantica) and the Griſons.

17. Stems many, a finger's length, ſmooth or ſomewhat hairy, two-flowered; peduncles long, one broken or jointed, with two ſtipules at the joint, they are evidently hairy. Corolla larger than the calyx, the petals cleft to one-third of the length, ſegments linear. Styles ſometimes four. Capſule conic-polygon, tranſparent, opening by ſeven valves parting as far as the middle. Perennial[t]. Haller ſays, that the ſtems are proſtrate, changing their direction at every pair of leaves, and that the capſule has ſix valves.—On the higher Alps, mont St. Bernard.

18. Native of Spain. Perennial. Cultivated 1766, in the botanic garden at Oxford[u].]

PROPAGATION AND CULTURE.

1. If the ſeeds of this, or the other annual ſorts be ſown in autumn, they will more certainly grow than thoſe which are ſown in the ſpring; or if the ſeeds be permitted to ſcatter, the plants will come up and live through the winter, and will require no other care but to keep them clean from weeds.

9. It propagates too faſt by its creeping roots and trailing branches, when admitted into gardens; but it is very proper to be planted on rock-work, where it will ſpread and thrive without care.

[This and the other perennial ſorts may eaſily be increaſed by parting the plants, which put out roots at the joints of the branches, and run ſo much, as to overpower moſt other weak vegetables: they ſhould be introduced therefore with caution, unleſs where it is wiſhed to have a bank, wall, or heap of ſtones entirely covered.

Cerastium umbellatum. See *Holoſteum.*

Cerasa. See *Cordia* and *Prunus.*

Ceraso affinis. See *Cordia*, *Ehretia*, and *Prunus.*

Cerasus. See *Caſſine*, *Malpighia*, and *Prunus.*

Ceratia. See *Cercis*, *Dentaria*, and *Erythrina.*

Ceratiæ affinis. See *Mimoſa.*]

[CERATOCARPUS. (*From* κερας *and* καρπος, *horned fruit.*)

Lin. gen. n. 1035. *Reich.* 1125. *Schreb.* 1392. *Buxb. act. petrop.* 1. 241. *t.* 9. *Gmel. ſib.* 3. 14. *Gueldenſtædt nov. act. petrop.* 16. 553. *t.* 17. *f.* 7–12. *Gærtn. t.* 127. *Juſſ.* 86.

Claſſ. 21. 1. Monoecia Monandria.

Nat. order of *Holoraceæ.* *Atriplices* Juſſ.

GENERIC CHARACTER.

* *Male* flowers.

Cal. *Perianth* one-leafed, tubular, wider at top, thin, coloured, bifid: the upper ſegments ſharp, the lower emarginate.

Cor. none.

Stam. *Filament* ſingle, capillary, ſcarce longer than the calyx, inſerted into the receptacle. *Anther* twin, oval, upright.

Female flowers on the ſame plant.

Cal. *Perianth* one-leafed, obovate, compreſſed, keeled on both ſides, permanent, two horned: *horns* ſtraight, ſubulate, divaricate.

Cor. none.

Pist. *Germ* oblong, ſuperior. *Styles* two, capillary. *Stigmas* ſimple, ſtanding out between the horns of the calyx.

Per. none: but the calyx grown larger.

Seed oblong, attenuated at bottom, compreſſed.

ESSENTIAL CHARACTER.

Male. *Cal.* one-leafed, bifid. (two-leaved, *G.*) *Cor.* none.

Fem. *Cal.* one-leafed, keeled, permanent, two-horned. *Styles* two. *Seeds* ſingle, compreſſed, incloſed in and covered by the calyx.

SPECIES.

1. Ceratocarpus arenarius.

Lin. ſpec. 1375. *Reich.* 4. 88. *amæn.* 1. 412. 139. *hort. upſ.* 281. *Gærtn. fruct.* 2. 209. *Buxb. act. petrop.* 1. 244. *t.* 9. *Gmel. ſib.* 3. 14.

DESCRIPTION, &c.

It is an annual, branching plant, with very narrow, ſharp, graſſy leaves. Three male flowers ſeſſile in each diviſion of the ſtem; females ſolitary, ſeſſile in each axilla of the leaves[a].

It has no proper pericarp, but the calyx when ripe becomes a ſort of oblong-triangular compreſſed ſheath, with a ridge on each ſide, and two innocuous ſpines diverging almoſt horizontally at the end. Within this is a ſingle obovate ſeed, compreſſed, and at bottom very ſharp-pointed, which does not drop from its covering[b].

It is a native of the rude deſerts of Tartary.

Ceratocephaloides, } See *Bidens*, *Coreopſis*, *Cotula*,
Ceratocephalus. } *Spilanthus.*

Ceratoides. See *Axyris*, *Ceratocarpus*, *Diotis.*]

CERATONIA. (Κερατωνια, *Theophr*, from Κεράτιον, *a horn or pod.*)

Engl. *Carob-tree. St. John's bread.* Fr. *Caroubier.*

Lin. gen. n. 1167. *Reich.* 1282. *Schreb.* 1612. *Juſſ.* 347. *Faſano. t.* 14. *f.* 2. *Gærtn. t.* 146. Siliqua: *Tourn.* 344.

Claſſ. 23. 3. Polygamia Trioecia.

Natural order of *Lomentaceæ.* *Leguminoſæ*, Juſſ. &c.

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* five-parted, very large.

Cor. none.

Stam. *Filaments* five, ſubulate, very long, ſpreading. *Anthers* large, twin.

* *Female.* Dill.

Cal. *Perianth* one-leafed, divided by five tubercles.

Cor. none.

Pist. *Germ* lying concealed within a fleſhy receptacle. *Style* long, filiform. *Stigma* headed.

Per. *Legume* very large, obtuſe, compreſſed, coriaceous, with a great many tranſverſe partitions, the interſtices filled with pulp.

Seed ſolitary, roundiſh, compreſſed, hard, gloſſy.

Hermaphrodite flowers on a diſtinct tree.

ESSENTIAL CHARACTER.

Hermaphrodite. *Calyx* five-parted. *Cor.* none. *Stamens* five. *Style* filiform. *Legume* coriaceous, many-ſeeded.

Dioecous. Male and female ſeparate.

SPECIES.

1. Ceratonia Siliqua. *The Carob tree.*

Lin. ſpec. 1513. *Reich.* 4. 364. *hort. upſ.* 296. *mat. med.* 455. *Faſano in act. neap.* 1787. *p.* 248. *t.* 18. *f.* 2. *Gærtn. fruct.* 2. 310. *Dod. pempt.* 787. *f.* 1.

Siliqua edulis. *Bauh. pin.* 402. *Raii hiſt.* 1718. *Ger.* 1241. *emac.* 1429. *Park.* 236. 1. *Camer. epit.* 139. *Blackw. t.* 209.

DESCRIPTION, &c.

The Carob-tree ſometimes grows to a conſiderable ſize. Leaves pinnate; leaflets roundiſh, entire, thick, rigid, nerved, dark green above paler beneath, three inches in breadth and ſomewhat more in length. [Legume four inches or more in length, very little bent, compreſſed, becoming four-cornered when dry, of a duſky ferruginous colour, ſmooth, fleſhy, many-celled, valveleſs; cells eight or more, each inveſted with a papery lamina, and containing one obovate, ſwelling lens-ſhaped, ſmooth ſeed of a ferruginous cheſtnut colour[c].

The hermaphrodite flowers have a one-leafed perianth, deeply five-cleft, coloured; the ſegments unequal and blunt. Corolla one-petalled, wheel-ſhaped, entire, waved about the edge, coriaceous, permanent. Filaments five, fixed to the margin of the corolla, and ſcarcely longer than it. Anthers large. Piſtil in the middle of the corolla, pedicelled: germ linear, compreſſed, ſomewhat ſickle-ſhaped: ſtyle none: ſtigma ſeſſile, orbicular, flat, marked with a groove from the middle running into the germ.

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[s] Seguier.
[t] Allioni.
[u] Hort. kew.
[a] Linn. upſ. & amoen.
[b] Gærtner.
[c] Ibid.

The male flowers have alſo a one-leafed perianth deeply ſix-cleft; the ſegments unequal, ovate, concave. Corolla waved or obſcurely crenate, in other reſpects like that of the hermaphrodite. Filaments ſix, three times as long as the corolla, ſpreading, fixed to the angles of the notches under the margin of the corolla: anthers large, four-celled. Piſtil none, but a mere rudiment[d].

Native of Syria, Paleſtine, Egypt, Cyprus, Candia, Sicily, Apulia, Spain, *&c.* Cultivated 1570[e].

Ignorance of Eaſtern manners and natural hiſtory, induced ſome perſons to fancy that the locuſts on which John the baptiſt fed, were the tender ſhoots of plants, and that the wild honey was the pulp in the pod of the Carob, whence it had the name of St. John's-bread: there is better reaſon to ſuppoſe that the ſhells of the Carob pod might be the huſks which the prodigal ſon deſired to partake of with the ſwine.]

PROPAGATION AND CULTURE.

This tree is propagated from ſeeds, which, when brought over freſh in the pods, will grow very well, if they are ſown in the ſpring upon a moderate hot-bed; and when the plants are come up they ſhould be carefully tranſplanted each into a ſeparate ſmall pot filled with light rich earth, and plunged into another moderate hot-bed, obſerving to water and ſhade them until they have taken root; after which you muſt let them have air, in proportion to the heat of the weather. In june you muſt inure them to the open air by degrees; and in july they ſhould be removed out of the hot-bed, and placed in a warm ſituation, where they may remain until the beginning of october, when they ſhould be removed into the greenhouſe, placing them where they may have free air in mild weather; for they are pretty hardy, and require only to be ſheltered from hard froſts. When the plants have remained in the pots three or four years, and have gotten ſtrength, ſome of them may be turned out of the pots in the ſpring, and planted into the full ground, in a warm ſituation, near a ſouth wall, where they will endure the cold of our ordinary winters very well, but muſt have ſome ſhelter in very hard weather.

I have not as yet ſeen any of theſe trees produce flowers, though from ſome which have been planted ſome time againſt walls, it is probable there may be flowers and fruit in a few years; but it cannot be expected that the fruit will ever ripen in this country.

The leaves always continue green, and being different in ſhape from thoſe of moſt other plants, afford an agreeable variety when intermixed with Oranges, Myrtles, *&c.* in the greenhouſe.

[CERATONIA. See *Mimoſa.*

CERATOPHYLLUM. (*κέρας & φύλλον, horned leaf.*)
Lin. gen. n. 1065. *Reich.* 1162. *Schreb.* 1439. *Juſſ.* 18. Hydroceratophyllon. *Vaill. A. G.* 1719. *t.* 2. *f.* 2. Dichotophyllum. *Dill. gen.* 3. *giſſ.* 149. *t.* 7.
Claſſ. 21. 8. Monoecia Polyandria.
Natural order of *Inundatæ. Naiades* Juſſ.

GENERIC CHARACTER.

* *Male flowers.*

CAL. *Perianth* many-parted; *diviſions* ſubulate, equal.

COR. none.

STAM. *Filaments* double the number of diviſions of the calyx (ſixteen to twenty), hardly conſpicuous. *Anthers* oblong, erect, longer than the calyx.

* *Female flowers,* on the ſame plant with the males.

CAL. *Perianth* many-parted; *diviſions* ſubulate, equal.

COR. none.

PIST. *Germ* ovate, compreſſed. *Style* none. *Stigma* obtuſe, oblique.

PER. none.

SEED. *Nut* ovate, unilocular, acuminate.

ESSENTIAL CHARACTER.

MALE. *Cal.* many-parted. *Cor.* none. *Stam.* ſixteen to twenty.

FEMALE. *Cal.* many-parted. *Cor.* none. *Piſt.* one. *Style* none. *Seed* one, naked.

SPECIES.

1. Ceratophyllum demerſum. *Prickly-ſeeded Hornwort.* *Lin. ſpec.* 1409. *Reich.* 4. 153. *hort. cliff.* 446. *fl. ſuec.* 866. *Hudſ. angl.* 419. *With.* 1076. *Lightf.* 580. *Hall. helv. n.* 1599. *Fl. dan. t.* 510. *Pollich pal. n.* 904. *Brown. jam.* 345. *Villars dauph.* 3. 758.
Hydroceratophyllum. *Vaill. act. par.* 1719. *t.* 2. *f.* 2. *right.*
Equiſetum. *Læſ. pruſſ.* 67. *t.* 12.
Leaves two-fold dichotomous; fruits three-thorned.

2. Ceratophyllum ſubmerſum. *Smooth-ſeeded Hornwort.* *Lin. ſpec.* 1409. *Reich.* 4. 153. *Hudſ. angl.* 419. 1. β. *With.* 1077. β. *Vaill. act. t.* 2. *f.* 2. *left.* *Leers herborn. n.* 735. *Villars dauph.* 3. 758.
Leaves three-fold dichotomous; fruits thornleſs.

DESCRIPTIONS, *&c.*

1. Root perennial, ſtriking deep in the mud. Stem much branched. Leaves in whorls, about eight in a whorl, the lower whorls about half an inch diſtant, but cloſer upwards, and extremely crowded towards the top, ſetaceous, harſh, and ſomewhat brittle, ſemi-tranſparent, green with ſhort purple lines, and the extreme forks toothed on the outſide only, thoſe on the lower part of the ſtem in the mud, ſhort, dichotomous, much thicker than thoſe above, and appearing as if broken or bitten. Flowers few, in the boſoms of the leaves. Seed-veſſel with one long thorn at the extremity, and two ſhorter on the oppoſite ſides near the baſe[f].

Ditches and ſlow ſtreams, flowering in auguſt and ſeptember, in Europe. Alſo in Japan. Common in Jamaica, called there Moraſs-weed, and uſed to cover fiſh, *&c.* when carried to any diſtance.

2. Linneus allows this to be ſo nearly allied to the foregoing, as to be little elſe than a variety. Haller would ſcarcely ſeparate it, and even doubts of its exiſtence, ſpecimens ſent him from Paris under the name of *Hydroceratophyllum folio lævi octo cornubus armato* of Vaillant having the leaves twice dichotomous like the other. Hudſon and Withering give it as a variety only, and if it exiſt at all, it is probably no more than a trifling variety. Mr. Woodward ſays, that he has never found any other than the one above deſcribed, and that the figure in *Flora Danica, t.* 412. referred in *ſyſt. veg.* and *Reichard* to *C. ſubmerſum* of Linneus has leaves twice divided into two, and conſequently anſwering to the ſpecific character of *demerſum,* not of *ſubmerſum;* though this figure be called *ſubmerſum,* Linn. by the author, yet it is referred to Haller (n. 1599.) who deſcribes *demerſum*[g].

Monſ. Villars ſays, that it is thicker than the other, that it ſeems to creep wholly at the bottom of the water, and that it is whiter by means of a varniſh of mud that covers it.

In the ditches on the ſide of the road from Chicheſter to the iſle of Selſey.

PROPAGATION AND CULTURE.

Theſe plants can be cultivated in gardens, no other way than by ſowing the ſeeds or planting them in ponds, muddy ſtreams, pots or boxes, with earth at bottom and filled with water.]

CERBERA. (*From Cerberus; ſo named on account of its poiſonous qualities.*)
Lin. gen. n. 294. *Reich.* 319. *Schreb.* 415. *Jacqu. amer.* 48. *Juſſ.* 149. Ahouai. *Tourn.* 434. *Jacqu. amer.* 48.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Contortæ. Apocineæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved, acuminate, ſpreading; *leaflets* ovate-lanceolate.

COR. monopetalous, funnel-form. *Tube* clavated; *border* large, five-parted; *diviſions* oblique, obtuſe, more gibbous on one ſide than the other; mouth of the tube pentagonal, five-toothed, converging in the form of a ſtar.

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[d] Faſano.

[e] Hort. kew from Lobel.

[f] Woodw. Mſſ.

[g] Ibid.

Stam. *Filaments* five, ſubulate in the middle of the tube. *Anthers* erect, converging.

Pist. *Germ* roundiſh. *Style* filiform, ſhort. *Stigma* headed, bilobate.

Per. *Drupe* very large, roundiſh, fleſhy; excavated on the ſide by a longitudinal furrow, and with two ſpecks or points.

Seed. *Nut* two-celled, four-valved, retuſe.

ESSENTIAL CHARACTER.

Contorted. *Drupe* one-ſeeded.

SPECIES.

1. Cerbera Ahouai. *Oval-leaved Cerbera.*
Lin. ſpec. 303. *Reich.* 590.
Thevetia. *Lin. hort. cliff.* 75.
Ahouai. *Thev. antarct.* 66. *Raii hiſt.* 1676.
Leaves ovate.
2. Cerbera Manghas.
Lin. ſpec. 303. *Reich.* 591. *Fl. zeyl. n.* 106. *Oſb. it.* 91. *Pet. gaz. t.* 16. *f.* 4.
Manghas. *Burm. zeyl.* 151. *t.* 70. *f.* 1. *Raii hiſt.* 1552.
Arbor lactaria. *Rumph. amb.* 2. 243. *t.* 81.
Odallam. *Rheed. mal.* 1. 71. *t.* 39.
Leaves lanceolate, nerves tranſverſe.
3. Cerbera Thevetia. *Linear-leaved Cerbera.*
Lin. ſpec. 304. *Reich.* 591. *Jacqu. amer.* 48. *t.* 34. *pict.* 20. *t.* 47. *Swartz obſ.* 102.
Plumeria. *Brown. jam.* 181. 1.
Ahouai. *Plum. ic.* 18.
Nerio-affinis. *Pluk. alm. t.* 207. *f.* 3.
Yccotli. *Hern. mex.* 443. *f.* 1.
Leaves linear, very long, crowded.
[4. Cerbera parviflora.
Forſt. fl. auſtral. n. 121.
Leaves ſtellate obovate.
5. Cerbera ſalutaris.
Lour. cochinch. 136.
Lactaria ſalubris. *Rumph. amb.* 3. 255. *t.* 84.
Leaves and fruits oval.]

DESCRIPTIONS, &c.

1. The firſt ſort grows naturally in the Brazils, and alſo in the Spaniſh Weſt Indies in plenty; and there are ſome of the trees growing in the Britiſh iſlands of America; this riſes with an irregular ſtem to the height of eight or ten feet, ſending out many crooked diffuſed branches, which toward their tops have thick ſucculent leaves about three inches long, and near two broad, of a lucid green, ſmooth, and very full of a milky juice, as is every part of the ſhrub. The flowers come out in looſe bunches at the end of the branches; they are of a cream colour, having long narrow tubes cut into five obtuſe ſegments, which ſeem twiſted, ſo as to ſtand oblique to the tube; theſe when they ſpread open have the appearance of the flowers of Oleander. It flowers in july and auguſt, but never produces fruit in England. The wood of this tree ſtinks moſt abominably, and the kernels of the nuts are a moſt deadly poiſon. The Indians are not acquainted with any antidote to it; nor will they uſe the wood for fuel. They put ſmall ſtones into the empty nuts, ſtring them, and faſten them about their legs when they dance.

[Cultivated 1739, by Mr. Miller[a].

2. A milky tree. Leaves alternate, ſcattered at the tops of the branches, broad-lanceolate, petioled, ſmooth, quite entire, a foot in length. Flowers in terminal, branched, unequal racemes. Calyx coloured, deciduous. Corolla white; tube longer than the calyx, angular within; diviſions ovate, ſhorter than the tube. Filaments very ſhort, in the upper part of the tube: anthers ovate, quadrangular, covered with the down of the tube. Germ bifid: ſtyle rather ſhorter than the tube: ſtigma ovate, cleft. Drupe ovate, the ſize of a gooſe's egg, green with very minute white dots, compreſſed on one ſide and with an obſcure ſuture, incloſing two ſeeds reſembling two large cheſtnuts, poiſonous and vomiting[b].]

According to Mr. Miller, it riſes to the height of twenty feet, ſending out many branches toward the top. Leaves rounded at the ends, thick, ſucculent, on their upper ſide of a lucid green, but paler underneath.—Native of the Eaſt Indies, ſome parts of the Spaniſh Weſt Indies, [and of the Society iſlands[c].

3. this is an elegant ſhrub or ſmall tree, about twelve feet in height. The ſtem is round, unarmed, abounding in a poiſonous milky juice, dividing at top into many weak branches, which are generally ſimple, looſe, round, ſmooth, covered with ſcars from the leaves which have dropped,] and covered with a green ſmooth bark, which as they grow older becomes rough, and changes to a gray or aſh-colour. [Leaves on very ſhort petioles, ſcattered at the ends of the branchlets, acuminate, very entire, ſpreading, of a firm conſiſtence, ſmooth on both ſides, of a ſhining green, but paler underneath,] four or five inches long, and half an inch broad in the middle, full of a milky juice, which flows out when they are broken. [Stipules none. Peduncles terminating (axillary, *Jacq.*) ſhorter than the leaves, three or four crowded together, round, uſually one-flowered. Flowers large, ſpecious, nodding, yellow, ſmelling very ſweet. Corolla contorted. Nectary in the throat of the tube, five-cornered, five-toothed, converging into a ſtar, and ciliate between the rays. Filaments very ſhort, below the ſtar, faſtened to the tube, prominent towards the angles of the ſtigma. Anthers ovate, acute. Germ five-ſtreaked, ſurrounded by a yellow fleſhy nectareous navel. Stigma five-cornered, bifid at the tip. Fruit a green oblate-ſpheroidal drupe, containing an obſcurely four-cornered nut, with a ſingle kernel in it[d].

Native of the Weſt Indies, in woods or coppices near the coaſt.] Mr. Miller ſays, that he received it from our iſlands there by the name of French Phyſic nut; that it flowers here in july and auguſt, but never produces fruit in England.

[It was introduced in 1735, by Mr. Robert Millar[e].

Swartz obſerves, that this ſpecies with *C. Ahouai,* would form a genus diſtinct from *C. Manghas,* if it were not for multiplying genera too much.

4. Native of the Friendly iſlands, and Savage iſland, in the South Seas[f].

5. This is a middle-ſized tree, with a milky juice, and ſpreading branches. Leaves oblong-oval, obtuſe, quite entire, ſhining, crowded at the ends of the branches, ſubpetioled. Flowers white, inodorous, in ſmall ſubterminating racemes. Calyx five-cleft, ſegments ſubulate long erect. Corolla ſalver-ſhaped, with a long curved tube, the ſegments of the border oblong fleſhy ſpreading, not contorted. Germ ovate, very ſmall: ſtyle longer than the ſtamens, thick, curved, always burſting the tube of the corolla: ſtigma turbinate, vertically compreſſed, truncate. Drupe oval, large, with a ſmooth ſkin, yellow on one ſide, red on the other, containing a fibrous-woody nut, with a ſingle kernel in it not poiſonous.

Native of Cochinchina, near the coaſt[g].]

PROPAGATION AND CULTURE.

Theſe plants may be propagated ftom their nuts, which muſt be procured from the countries where they grow naturally; theſe ſhould be put into ſmall pots filled with light earth, and plunged into a hot-bed of tanners bark in the ſpring, and treated in the ſame manner as other tender exotic ſeeds, giving them now and then a little water to promote their vegetation. When the plants are come up about two inches high, they ſhould be tranſplanted each into a ſeparate pot, filled with light ſandy earth, and plunged again into a hot-bed of tanners bark, obſerving to ſhade the glaſſes in the heat of the day,

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[a] Hort. kew.

[b] Oſbeck in Linn. ſpec.

[c] Forſter.

[d] Swartz and Jacquin.

[e] Hort. kew.

[f] Forſter.

[g] Loureiro.

until the plants have taken new root; they muſt alſo be frequently refreſhed with water, but it muſt not be given in too large quantities. As the ſummer advances, theſe plants ſhould have air admitted to them in proportion to the warmth of the ſeaſon; and when they have filled theſe ſmall pots with their roots, they ſhould be turned out and tranſplanted into other pots of a larger ſize, but they muſt not be too large; for the roots of theſe plants ſhould be confined, nor ſhould the earth in which they are planted be rich, but a light ſandy ſoil is beſt for them; after they are new potted they ſhould be plunged into the hot-bed again, obſerving to water them now and then, as alſo to admit air under the glaſſes every day in proportion to the warmth of the ſeaſon. When the plants are grown about a foot high, they ſhould have a larger ſhare of air, in order to harden them before the winter, but they ſhould not be wholly expoſed to the open air. In the winter theſe plants ſhould be placed in a warm ſtove, and during that ſeaſon they ſhould have very little water given to them, eſpecially in cold weather, leſt it ſhould rot their roots. In the following ſpring theſe plants ſhould be ſhifted again into other pots, at which time you ſhould take away as much as you conveniently can of the old earth from their roots, and afterwards cut off the decayed fibres; then put them into pots filled with the ſame light ſandy earth, and plunge them into the bark-bed again, for theſe plants will not thrive well unleſs they are conſtantly kept in tan: and as they abound with milky juice, they ſhould be ſparingly watered, for they are impatient of moiſture, eſpecially during the winter ſeaſon.

When by any accident the tops of theſe plants are injured, they frequently put out ſhoots from their roots, which, if carefully taken up and potted, will make good plants.

CERCIS. (Κερκὶς, *ſpathula. A name of Theophraſtus's.*) Engl. *Judas-tree.* Fr. *Gainier. Arbre de Judée.*

Lin. gen. n. 510. *Reich.* 553. *Schreb.* 696. *Juſſ.* 351. Siliquaſtrum. *Tourn.* 414.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Lomentaceæ. Leguminoſæ* Juſſ. *&c.*

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, very ſhort, bell-ſhaped, gibbous below, melliferous; mouth five-toothed, erect, obtuſe.

COR. pentapetalous, inſerted into the calyx, reſembling a papilionaceous corolla.

Wings: Petals two, bent upwards, affixed by long claws.

Standard: Petal one, roundiſh, clawed beneath the wings, and ſhorter than the wings.

Keel: Petals two, converging into a cordate figure, including the organs of generation, affixed by claws.

Nectary, a ſtyle-ſhaped gland, below the germ.

STAM. *Filaments* ten, diſtinct, ſubulate, bent downwards, of which four are longer than the reſt, covered. *Anthers* oblong, incumbent, riſing upwards.

PIST. *Germ* linear-lanceolate, pedicelled. *Style* of the length and ſituation of the ſtamens. *Stigma* obtuſe, aſcending.

PER. *Legume* oblong, obliquely acuminate, unilocular.

SEEDS ſome, roundiſh, connected to the ſuperior ſuture.

ESSENTIAL CHARACTER.

Cal. five-toothed, gibbous below. *Cor.* papilionaceous. *Standard* ſhort, beneath the wings. *Legume.*

SPECIES.

1. Cercis Siliquaſtrum. *Common Judas-tree.*

Lin. ſpec. 534. *Reich.* 2. 245. *hort. cliff.* 156. 1. *Thunb. jap.* 178. *Gron. orient.* 131. *Mill. fig. t.* 253.

Arbor judæ. *Dod. pempt.* 786. *Raii hiſt.* 1717. *Baub. hiſt.* 1. 433.

Leaves cordate-orbicular ſmooth.

2. Cercis canadenſis. *Canada Judas-tree. Red Bud-tree.*

Lin. ſpec. 535. *Reich.* 2. 245. *hort. cliff.* 156. 2. *Gron. virg.* 47. 64. *Duham. arb.* 2. 264. 3. (Siliquaſtrum.)

Arbor judæ americana. *Raii hiſt.* 1718.—Ceratia. *dendr.* 100.

Leaves cordate pubeſcent, (ovate; acute.)

DESCRIPTIONS, *&c.*

1. The firſt ſort is by the Spaniards and Portugueſe called the Tree of Love: this riſes with an upright trunk to the height of twenty feet, covered with a dark brown bark, dividing upwards into many irregular branches, with leaves placed irregularly on the branches, on long foot-ſtalks; they are of a pale green on their upper, and of a grayiſh colour on their under ſide, and fall off in autumn. The flowers come out on every ſide the branches, and many times from the ſtem of the tree in large cluſters, ariſing from the ſame point, on ſhort peduncles; they are of a very bright purple colour, and make a fine appearance, eſpecially when the branches are covered pretty thick with them: they come out in the ſpring with the leaves, and are in full beauty before the leaves have attained half their ſize. The flower is papilionaceous, and having an agreeable poignancy, is frequently eaten in ſalads. When the flowers fall off, the germ becomes a long flat pod, containing one row of roundiſh ſeeds, a little compreſſed; but theſe do not often ſucceed the flowers in this country upon ſtandard trees, for the birds pick off the flowers when fully open; but where they have been planted againſt good aſpected walls, I have ſeen great plenty of the pods, which, in warm ſeaſons, have ripened very well.

Theſe trees are uſually planted with other flowering trees and ſhrubs for ornaments to pleaſure-gardens, and for their ſingular beauty, deſerve a place as well as moſt other ſorts; for when they are arrived to a good ſize, they are productive of flowers, ſo as that the branches are often cloſely covered with them; and the ſingular ſhape of their leaves makes a very pretty variety in the ſummer, and they are ſeldom damaged by inſects. This tree flowers in may, when planted in the full air, but againſt warm walls it is a fortnight or three weeks earlier.

The wood of this tree is very beautifully veined with black and green, and taking a fine poliſh, may be converted to many uſes.

There are two varieties of this tree, one with a white, and the other hath a fleſh-coloured flower, but theſe have not half the beauty of the firſt.—Tournefort alſo mentions one with broader pods and pointed leaves, which I believe is only a variety of this.

[Native of the Levant, Spain, South of France, Italy near Rome, and on the Apennines, Japan, *&c.* Cultivated 1596, by Gerard [h].]

2. The ſecond ſort grows naturally in moſt parts of North America, where it is called Red Bud, I ſuppoſe from the red flower-buds appearing in the ſpring before the leaves come out; this grows to a middling ſtature in the places where it is a native, but in England rarely riſes with a ſtem more than twelve feet high, but branches out near the root. The branches of this are weaker than thoſe of the firſt ſort; the leaves are downy, and terminate in points; whereas thoſe of the firſt are ſmooth, and round at the end, where they are indented. The flowers of this are alſo ſmaller, and do not make ſo fine appearance as thoſe of the firſt; but the trees are equally hardy, and will thrive in the open air very well.

The flowers of this ſort are frequently put into ſalads by the inhabitants of America: and the French in Canada pickle the flowers, but theſe have little flavour. The wood of this tree is of the ſame colour and texture as that of the firſt.

[The young branches die wool of a very fine Nankin colour.—Cultivated 1730 [i].]

[h] Hort. kew.

[i] Ibid.

PROPAGATION AND CULTURE.

Theſe plants may be propagated by ſowing their ſeeds upon a bed of light earth, towards the latter end of march, or the beginning of april (and if you put a little hot dung under the bed, it will greatly facilitate the growth of the ſeeds ;) when the ſeeds are ſown, ſift the earth over them about half an inch thick ; and, if the ſeaſon prove wet, it will be proper to cover the bed with mats, to preſerve it from great rains, which will ſometimes burſt the ſeeds, and cauſe them to rot ; the ſeeds will often remain till the ſpring following before they come up, ſo the ground muſt not be diſturbed till you are convinced that the plants are all come up ; for ſome few may riſe the firſt year, and a greater number the ſecond.

When the plants are come up they ſhould be carefully cleared from weeds, and in very dry weather muſt be now and then refreſhed with water, which will greatly promote their growth. The winter following, if the weather is very cold, it will be proper to ſhelter the plants, by covering them either with mats or dry ſtraw in hard froſts, but they ſhould conſtantly be opened in mild weather, otherwiſe they will grow mouldy and decay.

About the beginning of april, you ſhould prepare a ſpot of good freſh ground, to tranſplant theſe out (for the beſt ſeaſon to remove them is juſt before they begin to ſhoot ;) then you ſhould carefully take up the plants, being careful not to break their roots, and plant them as ſoon as poſſible, becauſe if their roots are dried by the air, it will greatly prejudice them.

The diſtance theſe ſhould be planted, muſt be proportionable to the time they are to remain before they are again tranſplanted ; but commonly they are planted two feet row from row, and a foot aſunder in the rows, which is full room enough for them to grow two or three years, by which time they ſhould be tranſplanted where they are deſigned to remain ; for if they are too old when removed, they ſeldom ſucceed ſo well as younger plants.

The ground between the plants ſhould be carefully kept clean from weeds in ſummer, and in the ſpring ſhould be well dug to looſen the earth, that their roots may extend themſelves every way ; at that ſeaſon prune off all ſtrong ſide branches (eſpecially if you intend to train them up for ſtandard trees,) that their top branches may not be checked by their ſide ſhoots, which often attract the greateſt part of the nouriſhment from the roots ; and if their ſtems are crooked, you muſt place a ſtrong ſtake down by the ſide of each plant, and faſten the ſtem to it in ſeveral places, ſo as to bring it ſtraight, which direction it will ſoon take as it grows larger, and thereby the plants will be rendered beautiful.

When they have remained in this nurſery two or three years, they ſhould be tranſplanted in the ſpring where they are deſigned to remain, which may be in wilderneſs quarters among other flowering trees, obſerving to place them with trees of the ſame growth, ſo as they may not be overhung, which is a great prejudice to moſt plants.

[Cercodia. See *Haloragis.*]

Cerefolium. See *Chærophyllum,* [and *Scandix.*

Cereтia. See *Hymenæa.*

Cereus. See *Cactus.*]

CERINTHE. (From κηρὸς, wax, or κηρίον, a honeycomb.—Κήρινθος *is reckoned among ſummer flowers by Theophraſtus.*)

Engl. *Honeywort.* Fr. *Melinet.*

Lin. gen. n. 186. *Reich.* 198. *Schreb.* 246. *Tourn.* 56. *Juſſ.* 130.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aſperifoliæ.* *Borragineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted ; *diviſions* oblong, equal, permanent.

Cor. monopetalous, bell-form. *Tube* ſhort, thick. *Border* tube-bellied, rather thicker than the tube ; *mouth* five-cleft ; *throat* naked, pervious.

Stam. *Filaments* five, ſubulate, very ſhort. *Anthers* acute, erect.

Pist. *Germ* four-parted. *Style* filiform, length of the ſtamens. *Stigma* obtuſe.

Per. none. *Calyx* unchanged.

Seeds two, bony, gloſſy, ſubovate, outwardly gibbous, bilocular.

ESSENTIAL CHARACTER.

Border of the corolla tube-bellied. *Throat* pervious. *Seeds* two, bilocular.

SPECIES.

1. Cerinthe major. *Great Honeywort.*
   Lin. ſpec. 195. *Reich.* 395. *hort. cliff.* 48. 2. *Krocker, fl. ſileſ. n.* 284. *Sabb. hort.* 1. *t.* 12. *Hall. helv. n.* 602. *Ger.* 431. *f.* 1. *emac.* 538. *f.* 1. *Park.* 520.
   C. glabra. *Mill. dict. n.* 2. *fig. t.* 91.
   C. fl. ex rubro purpuraſcente. *Bauh. pin.* 258.
   β. C. major. *Mill. dict. n.* 1.
   C. flavo fl. aſperior. *Bauh. pin.* 258. *Ger. emac.* 538. *f.* 2. *Park.* 521. *f.* 1. *Mart. virg.* 332. *fig.*
   Leaves ſtem-claſping, corollas bluntiſh ſpreading.
2. Cerinthe minor. *Small Honeywort.*
   Lin. ſpec. 196. *Reich.* 396. *Jacqu. auſtr.* 2. *t.* 124. *Villars dauph.* 2. 448.
   C. minor. *Bauh. pin.* 258. *Raii hiſt.* 506. *Ger.* 431. *f.* 2. *emac.* 538. *f.* 3. *Park.* 521. *f.* 2. *Cluſ. hiſt.* 2. 168.
   β. *Lin. ſpec. edit.* 1. 137.—fol. emarginatis.
   C. maculata. *Allion. pedem. n.* 178.
   Leaves ſtem-claſping entire, corollas acute cloſed.

DESCRIPTIONS, &c.

1. [Stems eighteen inches high and more, round, ſmooth, branching and leafy. Leaves glaucous, becoming blue by age, ſmooth, without prickles, but ciliated about the edge, dotted with white. Branches leafy, nodding ; with flowers among the leaves, hanging on long peduncles. The tube of the corolla is yellow, but the border is purple : the toothlets very ſhort and revolute[a].]

β. Leaves prickly. Corolla yellow.—This is in general a ſmaller plant than the purple-flowering ſort, and the leaves are alſo ſmaller. Annual, flowering in june and july. [Haller ſays it is perennial. There are ſeveral other varieties.

This is one of the moſt common herbs all over Italy—hence Virgil's expreſſion of—*Cerinthæ ignobile gramen.* It is no leſs common in Sicily ; and is found alſo in the South of France, Switzerland, Germany, and Siberia. Cultivated in 1596, by Gerard[b].

There is abundance of honey-juice in the tube of the flower, for which reaſon it is much reſorted to by bees ; this plant therefore is peculiarly proper to be planted near Apiaries.

2. Very nearly allied to the foregoing, but the corolla five-cleft to one-third of the length, whereas that is only five-lobed at the edge. Scopoli makes but one ſpecies of them, (*carn. n.* 198.) under the title of C. glabra.

Root-leaves narrowed into a petiole and obovate : all the leaves obtuſe, entire, glaucous underneath, uſually ſpotted with white on the upper ſurface, never ciliated about the edge, or hairy underneath. Flowers ſolitary, axillary, all turned the ſame way, and hanging down. Leaflets of the calyx erect, acute, converging into a long tube, growing after the corolla is dropped off, very unequal, the outer broader, ovate and even ſubcordate, the inner lanceolate or more oblong. Corolla yellow without any ſpot, contracted at top and bottom, obſcurely five-furrowed, deciduous, cleft to the middle ; ſegments oblong-lanceolate, acuminate ; throat naked, pervious. The whole plant ſmooth, and flowering the whole ſummer. Annual, when ſown in the ſpring, but biennial when ſown in autumn ; in the wild ſtate therefore biennial[c].

Italy, Germany, Auſtria, Syria, Switzerland.—Cultivated 1570, by Mr. Hugh Morgan[d].

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[a] Haller.

[b] Hort. kew.

[c] Jacquin.

[d] Hort. kew.

β. Differs from the *minor* in ovate, emarginate, wider leaves, conſtantly ſpotted, of a deeper glaucous colour; ſtem erect; corolla yellow, but towards the toothlets purple. Perennial[e].]

PROPAGATION AND CULTURE.

The ſpecies of this plant are propagated by ſeeds, which ſhould be ſown ſoon after they are ripe; for, if they are kept till ſpring, the growing quality of them is often loſt; or at leaſt they lie ſome months in the ground before they grow; the plants are hardy, and if the ſeeds are ſown in a warm ſituation, they will endure the winter's cold very well without ſhelter; theſe autumnal plants are alſo much ſurer to produce ripe ſeeds than thoſe which are ſown in the ſpring, which are generally late in the ſeaſon before they flower; and conſequently if the autumn ſhould not prove very warm, their ſeeds would not be perfected.

The plants make a pretty variety for large borders in gardens, where, if they are ſuffered to drop their ſeeds, the plants will ariſe without any farther care; ſo that when a perſon is once furniſhed with the ſeveral varieties, he need be at no more trouble than to allow each of them a reſpective place where it may remain, and ſow itſelf; and with this culture, there is a greater certainty of preſerving the ſorts than in any other management; nor will they perhaps be entirely loſt in this way, if it ſhould happen that the ſeaſon ſhould prevent their ripening ſeed (as it ſometimes proves;) for when great quantities of the ſeeds have ſcattered upon the ground, ſome of them will be buried ſo deep, in ſtirring the earth, as not to grow the firſt year; which, upon being turned up to the air the ſucceeding year, will come up as well as new ſeeds.

If the ſeeds are not taken as ſoon as they change black, they drop out of the calyx in a ſhort time, and vegetate with the firſt warm weather.

[CERINTHE. See *Onoſma* and *Pulmonaria*.

CERINTHOIDES, See *Pulmonaria*.

CEROPEGIA. (*From* κηροπηγιον, *a candelabre,* or *lamp-ſtand.*)
Lin. gen. n. 302. *Reich.* 328. *Schreb.* 431. *Juſſ.* 146.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Contortæ*. *Apocineæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* very ſmall, five-toothed, acute, permanent.

COR. monopetalous, with a large globoſe baſe which is terminated by a cylindrical oblong tube. *Border* very ſmall, five-toothed, acuminate, with the tip converging, gaping at the ſides.

STAM. *Filaments* five, in the baſe of the corolla, very ſmall, incurved, converging. *Anthers* ſmall.

PIST. *Germ* very ſmall. *Style* ſcarce any. *Stigmas* two.

PER. *Follicles* two, cylindric, acuminate, very long, erect, unilocular, univalve.

SEEDS numerous, imbricated, oblong, crowned with a pappus.

ESSENTIAL CHARACTER.

Contorted. *Follicles* two, erect. *Seeds* plumoſe. *Border* of the corolla converging.

SPECIES.

1. Ceropegia Candelabrum.
Lin. ſpec. 309. *Reich.* 601. *Rheed. mal.* 9. 27. *t.* 16. *Lour. cochinch.* 114.
Umbels pendulous, flowers erect.

2. Ceropegia biflora.
Lin. ſpec. 309. *Reich.* 601. *fl. zeyl. n.* 110.
Peduncles two-flowered.

3. Ceropegia ſagittata. *Arrow-leaved Ceropegia.*
Lin. ſyſt. 255. *Reich.* 601. *mant.* 215.
Umbels ſeſſile, leaves ſagittate.

4. Ceropegia tenuifolia.
Lin. ſyſt. 255. *Reich.* 602.
Periploca tenuifolia. *Lin. ſpec.* 310.
Apocynum fruticeſcens, &c. *Pluk. mant.* 17. *t.* 335. *f.* 1.
Cynanchum. *Burm. afr. t.* 15. & *t.* 16. *f.* 1.
Naru-nundi. *Rheed. mal.* 10. 67. *t.* 34.
Leaves linear-lanceolate.

5. Ceropegia obtuſa.
Lour. cochinch. 114.
Leaves blunt, ſtem twining.

6. Ceropegia cordata.
Lour. cochinch. 114.
Leaves cordate, umbels pendulous.

DESCRIPTIONS, *&c.*

1. A twining plant. Stems ſlender, round, green or reddiſh. Leaves oppoſite, ovate, thick, ſoft, ſmooth. The peduncle, and at firſt the flowers hang down, but when open they erect themſelves, and being placed in a circle, have the appearance of a ſet of lamps hanging up. The follicles or ſeed-veſſels hang down[f]. Native of the Eaſt-Indies.

2. Stem twining. Leaves oppoſite, ovate, quite entire. Peduncles axillary, generally two-flowered. Flowers oppoſite to the peduncle, not reflected, but extended ſtraight out. Native of the iſle of Ceylon. Perennial[g].

3. Stem twining, filiform, tomentoſe. Leaves oppoſite, on very ſhort petioles, ſagittate or cordate-linear, the edges revolute, tomentoſe on both ſides but paler underneath. Umbels axillary, many-flowered, the peduncle ſhorter than the umbel. Calyx five-parted, linear, tomentoſe, half the length of the corolla, which is ſcarlet, ſubcylindric but leſs ſwelling at the baſe; the diviſions very ſhort, mucronate, converging. Native of the Cape. Perennial[h].—Introduced 1775, by Mr. Fr. Maſſon[i].

4. Stems ſlender, milky, red, bay or green. Petioles very ſhort, oppoſite. Flowers axillary, from two to four together, on ſhort peduncles. Within reddiſh, or reddiſh brown, on the outſide yellowiſh green.—Native of the Eaſt Indies[k].

5. Stem perennial, filiform, ſmooth. Leaves oblong, quite entire, flat, few, oppoſite. Flowers pale, like thoſe of the firſt ſort, but on ſhorter peduncles. Fruits more ſlender, broken at a right angle as they are, ſmooth.

Native of Cochinchina with the firſt, from which it differs more in the leaves than flowers.

6. Stem long, round, climbing, branched, perennial. Leaves quite entire, ſmooth, oppoſite, on long petioles. Flowers greeniſh-yellow, in large hemiſpherical axillary umbels, on long peduncles. Calyx inferior, five-leaved; leaflets ovate acute ſmall ſpreading. Corolla five-parted; parts ovate converging. Nectary fleſhy upright five-cleft; with ten oblong glands ſtanding round the piſtil. Filaments none. Anthers five oblong converging. Germ longiſh, bifid. Style thick very ſhort. Stigma blunt emarginate.——Native of Cochinchina, climbing in the hedges[l].

CERRI GLANS and CERRIS. See *Quercus*.

CERVARIA. See *Athamanta* and *Trachelium*.

CERUCHIS. See *Spilanthes*.

CERVIANA. See *Pharnaceum*.

CERVICARIA. See *Campanula*.

CERVISPINA. See *Rhamnus*.]

CESTRUM. (Κέστρα, *a hammer.* Κεστρον, *Dioſcor.*)
Engl. *Baſtard Jaſmin.* Fr. *Ceſtreau.*
Lin. gen. n. 261. *Reich.* 272. *Schreb.* 342. *Juſſ.* 126. *Gærtn. t.* 77.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Luridæ*. *Solaneæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubular, columnar, obtuſe, very ſhort: *mouth* five-cleft, erect, obſcure.

COR. monopetalous, funnel-form. *Tube* cylindric, very long, ſlender; *throat* roundiſh; *border* flat, plaited, five-cleft; *diviſions* ovate, equal.

STAM. *Filaments* five, filiform, attached longitudinally to the tube, emitting a toothlet inwards at the middle. *Anthers* roundiſh, quadrangular, within the throat.

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[e] Allioni.

[f] Hort. malab.

[g] Linn. zeyl.

[h] Linn. mant.

[i] Hort. kew.

[k] Hort. malab.

[l] Loureiro.

PIST. *Germ* cylindric-ovate, length of the calyx. *Style* filiform, length of the *ſtamens*. *Stigma* thickiſh, obtuſe, ſcarcely emarginate.

PER. *Berry* ovate, unilocular, oblong.

SEEDS very many, roundiſh.

OBS. *The genus differs from* Lycium *in having a unilocular berry.*

C. veſpertinum *differs in ſome points.*

ESSENTIAL CHARACTER.

Cor. funnel-form. *Stamens* emitting a toothlet from their middle. *Berry* unilocular.

SPECIES.

1. Ceſtrum nocturnum. *Night-ſmelling Ceſtrum.*
Lin. ſpec. 277. *ſyſt.* 227. *Reich.* 523. *hort. cliff.* 491. *Murr. in comm. gott.* 1774. *vol.* v. *p.* 44. *L'Herit. ſtirp. nov.* 70. *Ait. hort. kew.* 1. 254. *Gærtn. fruct.* 1. 378.
Jaſminoides. *Dill. elth.* 183. *t.* 153. *f.* 185.
Syringa. *Pluk. alm. t.* 64. *f.* 3.
Parxu. *Feuill. peruv.* 2. 32. *t.* 32. *f.* 1.
Filaments toothed; peduncles ſubracemed equal to the leaf.

2. Ceſtrum veſpertinum. *Cluſter-flowered Ceſtrum.*
Lin. ſyſt. 227. *Reich.* 524. *mant.* 206. *Murr. in comm. gott.* 5. *p.* 41. *t.* 8. *L'Herit. ſtirp. nov.* 72. *Ait. hort. kew.* 1. 255. *Swartz obſ.* 85.
C. confertum. *Mill. dict. n.* 5.
Ixora alternifolia. *Jacqu. amer. pict.* 16. *t.* 177. *f.* 8.
Jaſminum. *Plum. amer.* 17. *icon.* 150. *t.* 157. *f.* 1. *Sloan. jam.* 2. 96. *n.* 16. *Raii dendr.* 63. *n.* 11. *Brown. jam.* 173.
Filaments toothleſs, tube filiform, peduncles very ſhort.

3. Ceſtrum diurnum. *Day-ſmelling Ceſtrum.*
Lin. ſpec. 277. *ſyſt.* 227. *Reich.* 525. *hort. cliff.* 491. *Murr. nov. comm. gott.* 5. 44. *L'Herit. ſtirp. nov.* 74. *Ait. hort. kew.* 1. 255.
Jaſminoides. *Dill. elth.* 186. *t.* 154. *f.* 186.
Filaments toothleſs, ſegments of the corolla roundiſh reflected; leaves lanceolate.

[4. Ceſtrum tomentoſum.
Lin. ſyſt. 228. *ſuppl.* 150.
Flowers crowded, ſeſſile, terminal; branches, leaves and calyxes tomentoſe.]

5. Ceſtrum laurifolium. *Laurel-leaved Ceſtrum.*
L'Herit. ſtirp. nov. 69. *t.* 34. *Ait. hort. kew.* 1. 255. *Smith ſpicil. t.* 2. *Mill. dict. n.* 6. (venenatum.)
Laureola. *Pluk. alm.* 209. *t.* 95. *f.* 1. *Raii dendr.* 53. *n.* 1.
Filaments toothletted or naked; leaves elliptic coriaceous ſhining very much, peduncles ſhorter than the petiole.

[6. Ceſtrum auriculatum. *Ear-leaved Ceſtrum.*
L'Herit. ſtirp. nov. 71. *t.* 35. *Ait. hort. kew.* 1. 255.
Hediunda jaſminiano flore. *Feuill. it.* 3. 25. *t.* 20. *f.* 3.
Filaments toothleſs, ſtipules lunate.

7. Ceſtrum Parqui.
L'Herit. ſtirp. nov. 73. *t.* 36.
Parqui. *Feuill. obſ.* 3. 52. *t.* 32.
Filaments toothletted or naked; floriferous ſtem panicled; ſtipules linear.

8. Ceſtrum hirtum.
Swartz prodr. 49.
Flowers ſubſpiked axillary, leaves ſubcordate ovate acute, underneath with the branchlets rough with hairs.]

9. Ceſtrum nervoſum.
Mill. dict. n. 3.
Jaſminoides americanum, lauri folio, fl. albo odorato. *Houſt. M.S.S.*
Leaves lanceolate, oppoſite, with tranſverſe nerves; peduncles branching.

DESCRIPTIONS, *&c.*

1. It riſes with an upright ſtalk about ſix or ſeven feet high, covered with a grayiſh bark, and divides upward into many ſlender branches, which generally incline to one ſide; and are garniſhed with leaves placed alternate, near four inches long, and one and a half broad, ſmooth on their upper ſide, of a pale green, and on their under ſide they have ſeveral tranſverſe veins, and are of a ſea-green colour, having ſhort foot-ſtalks. The flowers are produced at the wings of the leaves, in ſmall cluſters, ſtanding upon ſhort peduncles, each ſuſtaining four or five flowers, of an herbaceous colour. They appear in auguſt, but are not ſucceeded by berries in this country: thoſe which come from America are ſmall, and of a dark brown colour.

It is a native of the iſland of Cuba, whence Mr. Miller received the ſeeds by the title of Dama de Noche, or Lady of the Night. It is probably ſo called, from the flowers ſending out a ſtrong odour after ſun-ſet.

It was raiſed many years paſt in the curious garden of the Ducheſs of Beaufort at Badminton, and was thence communicated to ſeveral gardens in England and Holland, where it paſſed by the name of Badminton Jaſmin.

Mr. Miller has another ſort (C. ſpicatum, n. 4.) which he ſays was ſent him from Carthagena; [it is probably not different from this; and if ſo it is found not only in the iſlands of the Weſt Indies, but on the continent of South America.

2. A tree twelve feet in height. Stem not very ſtrong. Branches round, obſcurely tomentoſe. Leaves alternate, on ſhort petioles, length double the breadth, ſharp, quite entire, green on both ſides, with croſs veins underneath, almoſt parallel, convex. Spikes axillary, ſhort, ſubpeduncled; with flowers ſix to nine, alternate, diverging, ſubſeſſile, crowded, ſeparated by an ovate-oblong bracte, a little longer than the calyx which is ſmall and ovate. Corolla longer than the ſpike, green; tube filiform; border expanding, five-parted; diviſions ſubulate, ſharp, one-third ſhorter than the tube, equal, greeniſh white. Stamens and piſtil the length of the throat [a]. The flowers grow by twos, threes and fours, according to Murray; by fours and fives, according to Swartz. They have no toothlet in the middle of the filaments. The berries are blue. The bark and fruit are fetid [b]. It is a native of the Weſt-Indies, and was cultivated in 1759, by Mr. Miller [c].]

3. This riſes with an upright ſtalk to the height of ten or twelve feet, covered with a ſmooth light green bark, dividing at top into many ſmaller branches, with ſmooth leaves near three inches long, and one and a half broad, of a lively green colour, and the conſiſtence of thoſe of the Spurge Laurel; theſe are ranged alternately on the branches. Towards the upper part of the ſhoots come out the flowers from the wings of the leaves, ſtanding in cluſters cloſe to the branches; they are very white, ſhaped like thoſe of the firſt ſort, and ſmell ſweet in the day time, whence it had the appellation of Lady of the Day. The berries of this are ſmaller than thoſe of the firſt ſort. It flowers in ſeptember, october and november.

[According to Murray, the tube of the corolla is funnel-form, and the diviſions of the border roundiſh.

Monſ. L'Heritier obſerves, that it differs from *C. laurifolium* in having longer peduncles, the border of the corolla broader, the filaments naked, the leaves lanceolate not oval, and the flowers white not yellow.]

It is a native of the Havanna, whence the ſeeds were ſent to Mr. Miller by the name of *Dama di Dio*: [but it had been cultivated before in 1732, by Dr. Sherard at Eltham [d].

4. The form of the leaves and flowers is the ſame as in the third ſpecies; but the calyxes, branches, and under ſurface of the leaves are tomentoſe; the calyxes are larger; the corollas coloured, with a ſhorter tube, and a more enlarged border. It was found in South America, by Mutis [e].

5. Stem ſhrubby, erect, round, with a rugged aſh-coloured bark: branches alternate, in the upper

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[a] Linn. ſpec.
[b] Murray and Swartz.
[c] Hort. kew.
[d] Ibid.
[e] Linn. ſuppl.

part ſomewhat angular, leafy, many-flowered. Leaves alternate, on ſhort foot-ſtalks, ſpreading, elliptic-oblong, a little pointed, entire, obſcurely veined, very ſmooth and ſhining, paler beneath, evergreen: foot-ſtalks ſmooth, dark purple, flat above. Stipules none. Peduncles axillary on the upper part of the branches, in a ſort of corymb, erect, ſhorter than the foot-ſtalks, many-flowered. Bractes ſolitary under each flower, ovate, obtuſe, hairy, ſmall, deciduous. Calyx bell-ſhaped, five-toothed, minutely ciliate on the margin, permanent. Corolla four times longer than the calyx; ſegments of the rim obtuſe, ſpreading, pale yellow marked with a gold-coloured ſtreak. Filaments nearly as long as the tube, attached to it by more than half their length, and jointed where they ſeparate from it, frequently alſo furniſhed with a little tooth-like protuberance. Anthers roundiſh, two-lobed, incumbent, half within the tube. Germ ſuperior; ovate, five-channelled, ſmooth, placed on a pretty large five-cornered receptacle. Style a little thickened at the top, ſomewhat ſhorter than the ſtamens. Stigma obtuſe, impreſſed[f].]

According to Miller, the ſtem is eight or nine feet high; the leaves are five inches long, and two broad; the flowers emit a diſagreeable odour, and are ſucceeded by oval berries of a violet colour, full of juice; they are reckoned very poiſonous, and have the appellation of Poiſon-berries in Jamaica, whence it was ſent him by Dr. Houſtoun.

[Mr. Miller has well determined and deſcribed it under the name of *C. venenatum*, *n.* 6. Its fetid ſmell ſeems to imply that poiſonous nature, which he and Sloane attribute to it, and which other plants of this genus poſſeſs[g].

It was cultivated in 1691, in the royal garden at Hampton-court, and flowers in auguſt[h].

6. This is a very fetid ſhrub, two fathoms in height. Stems uſually ſeveral from the ſame root, upright, round, ſomewhat branched, cinereous: branches alternate, upright, warted: ſhoots pubeſcent, green. Leaves alternate, petioled, oblong-lanceolate, acuminate, ſharp at the baſe, entire, ſmooth, flat or ſlightly waved, green but paler underneath, ſpreading, five inches long, twenty lines broad: petioles one-fourth only of the length of the leaves, rounded on one ſide, flat on the other. Stipules axillary, ſurrounding the branchlets, of the ſame form with the leaves. Panicles terminating, conſiſting of axillary ſpikes at the baſe, erect, leafy, bracted, villoſe, three inches long: peduncles alternate, axillary, patulous, many-flowered. Flowers crowded at the top of the peduncle, ſeſſile or ſcarcely pedicelled, herbaceous, eight lines long, and four or five broad. Bractes few, linear, here and there. Calyx five-toothed, ſharp, upright, preſſed cloſe, ſomewhat villoſe, permanent, one line in length. Corolla alſo ſomewhat villoſe on the outſide, inſerted into the receptacle: tube from ſix to eight lines long, ſwelling at top; diviſions of the border linear-lanceolate, very ſharp, two-furrowed, ſpreading. Filaments capillary, very ſhort, without any toothlet, nearly as high as the tube: anthers two-celled, peltate, herbaceous. Germ ſuperior, ovate, obtuſe: ſtigma oblate-ſpheroidal, umbilicate, rolled back at the edge, within the throat or ſcarcely appearing out of it. The berry contains only about five ſeeds.

It differs from *C. veſpertinum*, in having the flowers in panicles, the leaves flat and not converging at the edge, the ſtipules eared, whereas that has none. It differs from the next ſpecies, in having the ſtem leſs panicled, the ſtipules creſcent-ſhaped not linear, the tube of the corolla cylindric not club-ſhaped, and the border linear-lanceolate not truly lanceolate; the filaments alſo are very ſhort and toothleſs.

The natives of Lima in Peru uſe it externally to cleanſe foul ulcers, and internally in the venereal diſeaſe; they look upon it as a pectoral, but it ſeems to be a plant of ſuſpicious character. Dombey obſerved it in wet places about Lima. It has been cultivated many years in the Paris garden. It flowers in winter, but ſeldom, and has never borne fruit[i]. Introduced here about 1774[k].

7. This is a fetid ſhrub, one fathom in height. Stems ſeveral, upright, round, with a cinereous cloven bark: branches alternate, patulous, round, with a few tubercles: ſhoots green, ſmooth. Leaves alternate, lanceolate, acuminate, or very ſharp at each end, entire, ſomewhat waved, ſmooth, bright green, the ſame on both ſurfaces, ſpreading, four inches long and one broad: petioles very ſhort, round on one ſide, flattiſh on the other. Stipules axillary, linear-lanceolate, acute, like naſcent leaves. Panicles from the ends of the twigs, upright, leafy, bracted, ſmooth, compoſed of axillary ſpikes, ſimple or compound, patulous, two inches long. Flowers ſeſſile or ſubſeſſile, heaped, duſky yellow, odorous in the night, eight lines long and ſix broad. Bracte linear, acute, under the calyx, ſpreading. Calyx five-toothed, acute, erect, ſmoothiſh, permanent, two lines long. Corolla inſerted into the receptacle, almoſt naked: tube club-ſhaped at the top, eight lines long; ſegments of the border lanceolate, acuminate, ſpreading, and finally turned back. Filaments ſubulate, cloſing the tube with their toothlets, pubeſcent at the baſe, the length of the tube: anthers two-celled, peltate, yellow. Germ ſuperior, roundiſh: ſtigma oblate-ſpheroidal, excavated, large, ſtanding out a little, green. Berry placed upon the calyx, ſtanding far out, oval, two-celled, of a duſky violet colour, four or five lines in length, and three in breadth; containing three or four obſcurely angular, black ſeeds.

Introduced at Paris from ſeeds ſent by Dombey from Chili, where it grows naturally[l].

The foregoing ſpecies are thus diſtinguiſhed by Monſ. L'Heritier. The leaves are evergreen, one-nerved and lucid in *C. laurifolium* and *diurnum*; reclining and converging upwards on the ſides in *C. auriculatum* and *Parqui*. Theſe two laſt have ſtipules. The peduncles are ſubracemed and elongated in *C. nocturnum, auriculatum*, and *Parqui*; ſhorter in *C. diurnum*; ſhorter ſtill in *C. laurifolium*; and in *C. veſpertinum* ſcarcely any. The ſegments of the corolla are roundiſh in *C. diurnum*; ovate in *C. laurifolium*; lanceolate in *C. Parqui* and *nocturnum*; linear in *C. veſpertinum* and *auriculatum*. The genitals are incloſed in *C. laurifolium*, in the reſt the ſtigma is prominent beyond the throat, except in *C. Parqui*, which has it ſcarcely ſtanding out, or but very little. The filaments are toothed in *C. nocturnum, laurifolium* and *Parqui*; but not in *C. diurnum, veſpertinum* and *auriculatum*.

8. Native of the Weſt-Indies; Jamaica, *&c.*[m]]

9. Stem ſhrubby, five or ſix inches high, covered with a brown bark, and dividing at top into very ſmall branches. Leaves about four inches long, and little more than one broad, ſmooth, of a light green. Flowers axillary, towards the ends of the branches, four or five on each peduncle. Tube of the corolla ſwelling at the baſe, juſt above the calyx, but contracting upwards to the mouth, where the border is cut into five broad, flat ſegments; it is white, but without ſcent.

Native of Carthagena in New Spain, whence it was ſent to Mr. Miller.

PROPAGATION AND CULTURE.

The firſt and ſecond ſorts produce their flowers every year in England, the others ſeldom flower here; but as they retain their leaves all the year, they make a pretty variety in the ſtove, during the winter ſeaſon; and when they flower, the branches are commonly well furniſhed at their joints with bunches of flowers.

All theſe plants growing naturally in very hot countries, require to be placed in a warm ſtove, eſpecially in the winter. The firſt and third are hardier than the others; theſe I have kept ſeveral years in a dry ſtove, with a moderate ſhare of heat in winter, and in the middle of ſummer have ſet them in the open air, in a warm ſituation. With this management I have found them thrive, and produce flowers much better than when they have been placed in a greater heat; I have often endeavoured to keep theſe plants through the winter, in a green-houſe, or a glaſs caſe, without fire, but could never ſucceed; for by the end of January they commonly decayed.

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[f] Smith.

[g] Ibid.

[h] Hort. kew.

[i] L'Heritier.

[k] Hort. kew.

[l] L'Heritier.

[m] Swartz.

The other ſorts require a larger ſhare of heat, eſpecially when the plants are young; therefore they ſhould be plunged in the tan-bed of the bark-ſtove, otherwiſe they will loſe their leaves in winter, if they are not quite deſtroyed; but after three or four years growth, they will bear to be treated more hardily, provided they are inured to it gradually.

Theſe plants may be propagated from ſeeds, or by cuttings. Thoſe which come from ſeeds are always the moſt vigorous, and ſtraighteſt plants; but as they do not produce ſeeds in England, the other method is generally practiſed, becauſe their ſeeds are rarely brought hither.

The beſt time to plant theſe cuttings is about the end of may, by which time the ſhoots will have had time to recover their ſtrength, after their confinement during the winter ſeaſon. The ſhoots which come out from the lower part of the ſtalks, ſhould always be choſen for this purpoſe. Theſe ſhould be cut about four inches long, and five or ſix of them may be planted in each halfpenny pot; for the cuttings of moſt ſorts of exotic plants will ſucceed better when they are planted in the ſmall pots, than they do in larger, as I have many years experienced. The earth ſhould be freſh and light, but not full of dung: it muſt be preſſed pretty cloſe to the cuttings, and then they muſt be gently watered; after which the pots muſt be plunged into a moderate hot-bed of tanners bark, and every day ſhaded from the ſun. They muſt alſo have freſh air admitted to them in warm weather, and two or three times a week muſt be refreſhed with water. With this management the cuttings will put out roots in five or ſix weeks, when they ſhould be gradually expoſed to the ſun; and when they begin to put out ſhoots, they muſt have a greater ſhare of freſh air admitted to them, to prevent their drawing up weak; and their waterings ſhould be oftener repeated, but given in ſmall quantities, for their young tender fibres will not endure much wet. When they have made good roots, they ſhould be carefully ſhaken out of the pots, and each put into a ſeparate ſmall pot, filled with the ſame ſort of earth as before; then give them ſome water, to ſettle the earth to their roots, and plunge them again into the tan-bed; obſerving if any of their leaves hang down, to ſhade them from the ſun in the middle of the day, until they have taken freſh root; after which they ſhould have a large ſhare of air in warm weather, to ſtrengthen them before winter. Their waterings in the ſummer ſhould be frequent; and if they are ſprinkled all over their leaves, it will waſh and cleanſe them from filth, which will greatly promote their growth; but their roots muſt not be kept too moiſt.

In the autumn the plants of the ſecond and fifth ſorts muſt be removed into the bark-ſtove, and plunged into the tan-bed, where they muſt be treated in the ſame manner as other tender exotic plants; but the firſt and third ſorts may be treated otherwiſe, eſpecially when they have obtained ſtrength; yet the firſt winter they may be managed in the ſame way as the others. There muſt be great care had in watering theſe plants in winter, for they are all (except the third ſort) very impatient of moiſture.

If the ſeeds of theſe are procured from the countries where they grow naturally, they ſhould be ſowed in ſmall pots filled with the earth before directed, and plunged into a moderate hot-bed of tanners bark, giving them now and then a little water. Sometimes the ſeeds will come up the ſame year, but they very often lie in the ground till the ſpring following; ſo that if the plants do not appear in ſix or ſeven weeks after the ſeeds are ſown, they will not come up that ſeaſon; in which caſe the pots may be plunged in the tan-bed of the ſtove, between the other plants, where they will be ſhaded from the ſun, and but little water given them; in this ſituation they may remain till the following ſpring, when they ſhould be removed, and plunged into a freſh hot-bed, which will bring up the plants in a ſhort time, provided the ſeeds were good.

When the young plants are fit to remove, they ſhould be carefully ſhaken out of the pots, and each planted into a ſeparate pot filled with the before-mentioned earth, and plunged into the hot-bed again, and afterward treated in the ſame way as hath been directed for the plants raiſed from cuttings.

Ceterach. See *Aſplenium.*

[Chaa. See *Thea.*

Chærefolium. See *Scandix.*

Chærophyllo similis. See *Aphanes.*]

CHÆROPHYLLUM. (*From* χαίρω *&* φύλλον; *rejoicing, or being very luxuriant in leaves.*

Lin. gen. n. 358. *Reich.* 388. *Schreb.* 490. *Juſſ.* 220. *Chærophylli ſpecies. Tourn.* 166.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ*, or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel* univerſal ſpreading; *Partial* nearly equal as to the number of rays.

Involucre univerſal none. *Partial* ſubpentaphyllous; *leaflets* lanceolate, concave, reflected, nearly the length of the umbellule. *Perianth* proper obſcure.

Cor. univerſal nearly uniform. *Florets* of the diſk abortive.

Proper of five petals, heart-inflected; with the point bent in, flattiſh; exterior ones rather larger.

Stam. *Filaments* five, ſimple, length of the umbellule. *Anthers* roundiſh.

Pist. *Germ* inferior. *Styles* two, reflected. *Stigmas* obtuſe.

Per. None. *Fruit* oblong, acuminate, ſmooth, bipartile.

Seeds two, oblong, attenuated upwards, convex on one ſide, flat on the other.

Obs. *The ſeeds of the diſk frequently are abortive: the fruit varies in ſhape.*

ESSENTIAL CHARACTER.

Invol. reflected concave. *Pet.* heart-inflected. *Fruit* oblong, even.

SPECIES.

1. Chærophyllum ſylveſtre. *Wild Cicely* or *Cow-weed. Common Cow-parſley.*

Lin. ſpec. 369. *Reich.* 708. *fl. ſuec. n.* 257. *mat. med.* 83. *Hudſ. angl.* 124. *With.* 306. *Curt. lond.* 4. *t.* 25. *Light.* 167. *Jacqu. auſtr.* 2. *t.* 149. *Krock. fl. ſileſ. n.* 450. *Neck. gallob.* 148. *Scop. carn. n.* 366. *Pollich. pal. n.* 298. *Plenck. ic. t.* 208. *Villars dauph.* 2. 642.

Cerefolium. *Hall. helv. n.* 748.—ſylveſtre. *Riv. t.* 44.

Cicutaria vulgaris. *Bauh. hiſt.* 3. 181. *Raii hiſt.* 429. *Mor. hiſt. ſ.* 9. *t.* 11. *f.* 5.

Myrrhis ſylv. ſeminibus lævibus. *Bauh. pin.* 160.

Stem (upper part) even, ſtriated, joints ſomewhat ſwelling.

2. Chærophyllum bulboſum. *Tuberous Chervil.*

Lin. ſpec. 370. *Reich.* 709. *hort. upſ.* 64. *Jacqu. auſtr.* 1. *t.* 63. *Pollich. pal. n.* 299. *Krock. ſileſ. n.* 451. *Plenck, ic. t.* 207.

Myrrhis. *Hall. helv. n.* 752.—foetens. *Riv. t.* 50. *Pluk. alm. t.* 206. *f.* 2.

Cicutaria bulboſa. *Bauh. pin.* 161. *Raii hiſt.* 429. *n.* 3.

Stem even ſwelling at the joints, rough with hairs at the baſe.

[3. Chærophyllum ariſtatum.

Lin. ſyſt. 288. *Thunb. jap.* 119.

Stem even ſwelling at the joints, ſeeds rough with hairs two-awned.]

4. Chærophyllum temulum. *Wild Chervil. Rough Cow-Parſley.*
Lin. ſpec. 370. *Reich.* 710. *fl. ſuec. n.* 258. *Hudſ. angl.* 125. *With.* 307. *Curt. lond.* 6. *Lightf.* 167. *Relh cantab. n.* 236. *Jacq. auſtr.* 1. *t.* 65. *Krock. ſileſ. n.* 452. *Leers. herborn. n.* 214. *Pollich. pal. n.* 300. *Neck. gallob.* 147. *Villars dauph.* 2. 646.
C. ſylveſtre. *Bauh. pin.* 152.
Cerefolium ſylv. *Ger.* 867. *emac.* 1038. 2. *Park.* 915. *Raii hiſt.* 431. *Pet. t.* 25. *f.* 3.
Myrrhis. *Hall. helv. n.* 750. *Riv. t.* 49. *Mor. ſ.* 9. *t.* 10. *f.* 7.
Anthriſcus. *Bauh. hiſt.* 3. 70.
Stem rugged, joints ſwelling.

5. Chærophyllum hirſutum. *Hairy Chervil.*
Lin. ſpec. 371. *ſyſt.* 288. *Reich.* 710. *mant.* 356. *hort. cliff.* 101. *n.* 2. *Jacqu. auſtr.* 2. *t.* 148. *Krock. ſileſ. n.* 453. *Gouan. illuſtr.* 15. *Leers. herborn. n.* 215. *Villars dauph.* 2. 644.
Myrrhis. *Hall. helv. n.* 751.—paluſtris. *Riv. pent. t.* 51.
Scandix hirſuta. *Scop. carn. n.* 350.
Cerefolium. *Mor.* 304. *ſ.* 9. *t.* 10. *f.* 6.
Stem equal; leaflets gaſhed, acute; fruits two-awned.

[6. Chærophyllum aromaticum. *Aromatic Chærophyllum.*
Lin. ſpec. 371. *ſyſt.* 288. *Reich.* 711. *mant.* 356. *Jacqu. auſtr.* 2. *t.* 150. *Krock. ſileſ. n.* 455.
Cerefolium. *Bocc. muſ.* 2. 29. *t.* 19.
Myrrhis fol. podagrariæ. *Riv. pent. t.* 53.
Angelica. *Bauh. pin.* 156. 4. *prodr.* 82.
Stem equal; leaflets ſerrate, entire; fruits two-awned.

7. Chærophyllum coloratum.
Lin. ſyſt. 288. *Reich.* 711. *mant.* 57. *Jacqu. hort. t.* 51.
Myrrhis perennis lutea daucoides. *Mor.* 302. *ſ.* 9. *t.* 10. *f.* 6.
Stem equal; leaves ſuperdecompound; involucels coloured.]

8. Chærophyllum aureum. *Golden Chærophyllum.*
Lin. ſpec. 370. *ſyſt.* 288. *Reich.* 712. *mant.* 356. *Jacqu. auſtr.* 1. *t.* 64. *Krock. ſileſ. n.* 454. *Pollich. pal. n.* 301. *Villars dauph.* 2. 645.
Cerefolium. *Hall. helv. n.* 749. *Rupp. jen.* 3. 282. *t.* 5.
Myrrhis. *Bauh. pin.* 160. *n.* 2. *Lob. ic.* 734. *Mor. umb.* 66. *hiſt.* 301. *t.* 10. *f.* 2.
Stem equal; leaflets gaſhed; ſeeds coloured, grooved, awnleſs.

[9. Chærophyllum ſcabrum.
Lin. ſyſt. 289. *Thunb. jap.* 119.
Stem equal; leaves gaſhed, acute, rough with hairs, peduncles rugged.

10. Chærophyllum arboreſcens.
Lin. ſpec. 371. *Reich.* 712.
Cicuta arbor virginiana. *Raii ſuppl.* 257.
Shrubby.

DESCRIPTIONS, &c.

1. *Stem* two feet high and upwards, hollow, grooved, generally villoſe and purpliſh, much branched: branches ſubereƈt, leſs hoary than the ſtem. *Leaves* next the root ſuperdecompound, and very large; ribs hirſute, fiſtuloſe, forming a ſharp angle on the back, hollow in front, and ariſing from a ſhort, ſtriated ſheath; leaflets lanceolate, pointed, deeply and irregularly ſerrate, generally hirſute, but ſometimes ſmooth: leaves of the ſtem and branches ſucceſſively ſmaller, and leſs divided, in other reſpeƈts ſimilar; the upper ones often oppoſite or growing three together, with as many axillary branches. *Umbels* flattiſh when in fruit, but in bloſſom convex; drooping before the expanſion of the flowers. Common peduncle round. Rays ſeven to eighteen, ſlender, round and ſmooth. Leaflets of the involucel five or more, ovate-pointed, ſmooth but ſomewhat hairy on the edges, only half the length of the umbellule, finally refleƈted. *Petals* flat, obovate, whitiſh; at firſt yellowiſh white; thoſe of the central flowers nearly equal; but the outermoſt of the outer flowers larger, ſubcordate and emarginate. *Seeds* columnar, gloſſy, grooved, blackiſh, without ſcent, and almoſt taſteleſs[a].

Very common in paſtures, orchards, and under hedges, flowering in may, and in warm ſituations in april. Mr. Hudſon marks it as an annual plant; other authors affirm it to be perennial. I ſhould rather ſuppoſe it to be biennial.

Linneus remarks that this plant indicates a luxuriant ſoil; and ſays that the flowers communicate a green and yellow dye to wool. He alſo affirms that horſes, ſheep and goats are not fond of it, and that cows and ſwine refuſe it. According to Monſ. Villars, horſes will not eat it, even in the ſtable. Mr. Miller ſays that there are few animals who care to eat it except the aſs. On the contrary Mr. Ray informs us that it has the name of *Cow-weed*, becauſe it is a grateful food to cows, in the ſpring, before it runs up to ſtalk; and in confirmation of this, Mr. Wainwright (*With. arr.*) ſays that cows like it ſo well, that when a paſture is over-run with it, as is often the caſe about Dudley, they always turn them in to eat it up. Rabbets are well known to be very fond of this herb; and Mr. Curtis relates, that in time of ſcarcity, the young leaves have been uſed as a pot-herb.—Haller (from Buckwald) ſays that the Dutch uſe it in gangrenes. John Bauhin mentions inſtances of two families having been poiſoned by eating a ſmall quantity of the root.

2. *Root* like the Navew, and biennial. *Stem* from two or three to ſix feet high, with reddiſh-brown ſpots, ſmooth and even at top, hiſpid, with long white hairs below, a little ſwelling at the joints. *Leaves* triply-pinnate, ſharply cut; the upper ſurface ſmooth, the petioles and keel with ſcattered white hairs beneath. Both *umbels* of unequal rays, the *partial* rather convex. *Univerſal involucre* none, or of one or two lanceolate, refleƈted leaflets: *partial*, of five, ſix, or ſeven, almoſt united at the baſe. Petals white, obcordate, unequal. Some florets of the diſk abortive.—The roots taken up early in the ſpring are eaten boiled, with ſalt, oil and vinegar. Gmelin affirms both theſe and the ſeeds to occaſion vertigoes; but certainly this is not true, at leaſt of the freſh root, many perſons having eaten of that with impunity.—It is frequently ſubſtituted for the *Cicuta* or *Conium maculatum*[b].

Native of Germany, Auſtria, Switzerland, Norway; in hedges and by wood ſides; flowering in june and july.—Cultivated 1739, by Mr. Miller[c].

3. *Stem* round, ſtriated, ſmooth, ereƈt. *Leaves* bipinnate, villous, the ſheaths of the petioles ciliated. *Umbels* terminal, compound. *Involucres* and involucels ſubulate, refleƈted. *Seeds* oblong, awned with divaricated ſtyles, white-villous.—It differs from *Ch. bulboſum* in having hirt, ſcabrous leaves; and villous, awned ſeeds. Native of Japan[d].

4. Stem but little furrowed, marked with purple ſpots, and ſet with white hairs ſtanding out. Umbels drooping before the time of flowering. Flowers in the middle of the umbellule abortive[e]. *Root* biennial. *Stem* two feet or more in height, branched, round, ſolid. *Leaves* petioled, from a ſheath, ſlightly hirſute, ſoft, flaccid, doubly pinnate, the pinnas ſubovate, obtuſe, and cut into lobes. *Umbel* univerſal, from five to twelve rays, the outermoſt longeſt; partial twice as many. *Involucre*, univerſal moſtly wanting; but ſometimes there are from one to four leaves: partial, conſiſts of about ſix leaflets, or rather is one-leaved, with ſix or eight clefts, which are lanceolate, pointed, refleƈted. *Corolla:* florets of the diſk rarely abortive, unleſs in thoſe which flower late: petals white, which having the tip bent inwards, appear heart-ſhaped; the outmoſt rather larger. *Seeds* ſmooth, brown, on the inſide hollow, on the outſide faintly and bluntly marked with five grooves, the angles paler. The

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[a] Curtis and Stokes in Withering.
[b] Linn. and Krocker.
[c] Hort. kew.
[d] Thunberg.
[e] Linn.

roughneſs, deep purple colour, and ſwelled joints of the ſtem, diſtinguiſh it from the *ſylveſtre*; it alſo flowers a month or ſix weeks later, and is more confined to hedges, being rarely met with in open paſtures. The ſtem being generally ſpotted with purple, it is frequently miſtaken for Hemlock [f].

It has the name of *temulum* or *temulentum* from its ſuppoſed narcotic or inebriating quality, which it probably poſſeſſes, like the *ſylveſtre*, only in a very ſmall degree.

5. A pubeſcent plant. *Stem* hollow, round, very rough with ſtiffiſh hairs. *Leaves* decompound, almoſt naked, rugged underneath with ciliate veins: leaflets on each branchlet of the leaves ſcarcely more than five with white dots above the ſerratures. *Umbel* convex, nodding before it flowers. *Involucels* five-leaved, lanceolate, acuminate, green; the length of the umbellule. *Flowers* whitiſh, not radiate; many barren. *Fruits* ſubcylindric, ſlightly ſtriated, terminating in two diſtinct, ſtraight awns, blunted at the tip, more rigid than in *C. aromaticus* [g].]

It is perennial, and reſembles the firſt ſort, but the leaves are hairy, and their ſegments broader. Stem four feet high. Corolla in ſome plants red, in others white.

[Native of Switzerland, Germany, Auſtria, Carniola.—Cultivated in 1768, by Mr. Miller [h].

6. Stem and petioles rough with hairs. Leaves of *Ægopodium Podagraria*. Moſt of the flowers male, not radiate. Involucels conſiſting of from ſeven to nine lanceolate, reflected leaflets [i].

Krocker ſays, that the *root* is perennial, branching, aromatic. *Stem* from two to three feet high, hollow, round, ſtriated, dichotomous. *Leaves* pinnate, with the odd leaflet very large; pinnas elliptic, acuminate. *Petioles* ſlender, channelled, proceeding from broad, membranous ſheaths. Native of Luſatia, Miſnia, Auſtria, Sileſia. Flowering in july and auguſt.

Cultivated 1758, by Mr. Miller [k].

7. *Stem* round, hirſute eſpecially at bottom. *Leaves* of *Selinum Thyſſelinum*, with a few hairs ſcattered about them. *Umbel* as in the firſt ſpecies: involucels ovate, acuminate, yellow as in the *Bupleurums*, the length of the pedicels. Various florets barren. *Fruit* as in the next ſpecies, but more finely ſtriated. It differs from that altogether in the leaflets and hairs [l]. Native of Illyria.

8. A pubeſcent plant. *Stem* angular, ſtriated, ſpotted, rough with hairs at bottom, and not hollow. *Leaves* pale, ſmooth above, hirſute underneath; the extreme leaflets confluent. *Corollas* white, reddiſh on the outſide. *Fruit* fuſiform-cylindric. *Seeds* yellow, with four obtuſe, remote grooves [m].

According to Krocker, the *root* is perennial, fuſiform, white. *Stem* eighteen inches or more in height. *Partial involucre* of ſeven broad, lanceolate, reflected leaflets. Outer *petals* larger, ſemibifid. Native of the country about Geneva, of Switzerland, Germany, and Auſtria.—Cultivated 1570, by Mr. Penn [n].

9. *Root* fibrous. *Stem* ſomewhat flexuoſe, erect, angular, ſtriated, ſmooth below, hirſute above, a foot high and more. *Branches* alternate, ſpreading, ſubfaſtigiate, reſembling the ſtem. *Leaves* bipinnate, rough with hairs. *Umbels* terminal. *Petioles* and *peduncles* very hirſute with white hairs preſſed to them, and rugged. *Seeds* ovate-oblong. It differs from *Ch. hirſutum* in having ſmaller leaflets, more divided, with the ſheaths not dilated; and in the umbels being ſmaller. Near Jedo, &c. in Japan, flowering in april and may [o].

10. *Stem* ſhrubby. *Leaves* like thoſe of the firſt ſpecies, large, ſuperdecompound, with the pinnas much expanded, gloſſy, gaſh-ſerrate. *Umbels* thin, white, with a partial involucre: all the florets fertile. Native of Virginia [p].]

PROPAGATION AND CULTURE.

The firſt and fourth ſpecies are common weeds. The others are admitted only into botanic gardens; not being in uſe either for medicine, or in the kitchen. If the ſeeds be permitted to ſcatter, the plants will come up without farther care; or they may be ſown in ſpring, where they are to remain.

[CHÆROPHYLLUM. See *Athamanta* and *Scandix*.

CHAFEWEED. See *Filago*.

CHALCAS PANICULATA. See *Murraya exotica*.

CHALCEIOS. See *Echinops*.

CHAMÆBALANUS. See *Arachis*.

CHAMÆBUXUS. See *Polygala*.]

CHAMÆCERASUS. See *Prunus* and *Lonicera*.

[CHAMÆCISSUS. See *Glecoma*.]

CHAMÆCISTUS. See *Andromeda, Azalea, Ciſtus, Portulaca, Rhododendron, Saxifraga*, and *Turnera*.

CHAMÆCLEMA. See *Glechoma*.

[CHAMÆCRISTA. See *Caſſia*.

CHAMÆ-CHRYSOCOME. See *Stæhelina*.]

CHAMÆCYPARISSUS. See *Santolina*.

CHAMÆDAPHNE. See *Andromeda, Kalmia, Mitchella, Ruſcus*.

[CHAMÆDRIFOLIA. See *Forſkoehlea*.]

CHAMÆDRYS. See *Bartſia, Dryas, Pæderota, Rhinanthus, Teucrium, Veronica*.

[CHAMÆFILIX. See *Aſplenium*.

CHAMÆ-GENISTA. See *Geniſta*.

CHAMÆIASME. See *Stellera*.

CHAMÆIRIS. See *Iris*.

CHAMÆLARIX. See *Aſpalathus*.]

CHAMÆLEA. See *Cneorum, Clutia, Phylica*, and *Tragia*.

CHAMÆLEAGNUS. See *Myrica*.

[CHAMÆLEON. See *Atractylis, Carduus, Carlina, Carthamus, Centaurea, Cnicus*.

CHAMÆLINUM. See *Linum*.]

CHAMÆMELUM. See *Achillea, Anthemis, Arctotis, Chryſanthemum, Cotula, Matricaria*.

CHAMÆMESPILUS. See *Meſpilus*.

[CHAMÆ-MOLY. See *Allium*.]

CHAMÆMORUS. See *Rubus*.

CHAMÆNERION. See *Epilobium*.

CHAMÆ-ORCHIS. See *Ophrys*.

[CHAMÆPERICLYMENUM. See *Cornus*.

CHAMÆPEUCE. See *Stæhelina*.]

CHAMÆPITYS. See *Creſſa, Dracocephalum, Erica, Teucrium*.

CHAMÆRHODODENDRON. See *Azalea* and *Kalmia*.

CHAMÆRHODODENDROS. See *Azalea* and *Rhododendron*.

CHAMÆRIPHES. See *Chamærops*.

CHAMÆROPS. (*χαμαὶ & ῥῶψ, a low ſhrub.*)

Dwarf Palm or *Palmetto*.

Lin. Appendix. Palmæ. n. 1289. *Reich. App. Palmæ. Schreb.* 1688. *Juſſ.* 39. *Muſ. Cliff.* 10. Chamæriphes *Pont.* 10. (*Polygamia Dioecia.*) *Gærtn. t.* 9.

GENERIC CHARACTER.

* *Hermaphrodite Flower.*

CAL. *Spathe* univerſal, compreſſed, bifid; *Spadix* branching; *Perianth* proper tripartite, very ſmall.

COR. tripartite. *Petals* ovate, coriaceous, erect, acute, inflected at the tip.

STAM. *Filaments* ſix, ſubulate-compreſſed, ſcarce cohering at the baſe. *Anthers* linear, twin, growing to the interior ſide of the filaments.

PIST. *Germs* three, roundiſh; *Styles* as many diſtinct, permanent. *Stigmas* acute.

PER. *Drupes* three, globoſe, unilocular.

SEEDS ſolitary, globoſe.

* *Male Flower* in a diſtinct plant, flowering in the ſame manner.

CAL. and COR. as in the Hermaphrodite.

STAM. A gibbous receptacle, ending in ſix *Filaments* not marked by perforations.

All the other particulars as in the Hermaphrodites.

ESSENTIAL CHARACTER.

HERMAPHR. *Cal.* three-parted. *Cor.* three-petalled. *Stam.* ſix. *Piſt.* three. *Drupes* three, one-ſeeded.

MALES. Dioecous, as in the hermaphrodite.

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[f] Curtis & Relhan.
[g] Linn. ſyſt.
[h] Hort. kew.
[i] Linn.
[k] Hort. kew.
[l] Linn. mant.
[m] Linn.
[n] Hort. kew. from Lobel.
[o] Thunberg.
[p] Linn. ſpec.

OBS. *Thunberg removes this genus into the claſs Hexandria, and the order Monogynia, along with Muſa.*

SPECIES.

1. Chamærops humilis. *Dwarf Fan-Palm.*
Lin. ſpec. 1657. *Reich.* 4. 632. *hort. cliff.* 482. 1.
Chamæriphes major. *Gærtn. fruct.* 1. 26.
Palma minor. *Bauh. pin.* 506.
P. humilis f. Chamæriphes. *Bauh. hiſt.* 1. 369. *Raii hiſt.* 1369.
Chamæriphes. *Dod. pempt.* 820. *Pont. anth.* 147. *t.* 8. *Dalech.* 369.
Fronds palmated, plaited; ſtipes thorny.
β. Chamærops glabra. *Palmetto Royal.*
Mill. dict. n. 2.
Leaves fan-ſhaped very large; ſtipes ſmooth.
[2. Chamærops excelſa.
Lin. ſyſt. 984. *Thunb. jap.* 130.
Sjuro & Sodio. *Kæmpf. amæn.* 5. 898.
β. Soo Tſiku, v. Sjuro Tſiku. *Kæmpf. amæn.* 5. 898.
Fronds palmated, nervous, ſerrate; ſtipes unarmed.
3. Chamærops cochinchinenſis.
Lour. cochinch. 657.
Fronds palmate plaited, ſtipes thorny, ſpathes partial, corollas monopetalous.]

DESCRIPTIONS, &c.

1. This never riſes with an upright ſtem, but the foot-ſtalks of the leaves riſe immediately from the head of the root, and are armed on each ſide with ſtrong ſpines; they are flat on their upper ſurface, and convex on their under ſide. The centers of the leaves are faſtened to the foot-ſtalk, and ſpread open like a fan, having many foldings, and at the top are deeply divided like the fingers of a hand; when they firſt come out, they are cloſed together like a fan when ſhut, and are faſtened together by ſtrong fibres which run along the borders of the leaves; and when the leaves ſpread open, theſe fibres or ſtrings hang from the ſides and ends; the borders of the leaves are finely ſawed, and have white narrow edgings; they are from nine to eighteen inches long, and near a foot broad in their wideſt part: as the lower leaves of the plants decay, their veſtiges remain, and form a ſhort ſtump above ground, in the ſame manner as our common male Fern does; from between the leaves comes out the ſpadix or club, which ſuſtains the flowers; this is covered with a thin ſpathe or hood, which falls off when the bunches open and divide.

[According to Gærtner, the pericarp conſiſts of three berries, which are ovate-globular, rounded three-cornered at bottom, of a rufous cheſtnut colour, with pale calloſe dots: rind thin, leathery. Seed ſmooth, oblong-ſpheroidal, teſtaceous, with a ſmall lateral teat below the middle.]

It grows naturally in Italy, Sicily and Spain, particularly in Andaluſia, where, in the ſandy land, the roots ſpread and propagate ſo faſt, as to cover the ground in the ſame manner as Fern in England. The leaves of theſe plants are tied together to make beſoms for ſweeping.

1. β. Chamærops glabra of Miller is native of the Weſt-Indies, where it never riſes with a ſtem; the ſtipes are rounder than thoſe of the European Fan-Palm, and have no ſpines on their ſides. When the plants are old, the leaves are three or four feet long, and upwards of two broad, and of a darker green; the folds alſo are broader: ſome of them have put out ſlender bunches of male flowers in England.

There is a dwarf Palm from Carolina very like this, if not the ſame.

[They are alſo uſed for making baſkets, and in thatching. The pith next the root is tender and ſweetiſh, and is ſometimes eaten in deſerts[q].

Cultivated 1731, by Mr. Miller[r].

2. A lofty tree. Leaves ſmooth, green above, pale underneath: lobes cohering at the baſe, linear, cleft at the end, ſerrated, with rough veins. Petioles three-cornered, entire, the length of the leaves. Flowers panicled. Panicle decompoſed, expanding; with floſcules ſeſſile on the extreme pedicels. Beſoms are made of the ſlender netted bark of the trunk.—The variety is a much lower tree. Native of Japan[s].

3. Trunk eight feet high, an inch in diameter, ſtraight, equal. Stipes long, ſlender, with ſhort, ſtraight, ſcattered ſpines. Fronds turbinate, with oblong blunt ſmall many-plaited ſegments. Spadix ſhort, upright. Spathes lanceolate, ſhorter than the ſpadix. No univerſal ſpathe. Calyx conſiſting of three ſharp, curved, upright, ſhort leaflets. Corolla one-petalled, cup-ſhaped, three-cornered; border trifid, bent in, very ſmall. Filaments very ſhort, placed on the border of the corolla: anthers roundiſh, minute. Drupes ovate, ſmall, juiceleſs, not eatable.

Native of the woods of Cochinchina. The fronds are fit for covering houſes, and making umbrellas[t].]

PROPAGATION AND CULTURE.

The dwarf Fan-Palm is commonly propagated here by heads, which ſometimes ſeparate from the main root; if theſe are carefully taken off with fibres and planted, they will grow; but the plants ſo raiſed are not ſo good as thoſe which are produced from ſeeds; ſo that if good ſeeds can be procured, that is by much the better way to propagate it. The ſeeds ſhould be ſown in ſmall pots filled with light ſandy earth, and plunged into a moderate hot-bed of tanners bark; theſe muſt be refreſhed now and then with water. If the ſeeds are freſh, the plants will come up in two months; theſe riſe with a ſingle long-pointed leaf. When they appear they muſt be now and then refreſhed with water, but they muſt not have it in too great plenty. If the plants are not too cloſe to each other in the pots, they will not require to be tranſplanted the firſt year; therefore they ſhould remain in the tan-bed all the ſummer, but in warm weather they muſt have plenty of air admitted to them. In autumn the pots ſhould be removed into the ſtove, and, if they are plunged into the bark-bed the firſt winter, it will greatly forward the growth of the plants. The following ſpring the plants ſhould be carefully turned out of the pots, ſo as to preſerve their roots entire; for all the ſorts of Palms have tender roots, and if theſe be cut off or broken, the plants are frequently killed: then they ſhould be each planted into a ſeparate ſmall pot filled with light, ſandy, undunged earth, and plunged into a freſh hot-bed to encourage their taking root; the following ſummer they ſhould be gradually hardened, by raiſing the glaſſes pretty high, ſo as to admit a large ſhare of air to them, but they ſhould not yet be wholly expoſed to the open air. The autumn following the plants may be placed in a dry ſtove; but as the plants advance and get ſtrength, they may be treated more hardily, and in ſummer placed in the open air in a warm ſituation, and in winter may be preſerved in a warm green-houſe without artificial heat.

As the plants advance in growth, they ſhould be put into larger pots; but when this is done, there muſt be great care taken that their roots are not cut or broken, nor ſhould they have pots too large. In winter they muſt have but little water, and if they are expoſed to the open air in ſummer, they will not require much, unleſs the ſeaſon proves very warm and dry, in which caſe they may be ſparingly watered two or three times a week.

CHAMÆRUBUS. See *Rubus.*

CHAMÆSYCE. See *Euphorbia.*

[CHAMEJASME. See *Houſtonia.*

CHAMELÆA. See *Daphne, Paullinia, Tragia.*

CHAMIRA. See *Heliophila.*

CHAMOMILLA. See *Matricaria.*

CHAMPACA and CHAMPACAM. See *Michelia.*

CHAMPIGNON. See *Agaricus.*

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[q] Ray.

[r] Hort. kew.

[s] Thunberg.

[t] Loureiro.

Chandiroba. See *Feuillea.*

Changeable Rose. See *Hibiſcus mutabilis.*

Chanschena-pou. See *Bauhinia.*

Chantarelle. See *Agaricus.*

CHARA. (*χαρὰ, the joy or delight of the water.*)

Lin. gen. n. 1203. *Reich.* 1127. *Schreb.* 1397. *Gærtn. t.* 84. *Juſſ.* 18. *Vaill. act. gall.* 1719. *t.* 3. Hippuris *Dill. gen.* 2. *Pont. anth.*

Claſſ. 21. 1. Monoecia monandria.

Nat. order of *Inundatæ. Naiades* Juſſ.

GENERIC CHARACTER.

* *Female flower.*

Cal. *Perianth* four-leaved; *leaflets* ſubulate, erect, permanent: the two oppoſite exterior ones longer than the others.

Cor. none.

Pist. *Germ* turbinate. *Style* none. *Stigma* five-cleft, oblong, deciduous.

Per. *Cruſt* ovate, unilocular, adhering.

Seed ſingle, ovate, ſpirally ſtriated.

* *Male flower* at the baſe of the germ, beyond the calyx.

Cal. none.

Cor. none.

Stam. *Filament* none. *Anther* globoſe, before the germ, beyond the calyx, beneath.

Obs. *The common Chara bears oblong polyſpermous berries.* Weis. R.

ESSENTIAL CHARACTER.

Male. *Cal.* and *Cor.* none. *Anther* before the germ, underneath.

Fem. *Cal.* four-leaved. *Cor.* none. *Stigma* five-cleft. *Seed* one.

SPECIES.

1. Chara tomentoſa. *Brittle Chara* or *Stonewort.*

Lin. ſpec. 1624. *Reich.* 4. 89. *fl. ſuec. n.* 1132. *Hudſ. angl.* 398. *With.* 1015. *Hall. helv. n.* 1683. *Raii ſyn.* 132. *n.* 2.

Equiſetum. *Pluk. alm. t.* 29. *f.* 4. *Mor. ſ.* 15. *t.* 4. *f.* 9.

Hippuris coralloides. *Ger. emac.* 1115. *n.* 7. *Raii hiſt.* 130.

Prickles on the ſtem ovate.

2. Chara vulgaris. *Common or ſtinking Chara* or *Stonewort.*

Lin. ſpec. 1624. *Reich.* 4. 90. *fl. lapp. n.* 469. *ſuec. n.* 1131. *Hudſ. angl.* 397. *With.* 1015. *Lightf.* 535. *Relh. cant. n.* 668. *Scop. carn. n.* 1419. *Neck. gallob.* 525. *Pollich pal. n.* 1135. *Hall. helv. n.* 1681. *Weis. crypt.* 32. *Vaill. act.* 1719. 17. *t.* 3. *f.* 1. *Gærtn. fruct.* 2. 25.

Hippuris foetida. *Dill. giſ.* 105.

Equiſetum foetidum ſub aqua repens. *Bauh. pin.* 16. *prodr.* 25. *theatr.* 251. *Bauh. hiſt.* 3. 731. *Raii hiſt.* 130. *Park.* 1201. *f.* 10.

Stems gloſſy; leaves toothed on the inſide.

3. Chara hiſpida. *Prickly Chara* or *Stonewort.*

Lin. ſpec. 1624. *Reich.* 4. 90. *fl. ſuec. n.* 1133. *Hudſ. angl.* 398. *With.* 1016. *Lightf.* 535. *Relh. n.* 670. *Fl. dan. t.* 154. *Vaill. act.* 1719. 18. *t.* 3. *f.* 3. *Hall. helv. n.* 1682.

Equiſetum. *Pluk. alm. t.* 193. *f.* 6.

Prickles on the ſtem capillary, crowded.

4. Chara flexilis. *Smooth Chara* or *Stonewort.*

Lin. ſpec. 1624. *Reich.* 4. 90. *fl. ſuec. n.* 1134. *Hudſ. angl.* 398. *With.* 1017. *Lightf.* 536. *Pollich pal. n.* 1136. *Hall. helv. n.* 1684. *Vaill. par.* 18. *t.* 3. *f.* 8, 9.

Joints of the ſtem unarmed, diaphanous, broader upwards.

DESCRIPTIONS, *&c.*

Theſe plants, which were ranged by Linneus among the *Cryptogamia Algæ,* have in his later works, on more accurate inſpection, been removed to *Monoecia Monandria.*

1. Plant always fleſh-coloured when alive, but when dry it becomes aſh-coloured. Stem twiſted [u], brittle, and gritty in the mouth, like Coralline. Low and creeping in marſhes and where there is little water, but in deep waters growing out in length and erect. The briſtles at the joints ſometimes naked, ſometimes rough with little ſpines, eſpecially towards the top [x]. According to Weis, the ſtems much branched, flexible when young, but growing very ſtiff as they advance in age, and covered with a gritty tufo; when dry they are ſo brittle as to fly with the leaſt touch. In ſummer this plant abounds in oblong berries, growing yellow when ripe, and having very ſmall black ſeeds in them. In ſalt-marſhes, ditches, pools, lakes, &c. in many parts of Europe.—In England Mr. Leonard Buckner firſt found it three miles beyond Oxford, near Evanſham ferry, 1632. Mr. Bowles found it afterwards on a bog near Chiſlehurſt in Kent [y].—Near Bath; Beforſleigh; in the rivulet that runs from Malham Tarn; common in peat ditches in Lancaſhire and Weſtmoreland.—Annual, flowering from june to october.

2. The whole plant is yellowiſh or reddiſh green. Flowers in the diviſions of the ſtem. Green when freſh, and extremely fetid; glaucous when dry, and very brittle. Leaves ſometimes ten or twelve in a whorl [z]. Stem but little branched, ſix to nine inches long, flexible. Leaves ſix in a whorl, (eight or nine. *Lightf.*) jointed, the knots with prickles, and often fructifications on the inſide. Flowers polygamous, ſeſſile [a].—Ditches and pools. Annual, flowering in july and auguſt.

3. Whitiſh or pale green when freſh, with ſpines or prickles uſually bent down [b]. Stem twiſted ſpirally, its lower part, branches and lower leaves frequently naked; upper part thick ſet with prickles. Leaves eight to ten in a whorl. Prickles in bundles, at ſhort diſtances on the upper ſide of the leaves, reſembling half whorls. Not ſo fetid as *C. vulgaris.* The whole plant has a ſtrong ſcent of garlick [c].

In ſeveral parts of Europe, on ſea coaſts, &c. With us by Hinton moor near Cambridge; Ellingham, Norfolk; near Gayton, Staffordſhire, in Yorkſhire, Lancaſhire and Weſtmoreland; Eaſt-Lothian, Scotland; and on the turf bogs of Ireland. Annual, flowering from june to october.

4. Stems eight or ten inches long, fiſtular, tender, ſmooth, flexible, dull green, pellucid. Leaves ſmooth, linear, fiſtular, pointed at the end, from four to ten or twelve in a whorl, often ſubdivided into two, and ſometimes three forks or branches, at a joint near their extremity. The whorls grow in cluſters towards the upper part of the ſtalks, ſecondary ones being produced from the axils of the primary. Fructifications either ſingle or in pairs, ſeſſile, and placed on the inſide, at the angle of the forks: they appear at firſt like ſmall round yellowiſh grains, afterwards turn black, and are incloſed within a green tranſparent pericarp [d].

In ſeveral parts of Europe, on the ſea coaſt, &c. With us in lakes, ponds, ditches and bogs: as about Henley near Ipſwich, near Knareſborough, near Hornſey, and in ſeveral of the Scotch lakes, as Loch Lomond, &c.—Annual; flowering from june to october.

PROPAGATION AND CULTURE.

Theſe plants having no beauty, nor any uſe that we are acquainted with, and growing only in water, are not cultivated in gardens.

Characias. See Euphorbia.

Charantia. See *Momordica.*

Charlock. See *Sinapis arvenſis.*

Chaste-Tree. See *Vitex.*

Chate. See *Cucumis.*

Chaw-stick. See *Gouania.*

Chayota. See *Sechium.*

Cheese-renning or rennet. See *Galium.*]

CHEIRANTHUS. (*From the arabic Keiri; altered by Linneus into a name in the greek form, from χεὶρ, a hand, and ἄνθος, a flower.*)

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[u] Linn. ſuec.

[x] Raii ſyn.

[y] Ger. emac.

[z] Woodw. Mſſ.

[a] Stokes in Withering.

[b] Linn. ſuec.

[c] Woodw. Mſſ. and Withering.

[d] Lightfoot.

Lin. gen. n. 815. *Reich.* 879. *Schreb.* 1091. *Gærtn. t.* 143. *Juſſ.* 238. Leucoium *Tourn.* 107.

Claſſ. 15. 2. Tetradynamia Siliquoſa.

Nat. order of *Siliquoſæ, Cruciformes* or *Cruciferæ.*

GENERIC CHARACTER.

Cal. *Perianth* four-leaved, compreſſed: *leaflets* lanceolate, concave, erect, parallel-converging, deciduous; the two outer gibbous at the baſe.

Cor. Four-petalled, cruciform. *Petals* roundiſh, longer than the calyx; claws the length of the calyx.

Stam. *Filaments* ſix, ſubulate, parallel, the length of the calyx: two of them within the gibbous leaflets of the calyx, a little ſhorter than the other four. *Anthers* erect, bifid at the baſe, acute at the tip, and reflected. *A nectareous gland* ſurrounds the baſe of the ſhorter ſtamens on each ſide.

Pist. *Germ* priſmatic, four-cornered, the length of the ſtamens, marked with a tubercle on each ſide. *Style* very ſhort, compreſſed. *Stigma* oblong, two-parted, reflected, thickiſh, permanent.

Per. *Silique* long, compreſſed, the two oppoſite angles obliterated, marked with a toothlet, two-celled, two-valved; furniſhed with the very ſhort ſtyle, and the erect bifid ſtigma.

Seeds very many, pendulous, alternate, ſubovate, compreſſed, with a membranous edge.

Obs. *The toothlet on each ſide of the germ, in ſome ſpecies is almoſt evaneſcent; in others increaſes.*

ESSENTIAL CHARACTER.

Germ with a glandulous toothlet on each ſide. *Cal.* cloſed: with two leaflets gibbous at the baſe. *Seeds* flat.

SPECIES.

1. Cheiranthus eryſimoides. *Wild Wall-flower,* or *Stock.*

Lin. ſpec. 923. *ſyſt.* 597. *Reich.* 3. 262. *fl. ſuec. n.* 603. *Hudſ. angl.* 287. *With.* 698. *Jacqu. auſtr.* 1. *t.* 74. *Villars dauph.* 3. 314.

Eryſimum ſylveſtre. *Scop. carn. n.* 630.

Leucoium luteum ſylveſtre anguſtifolium. *Bauh. pin.* 202. *Mor. ſ.* 3. *t.* 8. *f.* 18.

L. ſylveſtre. *Cluſ. hiſt.* 1. 299. *Bauh. hiſt.* 2. 873. *f.* 2. *Raii hiſt.* 783. *Ger.* 373. 4. *emac.* 457. 4. *Park.* 625. 2.

β. Ch. integerrimus. *Mill. dict. n.* 2.

Heſperis leucoii fol. non ſerrato, ſiliqua quadrangula. *Tourn. inſt.* 223.

Leaves lanceolate toothed naked, ſtem erect quite ſimple, ſiliques four-cornered.

[2. Cheiranthus helveticus. *Swiſs Wall-flower* or *Stock.*

Lin. ſyſt. 597. *Jacqu. hort.* 3. *t.* 9. *Allion. pedem. n.* 988. *t.* 58. *f.* 2. *Hall. helv. n.* 450.

Leaves lanceolate toothed naked, ſtem erect, ſiliques four-cornered, acuminated with the ſtyle.]

3. Cheiranthus alpinus. *Alpine* or *Straw-coloured Wall-flower,* or *Stock.*

Lin. ſyſt. 597. *Reich.* 3. 262. *mant.* 93. *Jacqu. auſtr.* 1. *t.* 75. *Allion. pedem. n.* 986. *t.* 20. *f.* 2. *Villars dauph.* 3. 315.

C. anguſtifolius. *Mill. dict. n.* 4.

Heſperis. *Hall. helv. n.* 449. *t.* 14.

Eryſimum Heſperis. *Scop. carn. n.* 829. *Ger. prov.* 363. *n.* 7.

Eruca. *Lob. ic.* 205. *f.* 1.

Leaves linear entire ſubtomentoſe, ſtem branching.

[4. Cheiranthus ſtrictus.

Lin. ſyſt. 597. *ſuppl.* 296.

Leaves linear acute ſmooth, ſtem ſhrubby erect.

5. Cheiranthus calloſus.

Lin. ſyſt. 597. *ſuppl.* 296.

Leaves lanceolate entire callous, ſtem angular ſhrubby.]

6. Cheiranthus Cheiri. *Common Wall-flower.*

Lin. ſpec. 924. *Reich.* 3. 263. *hort. cliff.* 334. *mat. med.* 162. *Hudſ. angl.* 287. *With.* 699. *Relh. cant. n.* 481. *Neck. gallob.* 283. *Blackw. t.* 179. *Pet. t.* 45. *f.* 3.

Leucoium. *Hall. helv. n.* 443.—luteum *Dod. pempt.* 160. *f.* 2. lut. vulgare. *Bauh. pin.* 202. *Mor. ſ.* 3. *t.* 8. *f.* 15.—lut. v. Cheiri fl. ſimplici *Bauh. hiſt.* 2. 872. *Raii hiſt.* 782.

Viola lutea. *Ger.* 371. 1. *emac.* 456. 1.

Keiri ſ. L. vulgare luteum. *Park.* 625. 1. *par.* 257.

β. L. luteum magno flore. *Bauh. pin.* 202. *prodr.* 102. *Raii hiſt.* 782. *Park. par.* 257. *n.* 2.

γ. L. lut. ſerrato fol. flore grandiore. *Bauh. pin.* 202. *prodr.* 102. 2. *Raii hiſt.* 783.

δ. L. lut. pleno fl. majus & minus. *Bauh. pin.* 202. 6, 7. *Raii hiſt.* 782. *Ger.* 371. 2. *emac.* 456. 2. *Park. par.* 257. *n.* 4, 5, 6, 7.

Leaves lanceolate acute ſmooth, branches angular, ſtem ſhrubby.

[7. Cheiranthus fruticuloſus.

Lin. ſyſt. 597. *Reich.* 3. 263. *mant.* 94.

Leucoium lut. minus fruticans. *Barr. ic.* 1228.

Leaves lanceolate acute ſmooth ſubſerrate, ſtem ſhrubby.]

8. Cheiranthus chius.

Lin. ſpec. 924. *Reich.* 3. 264. *Murr. prodr.* 166.

Heſperis. *Lin. hort. cliff.* 335. *n.* 3. *Dill. elth.* 180. *t.* 148. *f.* 178.

Leucoium thlaſpios facie. *Herm. par.* 192. *t.* 193. 61.

Leaves obovate veinleſs emarginate; ſiliques ſubulate at the tip.

9. Cheiranthus maritimus. *Dwarf annual, Stock Gilliflower.*

Lin. ſpec. 924. *ſyſt.* 597. *Reich.* 3. 264. *mant.* 568. *amœn.* 4. 280. *Curtis magaz. t.* 166.

Leucoium marinum parvum fol. virente craſſiuſculo. *Bauh. hiſt.* 2. 877. *Pluk. alm.* 213.

L. minus fl. violaceo. *Barr. ic.* 1127.

Leaves elliptic obtuſe naked roughiſh; ſtem diffuſed, rough.

[10. Cheiranthus ſalinus.

Lin. ſyſt. 597. *Reich.* 3. 264. *mant.* 93.

Leaves lanceolate obtuſe quite entire; ſtem erect; anthers included.]

11. Cheiranthus incanus. *Stock-gilliflower.*

Lin. ſpec. 924. *Reich.* 3. 265. *hort. cliff.* 334. 2. *Mill. illuſtr. ic.*

Leucoium incano fol. hortenſe. *Bauh. pin.* 200. *n.* 1. 2. 4. 5. 6. 7. *Raii hiſt.* 779. *n.* 1. *Ger.* 372. *f.* 1, 2. & 373. *f.* 3. *emac.* 458. *f.* 1, 2. *Park.* 622. *f.* 1. *par.* 259. *f.* 5. 6. & 263. *f.* 2, 3. *Mor. ſ.* 3. *t.* 8. *f.* 1, 2.

α. *Queen's Stock-gilliflower.* *Mill. dict. n.* 6.

β. Ch. coccineus. *Brompton Stock-Gilliflower.* *Mill. dict. n.* 7.

γ. Ch. albus. *White Stock-Gilliflower.* *Mill. dict. n.* 8.

δ. Ch. glaber. *Wall-flower-leaved Stock-Gilliflower.* *Mill. dict. n.* 9.

L. album odoratiſſimum fol. viridi. *Bauh. pin.* 202. *prodr.* 102. *Raii hiſt.* 781.

Leaves lanceolate quite entire obtuſe hoary; ſiliques truncate at the end and compreſſed; ſtem under-ſhrubby.

12. Cheiranthus feneſtralis. *Cluſter-leaved Stock-Gilliflower.*

Lin. ſpec. 924. *ſyſt.* 598. *Reich.* 3. 265. *dec.* 31. *t.* 16. *Jacqu. hort.* 2. *t.* 179.

Leaves crowded in heads recurved waved; ſtem undivided.

13. Cheiranthus annuus. *Annual Stock-Gilliflower,* or *Ten-week Stock.*

Lin. ſpec. 925. *ſyſt.* 598. *Reich.* 3. 265.

Leucoium incanum minus. *Bauh. pin.* 200. *Raii hiſt.* 779.

Leaves lanceolate ſomewhat toothed obtuſe hoary; ſiliques cylindric acute at the end; ſtem herbaceous.

14. Cheiranthus littoreus. *Sea Stock-Gilliflower.*

Lin. ſpec. 925. *Reich.* 3. 265.

L. maritimum anguſtifolium. *Bauh. pin.* 201. *Raii hiſt.* 780. *Cluſ. hiſt.* 1. 298. *f.* 2. *Ger.* 375. 5. *emac.* 461. 5. *Park.* 623. 4.

Leaves lanceolate ſomewhat toothed tomentoſe and fleſhy; petals emarginate; ſiliques tomentoſe.

15. Cheiranthus triſtis. *Dark-flowered Stock-Gilliflower.*

Lin. ſpec. 925. *Reich.* 3. 266. *Gouan. illuſtr.* 44. *Allion. pedem. n.* 991.

Leucoium. *Barr. ic.* 999. *n.* 1, 2. 1019, & 802. *Bocc. muſ.* 148. *t.* 111, *fig. med. inf.*

Leaves linear ſubſinuate; flowers ſeſſile, petals waved; ſtem ſhrubby.

[16. Cheiranthus trilobus.

Lin. ſpec. 925. *Reich.* 3. 266.

Leuc. maritimum minimum. *Bauh. pin.* 201. *prodr.* 103.

Leaves toothed obtuſe; calyxes even; ſiliques knotted mucronate filiform even.]

17. Cheiranthus tricuſpidatus. *Trifid Stock-Gilliflower.*

Lin. ſpec. 926. *Reich.* 3. 267. *Gærtn. fruct.* 2. 296. *Gron. orient.* 80. *Sabb. hort.* 4. *t.* 25.

Leucoium marinum. *Cam. hort.* 87. *t.* 24. *Mor.* 242. *ſ.* 3. *t.* 8. *f.* 13.

Leaves lyrate; ſiliques three-toothed at the tip.

18. Cheiranthus ſinuatus. *Prickle-podded Stock-Gilliflower.*

Lin. ſpec. 926. *Reich.* 3. 267. *Hudſ. angl.* 288. *With.* 700.

Leucoium maritimum ſinuato fol. *Bauh. pin.* 201.

L. mar. magnum latifolium. *Bauh. hiſt.* 2. 875. *f.* 876. 1.

L. marinum maximum. *Park.* 622. *Raii hiſt.* 780.

L. marit. majus. *Lob. ic.* 1. 330. 2. *Ger.* 374. 2. *emac.* 460. 2.

Leaves tomentoſe obtuſe ſubſinuate, branch-leaves entire; ſiliques muricate.

[19. Cheiranthus Farſetia.

Lin. ſyſt. 598. *Reich.* 3. 267. *mant.* 94. *Vahl. ſymb.* 1. 48.

Farſetia ægyptiaca. *Turra Farſet.* 1. *t.* 1.

Lunaria ſcabra. *Forſk. ægypt.* 117. *n.* 60. *ic. t.* 16.

β. C. linearis. *Forſk. ægypt.* 120.

Siliques oval compreſſed; leaves linear-lanceolate; ſtem ſhrubby erect.

20. Cheiranthus tenuifolius. *Narrow-leaved ſhrubby Stock-Gilliflower.*

Ait. hort. kew. 2. 395. *L'Herit. ſt. nov.* 92.

Leaves filiform quite entire ſomewhat ſilky, ſtem fruteſcent branched.

21. Cheiranthus mutabilis. *Broad-leaved ſhrubby Stock-Gilliflower.*

Ait. hort. kew. 2. 395. *L'Herit. ſt. nov.* 92. *Curt. magaz. t.* 195.

Leaves lanceolate acuminate ſharply ſerrate, ſtem fruteſcent, ſiliques peduncled.

22. Cheiranthus quadrangulus.

L'Herit. ſt. nov. 91. *t.* 44.

C. montanus. *Pallas it.* 1. 496.

Leaves linear entire, ſiliques ſeſſile oblong quadrangular.

DESCRIPTIONS, *&c.*

1. Root perennial: or, according to ſome, biennial. Stem uſually one (in the wild plant) purpliſh at bottom, generally quite ſimple, in height from ſix to eighteen inches; on the Pyrenees not above two inches high. Leaves narrow, ſharpiſh, ſeſſile, dark green, either linear or oblong-lanceolate, generally quite entire, but the lower ones ſometimes toothletted. The ſtem, leaves, and unripe ſilique have ſome roughneſs [a].

The flowers are the ſize of thoſe in *Braſſica oleracea.* Calyx green, not ſea-green, ſmooth. Stigma as thick as the piſtil, divided to the baſe into two lobes. Germs tomentoſe. In appearance it approaches very near to *Eryſimum cheirantboides* and *bieracifolium* [b].] The leaves reſemble thoſe of the common Wall-flower, as do alſo the flowers, but they have no ſcent, they are yellow, and in looſe ſpikes or corymbs. [The ſtems are branched, and bordered; in which it differs from this genus *Cheiranthus* [c]. It differs in the calyx from Eryſimum; in the ſeeds from Cheiranthus, according to Haller. Italy, Spain, France, Switzerland, Germany, Auſtria, Hungary, Sweden. England in the oſier-holts about Godſtow near Oxford, and Eaſt-Grinſtead in Suſſex.] It flowers in june, and ripens its ſeeds in autumn.

The variety riſes with an upright ſtalk nearly the ſame height, but does not branch out. The leaves are broader, ſmoother, and not pointed; they are alternate, ſeſſile, and of a deep green. Native of Hungary and Iſtria.

Miller is confident that it is different, and makes it a diſtinct ſpecies from the other.

[2. In appearance very like the foregoing, but more ſhrubby; flowers ſmaller and having leſs ſcent; the ſeeds twice as large, and the ſtigma ſeparated from the germ by a ſtyle; whereas in the *eryſimoides* there is no ſtyle whatever.—Root perennial. Stem erect, ſomewhat angular, eighteen inches high, when young a little villoſe. Leaves narrow-lanceolate, acute, thickiſh, uſually ſomewhat rugged, ſubſeſſile, obſcurely villoſe, pale green, for the moſt part quite entire, but ſometimes having a few teeth. Racemes corymbed, long and erect. It flowers in may and june, and the ſeeds ripen in july. Native of Switzerland [d].

3. It very much reſembles the firſt ſpecies, but differs in having hoary leaves and a branching ſtem [e].

4. The whole plant is roughiſh. Root biennial. Stem ſtiffly erect, ſolitary or few, from one to three feet in height, ſimple or branching, ſomewhat angular, ſlender, firm. Leaves lanceolate-linear, with very ſhort, ſcarcely conſpicuous hairs, ſeſſile, acute: when the flowers are going off, drying up and falling, ſo as to leave the ſtem naked. In ſome individuals the leaves are truly linear, quite entire, almoſt hoary, and convolute: in others they are much broader, greener, and the lower ones toothed here and there. The ſtems and branches are produced into very long racemes. The flowers are pale yellow or ſulphur-coloured, and have little or no ſmell. They appear in june and july, and the ſeeds are perfected in auguſt and ſeptember. On banks, walls, &c. in Auſtria and Provence [f]; Switzerland, and the mountains of Piedmont.—It was cultivated in 1731, by Mr. Miller [g].

4, 5. Found at the Cape by Thunberg [h].

6. Stem woody, a foot high, aſcending. Branches angular. Leaves crowded, upright, lanceolate, with few ſerratures, ſmooth, concave. Petioles hardly diſtinct from the leaves. Peduncles four-cornered [i].] On walls it is ſeldom more than ſix or eight inches high, with very tough roots and firm ſtalks, the leaves ſhort and ſharp-pointed, and the flowers ſmall; but in gardens it is two feet high, and branches wide; the leaves are broader, and the flowers much larger.

[The principal varieties are, 1. Common dwarf yellow. 2. Large yellow. 3. Large yellow bloody. 4. True Bloody. 5. Narrow-leaved Straw-coloured. 6. Variegated-leaved yellow. 7. Winter. 8. White.—And theſe are either ſingle or double. Parkinſon enumerates ſeven varieties.—1. Common ſingle. 2. Great ſingle. 3. White. 4. Common double. 5. Pale double. 6. Double red; which is what we now call Bloody. 7. Greateſt double yellow; then, as he ſays, a ſtranger in England [k].

The common Wall-flower is a native of Switzerland, France, Spain, &c.; and is common on old walls and buildings in many parts of England. It is one of the few flowers which have been cultivated for their fragrancy, time immemorial, in our gardens.

7. Reſembles the foregoing very much, but is a lower plant, being only three or four inches high. Branches angular. Leaves ſubpetioled, acuminate, hardiſh; the loweſt having a few ſmall ſerratures. Flowers one-eighth of the ſize of the common Wall-flower, leſs flagrant, pale yellow: petals roundiſh, obſcurely emarginate. Anthers bluiſh. Native of Spain [l].

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[a] Jacquin.

[b] Linn. ſuec.

[c] Stokes in Withering.

[d] Jacquin.

[e] Linn.

[f] Jacqu.

[g] Hort. kew.

[h] Linn. ſuppl.

[i] Lyons in Relh. cant.

[k] Parad.

[l] Linn. mant.

8. Very nearly allied to the following ſpecies. Stem proſtrate at bottom; then oblique, flexuoſe, roundiſh, rough with ſtiff, appreſſed hairs, nine inches high, brittle; branches alternate, ſpreading. Leaves alternate, ovate-lanceolate, generally obtuſe, ending in a long petiole, rugged about the edge, ſerrate here and there, the middle vein prominent beneath. Flowers at the ends of the branches: calyx manifeſtly gibboſe and almoſt conical: claws of the petals of the ſame length with the calyx, white, border obcordate, purpliſh red, paler underneath. Siliques hirſute with appreſſed hairs.—Leaves not emarginate, nor ſo oblong as in Dillenius's figure[m].

Native of the iſland of Chios, and Ruſſia.

9. Stems very much branched, divaricated, ſomewhat ſtiff, rugged, with twin appreſſed hairs. Leaves oval-lanceolate, ſomewhat reflected at the tip; green, on rather long petioles, ſtiffiſh: the upper ones obſcurely ſubdentated. Raceme terminal. Calyx cloſed, even. Petals obcordate, red, turning purple. Anthers in the throat of the flower[n].]

It ſeldom riſes more than ſix inches in height, [unleſs it be preternaturally drawn up. The native place of growth is the coaſt of the Mediterranean; and therefore it is very improperly called Virginia Stock. Annual.—Cultivated 1739, by Mr. Miller[o].

10. Very like the next ſpecies, but only one-eighth of the ſize, the whole very ſmoothly tomentoſe. Stems erect, continuing ſome years. Leaves not toothed in the leaſt. Corolla purple, with a yellowiſh throat. Stigma obtuſe, thickiſh, bifid, and by no means ſlender. It has the ſmell of the Stock Gilliflower.—Salt-marſhes of Siberia and Tartary[p].]

11. The Queen's Stock-Gilliflower riſes with a ſtrong ſtalk, which is almoſt ſhrubby, a foot high or more, having oblong, ſpear-ſhaped, hoary leaves, which are frequently waved on their edges, and turn downward at the extremity; from the ſtalk come out many lateral branches, with the ſame ſhaped leaves, but ſmaller; theſe ſide branches are each terminated by a looſe ſpike of flowers, each having a woolly calyx, and four large roundiſh petals, indented at the end. Theſe uſually appear in may and june, but the ſame plants frequently continue flowering moſt part of the ſummer. The ſeeds ripen in autumn, and the plants generally periſh ſoon after; but when any of them grow in dry rubbiſh, they will laſt two or three years, and become ſhrubby; but thoſe with ſingle flowers are not worth preſerving after they have perfected their ſeeds. The flowers of this ſort vary in their colour; ſome are of a pale red, others are of a bright red, and ſome are curiouſly variegated, but thoſe of the bright red are generally moſt eſteemed. If the ſeeds be well choſen, frequently three parts in four of the plants will be double; and as the plants divide into many branches, they make a fine appearance during their continuance in flower.

β. Is known by the title of Brompton Stock-Gilliflower, I ſuppoſe from its having been there firſt cultivated in England. This riſes with an upright, ſtrong, undivided ſtalk, to the height of two feet or more, with long hoary leaves, which are reflexed, and waved on their edges, and at the top form a large head; out of the center of theſe ariſes the flower-ſtalk, which, when the plants are ſtrong, is frequently a foot and a half long, putting out two or three ſhort branches toward the bottom; the flowers of this kind have longer petals, and are formed into a pyramidal ſpike; but thoſe with ſingle flowers are looſely diſpoſed, becauſe the flowers having but few petals, do not fill the ſpike, as thoſe do which are double; for theſe often have ſo many petals, as to render each flower as large and full as ſmall Roſes; and when they are of a bright red, they make a pretty appearance, but the plants of this ſort produce but one ſpike, in which it differs from all the others. This is generally biennial, though many times the plants are preſerved longer; but they are always ſtronger the firſt year of their flowering than they will be after; ſo that the ſeeds are ſown every ſpring, to continue a ſucceſſion of flowering plants.

γ. Is the White Stock-Gilliflower, which is of longer duration than either of the others. I have frequently had theſe plants live three or four years, which have become ſhrubby; their ſtalks have been three feet high, and branched out on every ſide, ſo as to appear like ſhrubs; theſe ſeldom ſend out flower-ſtalks from the center of the plant, but the ſide branches produce the flowers, and divide into ſeveral other. There are always many double flowers riſe from ſeeds of this ſort, when they are well choſen; ſome years I have ſcarce had enough ſingle flowers to preſerve the kind. The varieties of this are few; ſometimes a few of the plants will produce pale fleſh-coloured flowers, and now and then ſome have been purple; and as that ſort of Stock Gilliflower, which is titled the Twickenham Purple, will ſometimes come with flowers variegated with white, I have been inclinable to think theſe two may be varieties of each other; and the rather, becauſe the plants agree with each other in their external habit; for neither of theſe put out their flower-ſtems from the center of the plants, but always on their ſide.

δ. Is known by the name of White Wall-flower, among the gardeners and floriſts. This riſes with a greeniſh ſtalk a foot high, dividing into many branches. Leaves narrow, ſmooth, lanceolate, of a lucid green, and of thicker conſiſtence than thoſe of the others; they are near three inches long, and about half an inch broad in the middle: the flowers are produced in looſe ſpikes at the end of the branches, are of a pure white, and have a great fragrancy, eſpecially in an evening, or in cloudy weather. There is a variety of it with double flowers. [Linneus obſerves, that the variety with white flowers has the leaves leſs tomentoſe and even green, but not rigid or ſtiff, as in the Wall-flower.

Native of the ſea-coaſts of Spain[q].—In Italy, Greece, Candia, and the iſles adjacent[r].

The Stock-Gilliflower is of very long ſtanding in the Engliſh gardens. Johnſon gives a figure of the double Stock, which was not in Gerarde's original work, and obſerves that many and pretty varieties of it were kept in the garden of his kind friend Maſter Ralph Tuggye at Weſtminſter: we may conclude therefore that double Stocks were not known in Gerarde's time. The old Engliſh name of Gilliflower, which is now almoſt loſt in the prefix Stock, is corrupted from the French *Giroflier*. Chaucer writes it *Gylofre*; Turner *Gelover* and *Gelyfloure*; Gerarde and Parkinſon *Gilloflower*. Having got thus far from its original orthography, it was eaſily corrupted by thoſe who knew not whence it was derived, into *July-flower*. Pinks and Carnations alſo having the name of Gilliflower, from their ſmelling like the Clove, which is called *Girofle* in french, from the latin *Caryophyllum*; they were called *Clove-Gilliflowers*, and theſe *Stock-Gilliflowers* for diſtinction. Gerarde ſays they were alſo called *Garnſey Violet* and *Caſtle Gilloflower*.

12. *Stem* ſhrubby, from ſix to eight inches high, nearly the thickneſs of the little finger, ſtraight, rigid, round, covered with leaves, hoary with nap, dividing at top into two or three very ſhort, alternate branches. *Leaves* ſcattered, petioled, lanceolate, bending this way and that, very obtuſe, lacunoſe, tomentoſe, ſomewhat veined, compact, rigid, an inch long. *Petioles* linear, ſhort, ſpreading, very broad, tomentoſe. *Racemes* terminal, two or four, erect, ſtraight, ſimple, naked, the length of the ſtem. *Peduncles* roundiſh, tomentoſe. *Flowers* alternate, nearly the ſize of thoſe in the common Stock: *pedicels* filiform, ſpreading, tomentoſe, the length of the calyx. *Corolla*, petals obcordate, re-

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[m] Murr. prodr.

[n] Linn. mant.

[o] Hort. kew.

[p] Linn. mant.

[q] Linn.

[r] Parkinſon.

flected, channelled, notchletted, purple glittering with gold. *Silique* ſhorter than in the other ſpecies, linear, a little flattiſh, flexuoſe, hoary with nap. It continues three or four years, flowering the ſecond; the third and fourth it puts out branches, which flower the ſame year. This plant is proper to ſtand in windows (whence its trivial name,) on account of its ſmallneſs, and the very grateful odour it exhales, eſpecially in the evening.—The ſeeds were firſt ſown in the Upſal garden in 1753; but it is not known whence they came[s].—It was cultivated here in 1759, by Mr. Miller[t]; and flowers from may to july.]

13. The annual or ten weeks Stock-Gilliflower riſes with a round ſmooth ſtalk about two feet high, dividing into ſeveral branches at top. Leaves lanceolate, hoary, rounded at the end, almoſt oppoſite, or alternate, or three and four together of unequal ſizes. The flowers are produced in looſe ſpikes at the ends of the branches, and are placed alternately: the calyx is large, erect, and ſlightly cut into ſeveral acute parts at the top; the petals are large and heart-ſhaped.

[Linneus remarks, that the petals of this are emarginate; whereas in the *incanus* they are entire. It grows naturally on the ſea coaſts in the ſouthern countries of Europe[u]; and was cultivated in 1731, by Mr. Miller[x].]

Of this ſort there are the red, purple, white and ſtriped, with ſingle flowers; and the ſame colours with double flowers; which are very great ornaments in the borders of the flower-garden in autumn.

14. *Stem* a foot high, alternately branching, hoary. *Leaves* alternate, channelled, obtuſe. *Flowers* in terminal racemes: petals obcordate, purpliſh, but white at the baſe: ſtamens the length of the tube. *Siliques* ſubulate, narrow, equal, not longer than the leaves[y].] The flowers are ſmaller than thoſe of the common Stock, of a bright red at firſt, but fading to a purple. The whole plant is very white; and having woody ſtalks, has the appearance of a perennial plant, but it generally periſhes in autumn. It grows naturally near the ſea coaſt, in the ſouth of France, Spain, and Italy.—[It was cultivated in 1683, by Mr. James Sutherland[z].]

15. This ſort is of humble growth, ſeldom riſing above eight or nine inches high.

[The whole plant is roughiſh, and of a hoary aſh-colour. The bottom leaves have two or three pairs of teeth, and are ſinuated; the branch-leaves have one or two teeth, and the upper ones are quite entire. Flowers alternate in a long raceme. Petals linear, emarginate, green-ſulphur changing to a ſhining purple, with brown veins, and a curled toothletted edge. Silique round, toruloſe, very long, thicker at the end. At night it has a grateful odour, ſomewhat reſembling that of *Geranium triſte*. Native of the ſouth of Europe[a].—Cultivated 1768, by Mr. Miller[b].

16. *Root* annual. *Stems* branching, ſpreading, ſeven or eight inches high, hoary. *Leaves* lanceolate, with one or two pretty deep teeth on each ſide. *Corolla* purple, rather large. *Siliques* linear, roundiſh, keeled at the ſutures, knotted with torules on the ſides, acuminated with a long ſubulate tip, and ſmooth[c]. Native of Italy, on the ſea ſhore near Terracina[d].]

17. This is an annual plant, which branches out from the root into many declining ſtalks: the lower leaves are about two inches long, and three quarters of an inch broad, very deeply ſinuated on their edges, and hoary; thoſe upon the ſtalks are of the ſame form, but much ſmaller: the flowers are produced from the ſides of the ſtalks ſingly, and at the top in looſe ſpikes (or racemes); the calyxes are covered with a white down, as are alſo the ends of the branches; the corollas are purple: the pods are two or three inches long, [ſubcylindric: obſcurely knotted where the ſeeds are, terminating at top in three ſubulate cuſps: partition very ſlender. Seeds ten or twelve in each cell, ovate, compreſſed, beaked, ferruginous-red, not margined[e].

Native of Barbary. Cultivated 1759, by Mr. Miller[f].]

18. Stalk erect, and the whole plant covered with a white down. Lower leaves broad-lanceolate, obtuſe, alternately indented. Flowers fleſh-coloured, ſucceeded by long, woolly pods.

[Brought out of the iſle of Ree near Rochelle by John Tradeſcant, when the duke of Buckingham was ſent with ſupplies for Monſ. Soubiſe[g]. Gathered by Mr. George Bowles upon the rocks at Aberdovye in Merionethſhire[h]. On the ſandy coaſt of Angleſey about Abermeney-ferry, at Aberdaren in Caernarvonſhire; on the coaſt of Cornwall, &c.[i]. Biennial.

19. *Stem* a foot high, hoary, ſtiff and ſtraight, branching. *Leaves* alternate, ſeſſile, acuminate, quite entire, hoary or ſilveriſh. *Racemes* ſublateral, oppoſite to the leaves, ſtiff and ſtraight. *Calyx* oblong, green. *Petals* ſad-coloured, linear, rounded, quite entire, oblique, from purpliſh white, obſcurely netted with darker meſhes. *Stamens* ſhorter than the claws of the petals. *Piſtil* ſhorter than the ſtamens. *Siliques* oval, from compreſſed flat.—It has the whole herb of *Convolvulus Dorycnium*; the flower of *Cheiranthus triſtis*; a fruit nearly reſembling that of *Lunaria*. The flowers of a dull colour, ſmelling ſweet only in the night. In its air, it approaches very near to the *Leucoium* of Tournefort referred to among the ſynonyms; but the leaves are linear, acuminate, even and ſtiff.—Egypt and Arabia[k]: obſerved by Forſkael, in the kingdom of Tunis. Turra gave it the name of *Farſetia*, from Farſetti, a noble Venetian.

Introduced 1788, by John Sibthorp, M. D.[l].

β. The variety differs only in having narrow leaves and ſiliques[m].

20. This is a ſhrub, a foot and a half in height; the branches becoming bald at bottom. It is a native of Madeira, and was found there by Maſſon[n]. It was introduced in 1777; and flowers in may and june[o].

21. This alſo is a ſhrub, growing to the height of two or three cubits[p]. It was found by Maſſon in the ſame iſland, was introduced at the ſame time, and flowers from march to may[q].

Its chief merit conſiſts in its early flowering. The ſhowy bloſſoms on firſt opening are white, ſometimes inclined to yellow; in a few days they become purple; hence its trivial name *mutabilis* or changeable[r].

22. This grows a cubit in height, with an herbaceous ſtem, becoming a little ſhrubby at bottom, upright, branched, round: branches alternate, axillary, ſubdecumbent, the younger ones ſcarcely hoary. Leaves alternate, ſeſſile, acute, channelled, one-nerved, thickiſh, ſcarcely pubeſcent, ſpreading, reclined, bright green, three or four inches long, and two or three lines wide. Flowers in terminating, very long, proliferous, ſubdecumbent ſpikes: alternate, ſeſſile, ſulphur-coloured, odorous. Siliques ſhort. Seeds not margined. Native of the deſerts of Siberia. Introduced into the Paris garden by the famous Jean Jacques Rouſſeau; and ſince by Demidow[s].]

PROPAGATION AND CULTURE.

1. If the ſeeds be permitted to ſcatter, the plants will come up without care, and will thrive in any ſoil or ſituation, and upon walls or among rubbiſh, as the common Wall-flower.

3. This ſort, when cultivated, grows as large as the common Wall-flower, and makes a finer appearance, the racemes being longer, and the flowers

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[s] Linn. dec.
[t] Hort. kew.
[u] Linn.
[x] Hort. kew.
[y] Linn.
[z] Hort. kew.
[a] Allioni.
[b] Hort. kew.
[c] Linn. ſpec.
[d] Bauh. prodr.

[e] Gærtner.
[f] Hort. kew.
[g] Park.
[h] Ger. emac.
[i] Ray.
[k] Linn. mant.
[l] Hort. kew.
[m] Forſk.
[n] L'Heritier.
[o] Hort. kew.
[p] L'Herit.
[q] Hort. kew.
[r] Curtis.
[s] L'Heritier.

growing much cloſer; having little ſcent, however, this ſort has been much neglected.

6. The common wild Wall-flower, being of a firmer texture, with little ſap, is never affected by cold; ſo that in ſevere winters, when the plants are frequently killed in the gardens, thoſe upon the walls receive no injury, though they are much more expoſed to wind and froſt.

The variety of this, with very double flowers, is propagated from ſlips planted in the ſpring, which readily take root. Another variety with variegated leaves is not quite ſo hardy.

The large bloody Wall-flower will frequently riſe with double flowers from ſeeds, if they are carefully ſaved from ſuch as have five petals; and theſe double flowers may be increaſed by ſlips, but the plants ſo raiſed will not produce ſuch large racemes of flowers as thoſe which are propagated by ſeeds.

The old bloody Wall-flower, the petals of which are ſhorter and more numerous, approaching to the common double, but much larger, is propagated alſo by ſlips; as are likewiſe all the intermediate varieties, diſtinguiſhed by floriſts from the ſize and colour of the petals.

The Wall-flowers that are ſingle produce ſeeds in plenty; but the largeſt and deepeſt-coloured flowers ſhould always be ſelected for ſeeds. Theſe ſhould be ſown in april, upon poor undunged ſoil; and when the plants are fit to remove, they ſhould be tranſplanted into nurſery-beds, at about ſix inches diſtance each way, obſerving to water and ſhade them until they have taken freſh root; after which they will require no farther care, but to keep them clean from weeds all the ſummer; and at Michaelmas they may be tranſplanted into the borders of the flower-garden where they are deſigned to remain, that the plants may get good roots before the froſt comes on. This is the method which is commonly practiſed with theſe flowers; but if the ſeeds are ſown upon poor land, where they are deſigned to remain, and not tranſplanted, they will thrive, and endure the froſt in winter much better than thoſe which are removed; ſo that upon ruins or rubbiſh the ſeeds of theſe plants may be ſown, where they will thrive and continue much longer than in good land; and in ſuch places, if they are properly diſpoſed, they will be very ornamental, and their flowers having a ſtrong odour, will perfume the air to a conſiderable diſtance.

8, 9. The ſeeds are ſown in patches, at two or three different times; the firſt in autumn, the ſecond at the end of march, and the third at the end of april, or the beginning of may, in the borders of the flower-garden; where they will make a variety, when intermixed with other low-growing annual flowers, for three months. The eighth having little beauty, is not often cultivated, but the ninth is very common.

11. All the varieties of Stock-Gilliflower flower in may and june, at which time they are the greateſt ornament to the flower-garden, therefore deſerve our care to cultivate them as much as any of the flowery tribe; but in order to have many double flowers, there muſt be great care taken in the choice of plants for ſeeds, without which there can be little hopes of having theſe flowers in perfection. The only ſure way of getting many double flowers, is to make choice of thoſe ſingle flowers which grow near many double ones; for I have always found thoſe ſeeds which have been ſaved from plants growing in beds cloſe to each other, where there happened to be many double flowers among them, have produced a much greater number of plants with double flowers, than thoſe which have been ſaved from plants of the ſame kinds, which grew ſingle in the borders of the flower-garden; ſo that there ſhould be a ſmall bed of each kind planted on purpoſe to ſave ſeeds in the flower-nurſery; or if they are ſown there, and the plants thinned properly when they are young, they need not be tranſplanted; for I have always obſerved the plants which have come up from ſcattered ſeeds, which have not been tranſplanted, endure the froſt much better than thoſe which have been removed; for as theſe plants ſend out horizontal roots from the bottom of their ſtems, which ſpread near the ſurface of the ground, ſo when they are tranſplanted, the roots are forced downward out of their natural direction; and if their ſtalks were grown tall before removal, they are generally planted low in the ground, whereby they are apt to rot, if the ground is moiſt, or the winter ſhould prove wet; therefore where they can be left unremoved, there will be a better chance of their living through the winter; and as theſe beds need not be of great extent, ſo when the winter proves very ſevere, it will not be much trouble or expence to arch the beds over with hoops, and cover them with mats in froſty weather, by which method they may be always preſerved.

The ground where theſe ſeeds are ſown, muſt not have any dung, for in rich land the plants will grow very vigorous in ſummer, but froſt, or the heavy rains in autumn, will ſoon deſtroy them; for theſe plants will thrive upon rocks or old walls, as was before obſerved; and in ſuch ſituations they will live, when all thoſe which are planted in gardens are deſtroyed. The beſt time to ſow the ſeeds is about the beginning of may; and if the ſeaſon ſhould prove dry, it will be proper to ſhade the beds with mats every day, to prevent the earth from drying too faſt; but the covering muſt be taken off every evening, to admit the dews of night, and they ſhould be gently watered in the evening two or three times a week. When the plants firſt appear, with their two ſeed-leaves, they are often attacked by flies, eſpecially in dry hot ſeaſons; therefore to prevent their deſtroying the plants, the covering ſhould be continued over them during the heat of the day, and the plants frequently refreſhed with water, which will keep them in a growing ſtate, and the flies will not infeſt them; for I have always obſerved, they never attack any plants unleſs they have been ſtunted in their growth: when the plants have got ſtrength, they will be ſecure from this danger, and the coverings may be removed; after this the plants will require no farther care but to keep them clean from weeds, and to be thinned to the diſtance of nine inches or a foot, that they may have proper room to grow, and not draw each other up tall and weak. The plants which are drawn out of theſe beds to thin them, may be planted in the borders of the flower-garden, where they are deſigned to remain, and the ſooner they are removed, when the plants have got ſix or eight leaves, the more likely they will be to live through the winter.

The farther care of the plants which are left in the beds, will be to cover them in winter with mats; and when they come to flower, all thoſe which are not of good colours, or whoſe flowers are ſmall, ſhould be drawn out as ſoon as they appear, that they may not impregnate thoſe which are deſigned for ſeeds with their farina; but thoſe with double flowers ſhould by no means be removed, nor ſhould their flowers be cut off, but ſuffered to fade among the ſingle ones, by which the ſeeds will be improved; it will alſo be a ſure method of preſerving each ſort in perfection, to have them ſeparate from each other, in diſtinct beds; though I think there is no danger of any of the ſpecies altering, by the mixture of their farina, but their colours are liable to be changed by it; ſo that in order to continue thoſe pure, they ſhould not ſtand too near each other.

There are ſome who propagate the double Stock-Gilliflowers by ſlips and cuttings, which will take root when properly managed; but the plants ſo raiſed are never ſo ſtrong as thoſe which come from ſeeds, their ſpikes of flowers are always very ſhort, and have not half the beauty; it is not worth while therefore to practiſe this method, unleſs for thoſe which cannot be obtained with any certainty from ſeed.

13. The annual or ten weeks Stock, if ſown at three different times, may be continued in ſuc-

ceſſion during ſeveral months. The firſt ſowing ſhould be about the middle of february, upon a very ſlender hot-bed, juſt to bring up the plants, which muſt be guarded againſt froſt; and when they are fit to remove, they ſhould be tranſplanted into nurſery beds, at about three or four inches diſtance, obſerving to water and ſhade them till they have taken root, and afterwards to keep them clean from weeds; in theſe beds they may remain five or ſix weeks to get ſtrength, and may then be planted into the borders of the flower-garden, where they are to remain: if theſe are tranſplanted when there is rain, they will ſoon take root, after which they will require no farther care. From theſe early plants good ſeeds may be expected, therefore ſome of the fineſt plants of each colour ſhould be preſerved, and marked for ſeeds, which, when ripe, ſhould be carefully cut before the froſt pinches them, and the ſtalks tied up in ſmall bundles, and hung up in a dry room till the pods are well dried, when the ſeeds may be rubbed out and preſerved for uſe.

To ſucceed theſe another parcel of ſeeds ſhould be ſown in march; and a third parcel at the end of may. If theſe laſt be ſown upon a warm border, where they may be covered, by placing glaſſes before them in winter, or covering them with mats, they may be continued in flower till Chriſtmas: and if ſome of the plants be potted, and put under a hot-bed frame in autumn, where they may enjoy the open air in mild weather, and be ſcreened from hard rains and froſt, they will keep flowering all the winter, when the weather is not very ſevere.

14. The ſeeds ſhould be ſown in autumn on a warm border, where the plants are deſigned to remain. Theſe will flower early in june, and produce good ſeeds. Such as are ſown in the ſpring, will flower in july and auguſt; but from theſe there will be no certainty of having ripe ſeeds. They will ſerve, however, to keep up a ſucceſſion of flowers.

15. Not being ſo hardy as the other ſorts, requires ſome protection in winter.

17. If the ſeeds be ſown in autumn on a warm border, the plants will live through the winter, and flower early in june, ſo that good ſeeds may be obtained from them. When the ſeeds are ſown in the ſpring, the plants flower in july, and in favourable ſeaſons the ſeeds will ripen.

18. This may be increaſed by ſeeds, in the ſame manner as the other ſorts; and if they are among rubbiſh, they will live through the winter better than in rich earth.

[20, 21. Theſe are of quick growth, and may be propagated by cuttings, put into the ground as ſoon as the plants have done flowering. Theſe cuttings will become handſome plants to place in the green-houſe at the approach of winter, to decorate it the enſuing ſpring.

In ſheltered gardens, under a wall, they will ſurvive a mild winter, and ſeem to be almoſt as hardy as the common Stock.

22. Is propagated from ſeeds. It flouriſhes in the open air, but will not continue many years.

CHEIRANTHUS. See *Arabis*, *Heliophila* and *Manulea*.

——————— lacerus. See *Heſperis lacera*.

CHEIRI. See *Cheiranthus*.

CHELIDONIA. See *Ranunculus Ficaria*.]

CHELIDONIUM. (*From* χελιδὼν, *a Swallow.*)

Lin. gen. n. 647. *Reich.* 703. *Schreb.* 880. *Gærtn. t.* 115. *Tourn.* 116. *Glaucium Tourn.* 130.

Claſſ. 13. 1. Polyandria Monogynia.

Nat. order of *Rhoeadeæ*.

GENERIC CHARACTER.

CAL. *Perianth* two-leaved, roundiſh: *leaflets* ſubovate, concave, obtuſe, caducous.

COR. *Petals* four, roundiſh, flat, ſpreading; large, narrower at the baſe.

STAM. *Filaments* very many (thirty) flat, broader at top, ſhorter than the corolla. *Anthers* oblong, compreſſed, obtuſe, erect, twin.

PIST. *Germ* cylindric, the length of the ſtamens. *Style* none. *Stigma* headed, bifid.

PER. *Silique* cylindric, ſubbivalve.

SEEDS very many, ovate, increaſed, ſhining. *Receptacle* linear, between the valves of a kind of circumambient ſuture, not gaping.

OBS. *Diſtinct from* Papaver *by its ſiliquoſe pericarp.* Chelidonium T. *has a one-celled ſilique.*—Glaucium T. *has a bicapſular ſilique.* Ch. hybridum *has a three-valved ſilique.*

ESSENTIAL CHARACTER.

Cor. four-petalled. *Cal.* two-leaved. *Silique* one-celled, linear.

SPECIES.

1. Chelidonium majus. *Common* or *great Celandine.*
Lin. ſpec. 723. *Reich.* 2. 569. *mat. med.* 134. *hort. cliff.* 201. 1. *upſ.* 137. 1. *fl. ſuec. n.* 465. *Hudſ. angl.* 228. *With.* 547. *Lightf.* 278. *Relh. cant. n.* 381. *Gærtn. fruct.* 2. 164. *Pollich pal. n.* 504. *Scop. carn. n.* 634. *Neck. gallob.* 231. *Crantz. auſtr.* 141. *Hall. helv. n.* 1059. *Krock. ſileſ. n.* 813. *Villars dauph.* 3. 687. *Fl. dan. t.* 542. *Lour. cochinch.* 330. *Mill. fig. t.* 92. *f.* 1. *Blackw. t.* 91. *Ger.* 911. *emac.* 1069. 1. *Park.* 617. 1. *Mor. ſ.* 3. *t.* 11. *f.* 2. *Bauh. hiſt.* 3. 483. *Raii hiſt.* 858. *Fuchſ.* 865.
β. C. laciniatum. *Mill. dict. n.* 2. *fig. t.* 92. *f.* 2.
C. majus fol. quernis. *Bauh. pin.* 144. *Raii ſyn.* 309. *Fl. dan. t.* 676. *Lin. ſpec.* 724. 1. β.
C. fol. laciniato. *Bauh. hiſt.* 3. 483.
C. majus lacin. flore. *Cluſ. hiſt.* 2. 203.
C. maj. fol. magis diſſecto. *Ger. emac.* 1069. *f.* 2.
C. maj. laciniatum. *Park.* 679. 2. *Raii hiſt.* 858.
Peduncles umbelled.

2. Chelidonium Glaucium. *Sea Celandine*, or *yellow horned Poppy.*
Lin. ſpec. 724. *Reich.* 2. 569. *hort. cliff.* 201. 2. *upſ.* 137. *Hudſ. angl.* 229. *With.* 548. *Lightf.* 279. *Gron. virg.* 57. 79. *Fl. dan.* 585. *Sowerby engl. bot. t.* 9. *Villars dauph.* 3. 687. *Krock. ſileſ. n.* 814.
Glaucum. *Hall. helv. n.* 1060.—flavum *Crantz. auſtr.* 141. *Allion. pedem. n.* 1062.—luteum. *Scop. carn. n.* 635.
Papaver corniculatum luteum. *Camer. epit.* 805. *Bauh. pin.* 171. *Bauh. hiſt.* 3. 398. *Ger.* 294. *f.* 1. *emac.* 367. *f.* 1. *Park.* 262. *f.* 1, 2. *Mor. ſ.* 3. *t.* 14. *f.* 1. *Pet. t.* 52. *f.* 7. *Raii hiſt.* 857.
P. cornic. flavo fl. *Cluſ. hiſt.* 2. 91. 1. *Dod.* 448. *Lob. obſ.* 141. 1. *ic.* 1. 270. 2.
Peduncles one-flowered; leaves ſtem-claſping, ſinuated; ſtem ſmooth.

3. Chelidonium corniculatum. *Red Celandine*, or *horned Poppy.*
Lin. ſpec. 724. *Reich.* 2. 570. *hort. upſ.* 137. 3. *Hudſ. angl.* 229. *With.* 548. *Mill. fig. t.* 143. *Krock. ſileſ. n.* 815.
Glaucium phæniceum. *Crantz. auſtr.* 141. *Allion. pedem. n.* 1063.
Papaver cornic. phænic. hirſutum. *Bauh. pin.* 171. *Raii hiſt.* 857.
P. cornutum fl. rubro. *Ger.* 294. 2. *emac.* 367. 2.
P. corn. phæniceo fl. *Cluſ. hiſt.* 2. 91. 2. *Dod.* 449. 1. *Lob. obſ.* 141. 2. *ic.* 1. 271. 1.
P. corn. phænic. fol. hirſuto. *Bauh. hiſt.* 3. 399. *f.* 1.
β. P. corn. phænic. glabrum. *Bauh. pin.* 171. *Ger. emac.* 367. *f.* 3.
C. glabrum. *Mill. dict. n.* 5.
Peduncles one-flowered; leaves ſeſſile, pinnatifid; ſtem hiſpid.

4. Chelidonium hybridum. *Violet Celandine* or *horned Poppy.*
Lin. ſpec. 724. *Reich.* 2. 570. *Hudſ. angl.* 229. *With.* 549. *Relh. cantab. n.* 382. *Villars dauph.* 3. 688.
Papaver corniculatum violaceum. *Bauh. pin.* 172. *Bauh. hiſt.* 3. 399. *f.* 2. *Raii hiſt.* 857. *Mor. ſ.* 3. *t.* 14. *f.* 3.

P. corn. violaceo flore. *Cluſ. hiſt.* 2. 92. 2. *Dod.* 449. 2. *Lob.* 141. 3. *ic.* 1. 272. 1. *Ger. emac.* 367. *f.* 4. *Park.* 262. *f.* 3: *Petiv. t.* 52. *f.* 8.
Peduncles one-flowered; leaves pinnatifid linear; ſtem gloſſy: ſiliques three-valved.

[5. Chelidonium japonicum.
Lin. ſyſt. 489. *Thunb. jap.* 221.
Peduncles one-flowered; leaves petioled, pinnated, ovate.

DESCRIPTIONS, *&c.*

1. Stem erect, from a foot to eighteen inches in height, cylindric, a little hairy. Radical leaves in a tuft: ſtem-leaves alternate, one to each branch, pinnated; ſegments nearly circular, ſcalloped, the end one deeply three-parted. Peduncles one-flowered, hairy, with a roundiſh hoary bracte at the baſe of each[a]. The juice of the whole plant is ſaffron-coloured. It approaches to the claſs Tetradynamia in the cruciform ſhape of the corolla, and its ſilique[b]; which however differs eſſentially, in being one-celled. Linneus makes the filaments thirty, Pollich twenty-five, and Withering ſays they are ſometimes not more than twenty. It is common in hedges and other ſhady places, uncultivated grounds, on rubbiſh, wails, *&c.* flowering from may to july, during which time it is in the greateſt perfection for uſe.

The juice of every part of this plant is very acrimonious. It cures tetters and ringworms. Diluted with milk it conſumes white opake ſpots on the eyes. It deſtroys warts, and cures the itch. There is no doubt but a medicine of ſuch activity will one day be converted to more important purpoſes[c].

The root, according to Loureiro, is extremely bitter, and greatly eſteemed among the natives of Cochinchina, for a variety of uſes in medicine.]

β. The leaves are divided into long narrow ſegments, which are deeply jagged on their edges; and the petals of the flower are cut into many parts. [Obſerved plentifully among the ruins of the Duke of Leeds's ſeat at Wimbleton, by Profeſſor John Martyn[d].

2. The root is perennial according to Scopoli and Allioni, but annual according to others. Miller ſays biennial. The whole plant is glaucous. Stem ſtrong, near two feet high, much branched. Root-leaves pinnatifid, waved, variouſly lobed and indented, pinnas gradually larger upwards; hairy on both ſides: ſtem-leaves embracing, deeply indented, rough above, ſmooth beneath. Branches dichotomous. Peduncles thick, ſlightly hairy, one or two-flowered. Calyx large, oval, hairy. Petals large, ovate, yellow. Seed-veſſels very long (nine or ten inches), variouſly twiſted, rough, terminated by a ſagittated ſtigma[e]. Stamens ſixty and upwards. The flowers nod till the day preceding the unfolding of the petals, which fall off on the ſecond day after they are opened[f].

The large and numerous flowers, which, although of ſhort duration, ſucceed one another in great abundance during moſt part of the ſummer, make a fine contraſt with the ſea-green dew-beſpangled leaves, and are a gerat ornament to our ſandy ſhores. The whole plant abounds in a yellow juice, is fœtid, and of a poiſonous quality. It is ſaid to occaſion madneſs. Probably the *Glaucium* of Dioſcorides[g].

Sandy ſoils in Switzerland, France, Italy, Auſtria, Carniola, Denmark, Virginia; and on the coaſts of Britain, frequently within reach of the ſpray of the ſea, as in Norfolk, Suffolk about Dunwich, *&c.* Lancaſhire, Iſle of Wight, Kent, Eſſex, Wales and Scotland. Flowering from june to auguſt.

3. Plant glaucous. Root ſpindle-ſhaped. Root-leaves in a circle, on ſhort petioles; pinnatifid; pinnas alternate, indented at the ends; the upper ones largeſt, the terminating one broad, blunt, with three or four indentures, hairy. Stem eighteen inches high, ſlightly hairy, furrowed, dichotomouſly branched. Stem-leaves pinnatifid, half-ſtem-claſping, alternate. Peduncles terminating and axillary, ſlightly hairy, with ſometimes one or two leaves, ſimilar to thoſe of the ſtem, but ſmaller. Calyx oval, rather pointed. Petals oval, deep orange, veined, with an elliptic purpliſh ſpot at the baſe of each; they ſoon fall off. Silique very long, nearly ſtraight, terminated by a blunt knob, very hairy[h].

Hungary, Bohemia, Moravia, Auſtria, about Montpellier, Piedmont, Spain. In England, firſt obſerved by Mr. Stillingfleet, in the ſandy corn fields of Norfolk. Annual; flowering in july and auguſt.]

β. This variety differs in having broader leaves, not ſo deeply divided. The whole plant is ſmooth, and the flowers are larger, but they are of the ſame colour.

4. [Linneus ſuggeſts that this plant might have been originally produced, by the pollen of a ſpecies of *Chelidonium*, impregnating the germs of *Papaver Argemone*; and hence his trivial name of *hybridum*. Root fuſiform, ſlender. Stem erect, a foot high, branched, cylindric, ſmoothiſh, having a few expanded briſtles. Leaves multifid, ſmooth, with toothed ſharp ſegments; they are very much like thoſe of *Papaver hybridum*; or, according to Mr. Miller, of Buck's-horn Plantain. Peduncles terminal, cylindric, one-flowered. Calyx hairy. Petals violet, fugacious, ſeldom laſting above three or four hours. Anthers twin, pale blue. Silique two inches long, a little crooked, hiſpid with a few hairs. Stigma three-rayed[i]. Mr. Woodward obſerves that the root-leaves are petioled: the ſtem-leaves ſeſſile, once or twice pinnate; diviſions linear, nearly equal, ſmooth. Stem ſlightly hairy. Peduncles ſmooth. Calyx oval, ſlightly hairy. Petals ovate, deep purple. Silique ſmooth, terminated by a roundiſh knob[k], marked with three furrows[l].—In the ſouthern countries of Europe. In ſandy corn fields between Swaffham and Burwell in Cambridgeſhire, and in Norfolk. Annual, flowering in july and auguſt.

5. *Stem* herbaceous, ſtriated, ſmooth, weak, erect. *Leaves* alternate, unequally pinnate: leaflets three or five, oppoſite, on very ſhort petioles; ovate-oblong, acute, gaſhed, unequally ſerrated with acute ciliated ſerratures, ſmooth; pale underneath, an inch or an inch and half in length, the end lobe always larger: petiole like the ſtem, a finger's length. *Flowers* axillary, ſolitary, peduncled. *Peduncle* capillary, nearly the length of the leaves. *Calyx* ſmooth. *Corolla* a little longer than the calyx, yellow. *Filaments* one-fourth of the length of the corolla.—Native of Japan[m].]

PROPAGATION AND CULTURE.

If the ſeeds of the four firſt ſpecies be permitted to ſcatter, the ground will be plentifully ſtored with plants. If a few of them be thrown about in rock-work, they will come up without trouble, and have a good effect. Seeds ſown in the autumn will grow with more certainty than in the ſpring, and come earlier to flower: they ſhould be ſown where the plants are to remain, and will require no care but to thin them where they are too cloſe, and to keep them clean from weeds.

There is a variety of the firſt ſort with double flowers, which generally riſes the ſame from ſeeds; and may alſo be preſerved by parting the roots.

CHELIDONIUM. See *Bocconia*.
——— majus. See *Sanguinaria*.
——— minus. See *Ranunculus Ficaria*.

CHELŌNE. (From χελώνη, *a Tortoiſe.*)
Lin. gen. n. 748. *Reich.* 806. *Schreb.* 1005. *Gærtn. t.* 54. *Juſſ.* 137. *Dill. gen.* 11. Anonymos. *Gron. virg.* 71, 72. *Act. par.* 1706. *t.* 3. *p.* 87.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ*. *Bignoniæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted, very ſhort, permanent; *diviſions* erect, ovate.

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[a] Pollich. [b] Relhan. [c] Withering. [d] Raii ſyn. [e] Woodw. Mſſ. [f] Scopoli. [g] Engl. Bot.

[h] Woodw. Mſſ. [i] Lyons in Relh. [k] Woodw. Mſſ. [l] Linn. [m] Thunberg.

Cor. monopetalous, ringent. *Tube* cylindric, very ſhort. *Throat* inflated, oblong, convex above, flat beneath. *Border* cloſed, ſmall. *Upper lip* obtuſe, emarginate; *lower* almoſt equal to the upper, very ſlightly trifid.

Stam. *Filaments* four, hid beneath the back of the corolla; the two ſides ones a little longer. *Anthers* incumbent. The *rudiment* of a fifth filament, like the point of a dagger, between the upper pair of ſtamens.

Pist. *Germ* ovate. *Style* filiform, ſituation and length of the ſtamens. *Stigma* obtuſe.

Per. *Capſule* ovate, two-celled, longer than the calyx.

Seeds very many, roundiſh, ſurrounded with a membranous rim.

Obs. C. pentſtemon *differs in ſome circumſtances.*

ESSENTIAL CHARACTER.

Cal. five-parted. *Rudiment* of a fifth filament between the upper ſtamens. *Capſ.* two-celled.

SPECIES.

1. Chelone glabra. *White Chelone.*
   Lin. ſpec. 849. *Reich.* 3. 122. *Gærtn. fruct.* 1. 256. *Gron. virg.* 70. 93. 1. *Tourn. act. par.* 1706. 85.
   Leaves petioled lanceolate ſerrate, the upper ones oppoſite.

2. Chelone obliqua. *Red Chelone.*
   Lin. ſyſt. 553. *Reich.* 3. 123. *Gron. virg.* 71. 93. 2. *Lour. cochinch.* 382.
   C. glabra β. *Lin. ſpec.* 849.
   C. purpurea. *Mill. dict. n.* 2. *fig. t.* 93.
   Digitalis mariana. *Raii ſuppl.* 397. *Pluk. mant. t.* 348. *f.* 4.
   Leaves petioled lanceolate ſerrate, all oppoſite.

3. Chelone hirſuta. *Hairy Chelone.*
   Lin. ſpec. 849. *ſyſt.* 553. *Reich.* 3. 123. *Gron. virg.* 71. 93. 3.
   Digitalis. *Pluk. mant.* 64. 3. *Baniſt. virg.* 1926.
   Stem and leaves hirſute.

4. Chelone Pentſtemon.
   Lin. ſpec. 850. *ſyſt.* 553. *Reich.* 3. 123. *mant.* 415. *Arduin. ſpec.* 14. *t.* 5.
   Aſarina erecta. *Mill. dict. n.* 2. *fig. t.* 252.
   Dracocephalus. *Mor. hiſt.* 3. 417. *ſ.* 11. *t.* 21. *f.* 2.
   Digitalis. *Mor. hiſt.* 2. 479. *ſ.* 5. *t.* 8. *f.* 6.
   Pentſtemon lævigata. *Hort. kew.* 2. 361.
   Cynorynchium. *Pluk. mant.* 62.
   Pentſtemon. *Mitch. gen.* 14.
   β. Dracocephalus. *Mor.* 3. 417. *f.* 3. (latifolia.)
   Leaves ſtem-claſping; panicle dichotomous.

[5. Chelone campanulata.
   Cavan. hiſp. 18. *n.* 27. *t.* 29.
   Leaves oppoſite, ſeſſile, ovate-lanceolate; extremely acuminate, deeply ſerrate.]

DESCRIPTIONS, &c.

1. The firſt ſort grows naturally in moſt parts of North America. This is called by Joſcelin, in his New England Rarities, the Humming Bird-tree. It has a pretty thick jointed root, which creeps under ground to a conſiderable diſtance, ſending up ſmooth channelled ſtalks, which riſe about two feet high, with two leaves at each joint, ſtanding oppoſite without foot-ſtalks; theſe are three inches and a half long, and about three quarters of an inch broad at their baſe, where they are broadeſt, diminiſhing gradually to a ſharp point; they have ſmall ſerratures on their edges, which ſcarcely appear. The flowers grow in a cloſe ſpike at the end of the ſtalks; they are white, and have but one petal, which is tubular, and narrow at the bottom, but ſwells towards the top, almoſt like the Foxglove flower; the upper ſide is bent over and convex, but the under is flat, and ſlightly indented in three parts at the end.

[Cultivated 1730, by Mr. Miller[a].]

2. The ſecond ſort was diſcovered in Virginia by Mr. Clayton, who ſent it to England: the roots of this do not creep ſo far as thoſe of the firſt, the ſtalks are ſtronger, the leaves much broader, and oblique; they are deeply ſawed on their edges, and ſtand upon ſhort foot-ſtalks: the corolla is of a bright purple colour, and therefore makes a finer appearance than the firſt ſort.

[Cultivated 1732, by Mr. Miller[b].]

3. This approaches to the firſt ſort, but the ſtalks and leaves are very hairy, and the flower is of a purer white. It flowers at the ſame time.—Native of New England, whence Mr. Miller received the ſeeds.

[Juſſieu obſerves that this has a long fifth ſtamen, with a very villoſe anther. Perhaps it is only a variety of the next ſpecies[c].]

4. Stem cylindric, pubeſcent;] upright, a foot and half high, putting out ſeveral ſide-branches. Leaves oblong-lanceolate ending in a point. Flowers in ſhort looſe ſpikes from the diviſions of the ſtalks, purple. [Calyx from erect ſpreading, ſubequal. Corolla perſonate; tube the length of the calyx: throat oblong, bellying: gape white: upper lip ſhorter, obtuſely two-parted, reflected; lower trifid, ſtraight, obtuſe with reflected ſides. Filaments declined, ſhorter than the gape; a fifth or upper one caſtrated, bearded towards the tip, incumbent on the lower lip, broader towards the tip[d].

Native of North America. Cultivated by Mr. Miller in 1758[e].

5. The whole plant ſmooth. Stems round, a foot and half high, purple, wand-like. Leaves ſtem-claſping, ovate at the baſe, towards the tip always narrower, one-nerved, deep green above, paler beneath. Flowers in a very long, looſe, terminating ſpike: peduncles axillary, ſolitary, oppoſite; the lower ones bifid and two-flowered, the upper one-flowered. It may perhaps only be a variety of the foregoing.

Native of Mexico. Cultivated in the gardens of Paris and Madrid[f].]

PROPAGATION AND CULTURE.

1. The firſt ſort flowers in auguſt, and when the autumn proves favourable, the ſeeds will ſometimes ripen in England; but as the plants propagate ſo faſt by their creeping roots, the ſeeds are ſeldom regarded. The beſt time to tranſplant the roots is in autumn, that they may be well eſtabliſhed in the ground before the ſpring, otherwiſe they will not flower ſo ſtrong, eſpecially if the ſeaſon proves dry; but when they are removed in the ſpring, it ſhould not be later than the middle of march, by which time their roots will begin to puſh out new fibres. They will thrive in almoſt any ſoil or ſituation, but their roots are apt to creep too far, if they are not confined, and ſometimes intermix with thoſe of other plants; and then their ſtalks ſtand ſo far diſtant from each other, as to make but little appearance; therefore they ſhould be planted in pots, which will confine their roots, ſo that in each pot there will be eight or ten ſtalks growing near each other, when they will make a tolerably good appearance. This plant being very hardy, is not injured by cold; but it muſt have plenty of water in hot weather.

2, 3. The ſecond and third ſorts flower at the ſame time, may be increaſed in the ſame way, and require a like treatment.

As theſe plants flower in the autumn, when there is a ſcarcity of other flowers, it renders them the more valuable, eſpecially the ſecond ſort, whoſe flowers make a very pretty appearance, when they are ſtrong: and if ſome of them have a ſhady ſituation in the ſummer, they will flower later.

4. The ſeeds ſhould be ſown in autumn. When the plants are grown ſtrong enough to remove, they ſhould be tranſplanted into a ſhady border, which will prevent their flowering the ſame year; and in the autumn they may be planted in the borders of the flower-garden. The roots ſeldom laſt above two or three years.

[Chenopodio-Morus. See *Blitum.*

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[a] Hort. kew.

[b] Hort. kew.

[c] Linn.

[d] Linn. mant.

[e] Hort. kew.

[f] Cavanilles.

CHENOLEA.

Lin. gen. Schreb. n. 406. *Thunb. nov. gen.* 9.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Holoraceæ. Atriplices* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, globular, ſomewhat fleſhy, five-parted; ſegments bent in.

COR. none.

STAM. *Filaments* five, filiform, from upright bent in, inſerted at the baſe of the calyx, and of the ſame length. *Anthers* minute.

PIST. *Germ* ſuperior. *Style* filiform, very ſhort. *Stigmas* two, ſimple, ſubulate, acute, from ſpreading bent back, a little longer than the ſtyle.

PER. *Capſule* round, ſlightly depreſſed, umbilicate, one-celled.

SEED ſingle, roundiſh, bifid at the tip, ſmooth.

ESSENTIAL CHARACTER.

Cal. globular, one-leafed, five-parted. *Capſ.* one-celled, containing one ſmooth ſeed, bifid at the tip.

SPECIES.

1. Chenolea diffuſa.

Thunb. nov. gen. 10. *Lin. ſyſt.* 247.

Salſola ſericea. *Ait. hort. kew.* 1. 317.

DESCRIPTION, &c.

Stems ſeveral, radical, filiform, herbaceous, diffuſed, ſimple and branched, covered with leaves, purple, ſmooth at bottom, ſubtomentoſe at top, unequal, the ends upright: branches alternate, ſcattered, few, very ſhort. Leaves faſtigiately oppoſite, ſeſſile, ovate-lanceolate. blunt with a point, fleſhy, entire, flat above, convex beneath, frequent, the uppermoſt more approximating and imbricate, from upright ſpreading, ſilvery tomentoſe, longer than the internodes. Flowers axillary, ſolitary or in pairs, ſeſſile in each axil, towards the tips of the branches.

Native of the Cape of Good Hope, on the low coaſt[g]. Cultivated in 1758, by Mr. Miller. It flowers in auguſt and ſeptember[h].]

CHENOPODIUM. (*From* χήν, *a gooſe, and* πους; *a foot.*)

Engl. *Gooſe-foot.* Fr. *Patte d'oye.*

Lin. gen. n. 309. *Reich.* 337. *Schreb.* 435. *Gærtn. t.* 75. *Tourn.* 288. *Juſſ.* 85.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Holoraceæ. Atriplices* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved, concave, permanent. *Diviſions* ovate, concave, membranaceous on the margin.

COR. none.

STAM. *Filaments* five, ſubulate; oppoſite the leaves of the calyx, and of the ſame length. *Anthers* roundiſh, twin.

PIST. *Germ* orbiculate. *Style* two-parted, ſhort. *Stigmas* obtuſe.

PER. none. *Calyx* cloſed, five-cornered, five-angled; (angles compreſſed) deciduous.

SEED ſingle, lenticular, ſuperior.

OBS. *In ſome ſpecies the ſtyle is obſerved to be trifid.*

ESSENTIAL CHARACTER.

Cal. five-leaved, five-cornered. *Cor.* none. *Seed* one, lenticular, ſuperior.

SPECIES.

* *With angular leaves.*

1. Chenopodium Bonus Henricus. *Angular-leaved Gooſefoot. Engliſh Mercury* or *Allgood, Good-Henry, Good King Harry, Wild Spinach.*

Lin. ſpec. 318. *Reich.* 617. *fl. ſuec. n.* 214. *hort. cliff.* 84. 1. *mat. med.* 72. *Hudſ. angl.* 104. *With.* 251. *Lightf.* 147. *Curt. lond.* 3. *t.* 17. *Hall. helv. n.* 1578. *Neck. gallob.* 131. *Pollich pal. n.* 245. *Allion. pedem. n.* 2006. *Villars dauph.* 2. 561. *Krock. fl. ſileſ. n.* 369. *Oed. dan. t.* 579. *Petiv. t.* 7. *f.* 12. *Plenck, ic. t.* 164.

Mercurialis. *Blackw. t.* 311.

Lapathum unctuoſum. *Bauh. pin.* 115. *n.* 6. *Park.* 1225. *f.* 6.

Bonus Henricus. *Bauh. hiſt.* 2. 965. *f.* 2. *Trag.* 317. *Ger.* 259. *emac.* 329.

Blitum perenne Bonus Henricus dictum. *Mor.* 2. 599. *ſ.* 5. *t.* 30. *f.* 1. *Raii ſyn.* 156. *hiſt.* 195.

Leaves triangular-ſagittate quite entire; ſpikes compound leafleſs axillary.

[2. Chenopodium urbicum. *Upright Gooſefoot.*

Lin. ſpec. 318. *Reich.* 617. *fl. ſuec. n.* 215. *Hudſ. angl.* 104. *With.* 252. *Relh. cant. n.* 196. *Raii ſyn.* 155. *n.* 11. *Pet. brit. t.* 8. *f.* 8. *Pollich pal. n.* 246. *Buxb. hal.* 69. *ult. t.* 1. *Krock. ſileſ. n.* 370. *Villars dauph.* 2. 564.

Leaves triangular, ſomewhat toothed; racemes crowded, very ſtraight, approximating to the ſtem, and very long.

3. Chenopodium Atriplicis. *Orach* or *purple Gooſefoot.*

Lin. ſyſt. 261. *ſuppl.* 171.

C. purpuraſcens. *Jacqu. hort.* 3. *t.* 80.

Leaves deltoid coloured beneath; ſtem erect.

4. Chenopodium rubrum. *Red Gooſefoot.*

Lin. ſpec. 318. *Reich.* 617. *fl. ſuec. n.* 217. *mat. med.* 73. *hort. cliff.* 85. 7. *Hudſ. angl.* 105. *With.* 252. *Lightf.* 148. *Relh. n.* 197. *Hall. helv. n.* 1583. *Neck. gallob.* 131. *Pollich pal. n.* 247. *Krock. ſileſ. n.* 371. *Gærtn. fruct.* 1. 360.

Atriplex ſylveſtris latifolia. *Bauh. pin.* 119. *Mor. t.* 31. *f.* 2. *Raii hiſt.* 198.

Pes anſerinus. *Dalech. t.* 542. *Fuchſ. t.* 653. *Bauh. hiſt.* 2. 975. *f.* 2. *Dod.* 616. 1. *Ger. emac.* 328. *f.* 1, 2. *Park.* 749. *f.* 8. *Petiv. brit. t.* 8. *f.* 6.

Leaves cordate-triangular bluntiſh toothed, racemes erect compound ſomewhat leafy ſhorter than the ſtem.

5. Chenopodium murale. *Wall* or *Nettle-leaved Gooſefoot.*

Lin. ſpec. 318. *Reich.* 618. *fl. ſuec. n.* 216. *hort. cliff.* 85. 8. *Hudſ. angl.* 105. *With.* 253. *Curt. lond. n.* 61. *Lightf.* 148. *Pollich pal. n.* 248. *Neck. gallob.* 130. *Berg. phyt. t.* 137. *Krock. ſileſ. n.* 372. *Villars dauph.* 2. 562.

Atriplex ſylveſtris latifolia acutiore folio. *Bauh. pin.* 119. *Pet. brit. t.* 8. *f.* 5. *Raii hiſt.* 197. *n.* 9.

A. dicta pes anſerinus alter ſ. ramoſior. *Bauh. hiſt.* 976. *f.* 1.

Leaves ovate ſhining toothed ſharp, racemes branched naked.

6. Chenopodium ſerotinum. *Fig-leaved Gooſefoot.*

Lin. ſpec. 319. *Reich.* 618. *amæn.* 4. 309. *Hudſ. angl.* 106. *With.* 253. *Hall. helv. n.* 1582.

Blitum ficus folio. *Raii ſyn.* 155. *Pet. brit. t.* 8. *f.* 3.

Leaves deltoid ſinuate-toothed wrinkled ſmooth uniform, racemes terminal.

7. Chanopodium album. *Common* or *white Gooſefoot.*

Lin. ſpec. 319. *Reich.* 618. *fl. ſuec. n.* 218. *vir. cliff.* 22. *hort. cliff.* 85. 6. *Hudſ. angl.* 106. *With.* 253. *Lightf.* 148. *Curt. lond.* 2. 15. *Hall. helv. n.* 1579. *Neck. gallob.* 128. *Pollich pal. n.* 549. *Blackw. t.* 553. *Krock. ſileſ. n.* 373. *Villars dauph.* 2. 562.

Atriplex ſylveſtris. *Fuchſ. t.* 119. *Bauh. hiſt.* 2. 972. 1. *Raii hiſt.* 197.

A. vulgaris. *Ger.* 257. 4. *emac.* 326. 6. *Pet. brit. t.* 8. *f.* 2.

Leaves rhomboid-triangular eroſe entire behind, uppermoſt oblong: racemes erect.

8. Chenopodium viride. *Green Gooſefoot.*

Lin. ſpec. 319. *ſyſt.* 262. *Reich.* 619. *fl. ſuec. n.* 219. *With.* 254. *Curt. lond.* 2. 16. *Lightf.* 149. *Hall. helv. n.* 1580. *Pollich pal. n.* 250. *Krock. ſileſ. n.* 374. *Scop. carn. n.* 280.

C. album. β. *Hudſ. angl.* 106.

C. opulaceum. *Neck. gallob.* 130.

C. ſylveſtre, opuli fol. *Vaill. par. t.* 7. *f.* 1.

Blitum fol. ſubrotundo. *Pet. brit. t.* 8. *f.* 4.

Leaves rhomboid tooth-ſinuate, racemes branched ſomewhat leafy.

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[g] Thunberg.

[h] Hort. kew.

9. Chenopodium hybridum. *Baſtard Gooſefoot.*

Lin. ſpec. 319. *Reich.* 619. *fl. ſuec. n.* 220. *hort. cliff.* 85. 9. *Hudſ. angl.* 105. *With.* 255. *Curt. lond.* 4. 23. *Hall. helv. n.* 1581. *Neck. gallob.* 129. *Pollich pal. n.* 251. *Krock. ſileſ. n.* 375. *Lour. cochinch.* 174. *Villars dauph.* 2. 563.

C. ſtramonii folio. *Vaill. par. t.* 7. *f.* 2. *Raii ſyn.* 154. *Pet. brit. t.* 8. *f.* 7.

C. ſ. Pes anſerinus 2. *Tabern.* 428.

Atriplex ſylveſtris major, anguloſo fol. *Barrel. ic.* 540.

Leaves cordate angular-acuminate, racemes branching naked.]

10. Chenopodium Botrys. *Cluſter* or *Cut-leaved Gooſefoot* or *Oak of Jeruſalem.*

Lin. ſpec. 320. *Reich.* 620. *hort. cliff.* 84. 3. *upſ.* 55. 5. *mat. med.* 73. *Hall. helv. n.* 1585. *Villars dauph.* 2. 563. *Krock. ſileſ. n.* 376. *Allion. pedem. n.* 2016. *Blackw. t.* 314. *Plenck, ic. t.* 165.

Botrys. *Dod. pempt.* 34. *Fuchſ.* 179. *Matth.* 853. *Camer. epit.* 598. *Bauh. hiſt.* 3. 298. *Raii hiſt.* 196. *Ger.* 950. *f.* 1. *emac.* 1108.——vulgaris. *Park.* 89.——ambroſioides vulg. *Bauh. pin.* 138.

Leaves oblong ſinuate, racemes naked multifid.

11. Chenopodium ambroſioides. *Mexican Gooſefoot,* or *Oak of Cappadocia.*

Lin. ſpec. 320. *Reich.* 620. *hort. cliff.* 85. 4. *upſ.* 56. *Plenck, ic. t.* 168.

Botrys ambroſioides mexiocana. *Bauh. pin.* 138, 516. *Raii hiſt.* 196.

B. americana. *Park.* 89. *n.* 2.

Atriplex odora ſ. ſuaveolens Americana Mexiocanave. *Mor. hiſt.* 2. 605. *ſ.* 5. *t.* 31. *f.* 8.

β. C. fruticoſum. *Mill. dict. n.* 6.

C. ambroſioides fruticoſum mexiocanum. *Boerh. ind.* 2. 90.

Leaves lanceolate toothed, racemes leafy ſimple.

12. Chenopodium multifidum. *Buenos-Ayres Gooſefoot.*

Lin. ſpec. 320. *Reich.* 620. *Dill. elth.* 78. *t.* 66. *f.* 77.

Leaves multifid, ſegments linear; flowers axillary ſeſſile.

[13. Chenopodium anthelminticum. *Wormſeed Gooſefoot.*

Lin. ſpec. 320. *Reich.* 621. *mat. med.* 73. *Kalm. canad.* 2. 283. *Dill. elth.* 77. *t.* 66. *f.* 76. *Plenck, ic. t.* 166.

Leaves ovate-oblong toothed, racemes leafleſs.

14. Chenopodium glaucum. *Oak-leaved Gooſefoot.*

Lin. ſpec. 320. *Reich.* 621. *fl. ſuec. n.* 221. *vir. cliff.* 22. *hort. cliff.* 85. 5. *Hudſ. angl.* 106. *With.* 255. *Hall. helv. n.* 1584. *Pollich pal. n.* 252. *Krock. ſileſ. n.* 377. *Villars dauph.* 2. 563.

C. anguſtifolium laciniatum minus. *Tourn. inſt.* 506. *Raii ſyn.* 155.

Atriplex ang. lacin. *Bauh. hiſt.* 2. 472. *t.* 473.

A. ſylveſtris ſecunda. *Tabern. ic.* 427.

Blitum quercus folio. *Pet. brit. t.* 8. *f.* 1.

Leaves ovate-oblong repand, racemes naked ſimple glomerate.]

** *With ſimple leaves.*

15. Chenopodium Vulvaria. *Stinking Gooſefoot.*

Lin. ſpec. 321. *Reich.* 621. *fl. ſuec. n.* 222. *mat. med.* 74. *Woodv. med. bot.* 394. *t.* 145. *hort. cliff.* 84. 2. *Hudſ. angl.* 107. *With.* 255. *Lightf.* 149. *Reih. n.* 203. *Hall. helv. n.* 1577. *Neck. gallob.* 128. *Pollich pal. n.* 253. *Villars dauph.* 2. 564. *Krock. ſileſ. n.* 378. *Allion. pedem. n.* 2014. *Plenck, ic. t.* 167.

C. olidum. *Curt. lond.* 5. *t.* 20.

Atriplex foetida. *Bauh. pin.* 119. *Bauh. hiſt.* 2. 974. *t.* 975. *f.* 1. *Mor.* 2. 605. *ſ.* 5. *t.* 31. *f.* 6.

A. olida. *Ger.* 258. *emac.* 327. *Park.* 749. *f.* 9. *Raii hiſt.* 198. *Pet. brit. t.* 7. *f.* 11. *Blackw. t.* 100.

Vulvaria. *Dalech. hiſt.* 543. *Tabern.* 428.

Garoſmus. *Dod.* 616. 2. *Lob. obſ.* 128. 4.

Leaves quite entire rhomboid-ovate, flowers conglomerate axillary.

[16. Chenopodium polyſpermum. *Round-leaved Gooſefoot, Upright Blite,* or *Allſeed.*

Lin. ſpec. 321. *Reich.* 621. *fl. ſuec. n.* 223. *Hudſ. angl.* 107. *With.* 256. *Curt. lond.* 2. *t.* 17. *Lightf.* 150. *Hall. helv. n.* 1576. *Neck. gallob.* 128. *Pollich pal. n.* 254. *Krock. ſileſ. n.* 379. *Scop. carn. n.* 279. *Villars dauph.* 2. 564.

C. betæ folio. *Tourn. inſt.* 506. *Raii ſyn.* 157.

Blitum fol. ovatis. *Lin. hort. cliff.* 28.—polyſpermum. *Bauh. pin.* 118. *Park.* 753. *t.* 754. *f.* 3.——ſylveſtre. *Camer. epit.* 237.—majus polyſp. *Mor.* 2. 599. *t.* 30. *f.* 6.—erectius, ſ. 3. Tragi. *Bauh. hiſt.* 2. 967. *f.* 2. *Raii hiſt.* 196.

Atriplex ſylveſtris, ſ. polyſpermon. *Ger.* 257. *f.* 3. *emac.* 325. *f.* 3.

Leaves quite entire ovate, ſtem decumbent, cymes dichotomous leafleſs axillary.]

17. Chenopodium Scoparia. *Flax-leaved Gooſefoot, Belvedere,* or *Summer Cypreſs.*

Lin. ſpec. 321. *ſyſt.* 262. *Reich.* 622. *hort. cliff.* 86. 10. *upſ.* 55. 2. *Scop. carn. n.* 282.

Linaria ſcoparia. *Bauh. pin.* 212.

L. Belvedere. *Bauh. hiſt.* 3. 462.

Oſyris. *Dod. pempt.* 101.

Scoparia ſ. Belvedere Italorum. *Park. parad.* 268. *t.* 267. *f.* 4. *Raii hiſt.* 210.

S. ſ. Oſyris Græcorum. *Ger.* 443. *f.* 9. *emac.* 554. *f.* 11.

Leaves linear-lanceolate flat quite entire.

[18. Chenopodium maritimum. *Sea Gooſefoot,* or *White Glaſſwort.*

Lin. ſpec. 321. *Reich.* 622. *fl. ſuec. n.* 224. *hort. cliff.* 86. 12. *Hudſ. angl.* 107. *With.* 256. *Lightf.* 150. *Scop. carn. n.* 283. *Fl. dan. t.* 489.

Kali minus. *Ger. emac.* 535. *f.* 3. *Raii hiſt.* 198. *n.* 14.—album. *Park.* 279.—ſemine ſplendente. *Bauh. pin.* 289. *Mor.* 2. 610. *ſ.* 5. *t.* 33. *f.* 3.

Leaves ſubulate ſemicylindric.

19. Chenopodium ariſtatum. *Awned Gooſefoot.*

Lin. ſpec. 321. *ſyſt.* 262. *Reich.* 622. *mant.* 347. *Gmel. ſib.* 3. 83. *t.* 15. *f.* 1.

β. Ch. virginicum. *Lin. ſpec. edit.* 1. 222.

Leaves lanceolate ſomewhat fleſhy quite entire; corymbs dichotomous awned axillary.

20. Chenopodium oppoſitifolium. *Oppoſite-leaved Gooſefoot.*

Lin. ſyſt. 262. *ſuppl.* 172.

Salſola oppoſitiflora. *Pall. it.* 2. 735. *t.* O.

Leaves oppoſite lanceolate-ſubulate very ſhort.

21. Chenopodium punctulatum. *Dotted-leaved Gooſefoot.*

Scop. inſubr. 26. *t.* 11.

Leaves dotted with white, the bottom ones rhomb-ovate ſinuate, the uppermoſt elliptic; racemes lateral ſpiked leafy.

22. Chenopodium triandrum. *Three-ſtamened Gooſefoot.*

Forſt. florul. auſtr. n. 129.

Leaves cordate-ſagittate, ſpikes terminal leafleſs interrupted.

23. Chenopodium laterale. *Branching oblong-leaved Gooſefoot.*

Ait. hort. kew. 1. 313.

Stem-leaves lanceolate obtuſe, thoſe of the branches oblong; peduncles lateral ſolitary one-flowered.

DESCRIPTIONS, &c.

1. *Root* perennial, branched. *Stem* twelve to eighteen inches in height, at bottom round and ſmooth, upwards finely grooved, and ſomewhat angular, covered with tranſparent powdery globules, and branched. *Leaves* petioled, alternate, ſmooth; underneath veiny, paler and mealy, ſomewhat waved. *Spike* terminal, yellowiſh, conical, mealy; at bottom branched, at top cluſtered and cylindrical. Spikelets alternate, ſeſſile; flowers cluſtered, ſeſſile[a]. Lower ſpikelets on ſhort peduncles from the boſom of the flower-leaves[b]. *Calyx* one-leafed, deeply divided into five ſegments, which are jagged at top.

[a] Linn.

[b] Withering.

Style none: ſtigma divided to the baſe into two, three or four whitiſh, ſpreading ſegments, running to a point. *Seed* large, ſomewhat kidney-ſhaped, exceeding the calyx, and covered with a fine ſkin. Female flowers are numerous among the hermaphrodite ones.

It is gathered while young and tender to eat as Spinach. At Boſton in Lincolnſhire it is generally cultivated, and is there preferred to Spinach[c]. The young ſhoots peeled and boiled, may be eaten as Aſparagus, and are gently laxative. The leaves are often boiled in broth. The roots are given to ſheep that have a cough[d]. As a medicine this herb is ranked among the emollients, but rarely made uſe of in practice. The leaves are applied by the common people for healing ſlight wounds, and cleanſing old ulcers. It grows in waſte places, by road ſides, about farm yards, *&c.* flowering and feeding from may to auguſt[e].]

Mr. Miller thinks that it is not originally a native of England, but that having been formerly cultivated in kitchen gardens, the ſeeds have got out from them. [Our oldeſt herbariſts however mention it as a plant found commonly wild.

2. Diſtinguiſhed by its very long racemes, altogether erect, and approximating to the ſtem[f]; which is erect and ſimple. Leaves alternate, petioled, acute at each end, ſmooth, with one or two teeth in the hinder part. Racemes axillary and terminal[g]. Poſſibly it may be a variety of *C. rubrum.* There ſeems to be no diſtinction but in the racemes; except that the calyx is ſmaller[h].

Villars ſays, that it bears ſome reſemblance to *C. album,* but that the leaves are broader and more obtuſe, and that the branches approximate more to the ſtem.

This and all our ſucceeding wild ſpecies are annual; grow abundantly on dunghills and in waſte places; and flower from july to ſeptember.

3. This has the appearance, erect ſtature, height, colour and leaves of red garden Orach. *Stem* ſimple, ſcarcely pubeſcent with meal, not gloſſy, ſtriated towards the top. *Leaves* alternate, petioled, ſomewhat toothed. *Raceme* terminal, more and more crowded towards the top: racemules ſimple, with ſmall linear leaves interpoſed. *Flowers* three to five in a racemule, ſeſſile, blood red, all hermaphrodite: calyx five-cornered, five-cleft. Annual. Found in Siberia, by Pallas[i].—Native of China. Introduced 1780, by Monſ. Thouin[k].

4. Stems decumbent, and cloſe to the ground. Leaves ſhining, thick. Spikes compoſed of ſeſſile glomerules, ſeparated by ſmall linear leaves. When ripe it grows red, and is diſperſed[l]. Dr. Withering has deſcribed the ſtem as pale green, ſmooth, ſlighty ſcored with lines of a deeper green: branches axillary, upright. Petioles as long or longer than the branches that riſe from them. No ſhining ſpangles on the leaves or calyx ſo as to give the plant a white appearance, but when held againſt a ſtrong light an infinite number of ſhining particles appear. Racemes in the boſom of the upper leaves. According to Lyons, the leaves are alternate, upright, running down into the petioles, ſharp, finely toothed, ſmooth above. Petioles the length of the leaves. The whole panicle is longer than the ſtem[m]. Dr. Stokes has corrected the ſpecific character thus—leaves deltoid, tooth-ſinuate, teeth acuminate; racemes erect, compound, leafy, ſhorter than the leaf. Mr. Hudſon doubts whether this be diſtinct from *C. urbicum.*

5. Haller thinks, that the *rubrum* and this are not diſtinct ſpecies. They have certainly been confounded. Monſ. Villars ſays, that the leaves of the *rubrum* are blunter, and red on the edges, and that the ſtem is higher. It is moſt ſtrikingly diſtinguiſhed by the particular form of its racemes, which are ſhort and ſpread out widely, ſo as to give them a depreſſed appearance, the tops ſomewhat curled in: the racemes of the *rubrum* and *urbicum,* which are moſt liable to be miſtaken for it, are perfectly upright: its gloſſy leaves and unpleaſant ſmell contribute alſo to point it out. The whole plant is ſometimes tinged with red[n].

Mr. Curtis obſerves that this, and moſt other ſpecies of the genus, afford plenty of ſeeds, for the ſupport of ſmall hard-billed birds.

6. The ſtem, ſays Linneus, is the height of a man, very much branched. Leaves pale green, reſembling thoſe of *C. album,* but broader. According to Haller, the ſtem is branching, diffuſed. Leaves green, not mealy, petioled, three-lobed; middle lobe triangular, long, lanceolate, entire, with few teeth, or wholly toothed; middle lobes deeply ſeparated from it by a rectangular inciſion. Spikes of flowers compoſed of ſmall balls, branched and divaricated when ripe. Haller ſuſpects that it may be a variety of his n. 1581. *C. hybridum.* Dr. Withering takes *C. viride* of Curtis to be this ſpecies.

7. *Stem* upright, from one to three feet high, ſlightly crooked, ſomewhat angular and ſtriated, ſolid, branched, ſmooth, ſometimes purpliſh: branches alternate. *Leaves* deeply and irregularly indented, blueiſh green, covered eſpecially underneath with a mealy powder; the uppermoſt oblong, leſs deeply indented and even entire. *Racemes* axillary, upright, forming a ſpike of flowers growing in little cluſters. It is whiter than moſt of the *Chenopodiums*; and varies exceedingly, both when young, and in its feeding ſtate. This is the moſt common of the genus, occurring in every garden, on every dunghill, and in moſt corn fields[o].

It is mentioned by Lightfoot and ſeveral other authors as being boiled and eaten for greens, and is known by the name of *Fat-hen* or *Muckweed.*—Linneus affirms that ſwine are extremely fond of it, and yet *C. murale* and *hybridum* are ſaid to be fatal to this animal, contrary to all probability, ſince the common Gooſefoots ſeem to be mild and gently laxative like Spinach.

8. Stem upright, green, with purpliſh angles. Branch-leaves lanceolate, entire, or with only one or two teeth. Racemes filiform, divided, long, naked. Calyxes of the fruit with five ſharp angles. So nearly allied to the foregoing, as to make it doubtful whether it be any thing more than a variety[p]. Accordingly Mr. Hudſon gives it merely as ſuch; and Monſ. Villars conſiders it in the ſame light. Mr. Curtis however points out the following diſtinctions. The appearance of the whole plant is greener; the bright red colour at the angles of the joints is conſtant; the leaf is much longer; though not deſtitute of meal, yet this has it not in ſuch profuſion as the *album*; when the ſeeds are ripe, the tops of the ſtalks are more apt to hang down; the parts of fructification are ſmaller; the calyx is not quite ſo much covered with little globules; the ſeed is ſmaller, and reticulated with impreſſed dots, whereas in the *album* it is ſmooth.

9. *Stem* from one to two feet high, upright, branched, angular, and perfectly ſmooth. *Leaves* petioled, alternate, ſmooth, without any meal, veiny, ſpreading, with three teeth on each ſide large and diſtant; in form reſembling thoſe of the Thorn-apple. This ſpecies varies the leaſt of any; the panicle of flowers is peculiarly branched and naked; it has a ſtrong and diſagreeable ſmell. It is not common near London, being obſerved only in Batterſea-fields and about Northfleet. It has been found alſo near Ely and Colcheſter. Mr. Lightfoot enumerates it among the Scottiſh plants[q].

If any of the *Chenopodiums* be poiſonous, this muſt be the ſpecies. Linneus ſuſpects it to have ariſen from the *viride.*]

10. This ſends up ſeveral ſtems from the root, which riſe about two feet high. Leaves light green, alternate. Flowers axillary from the upper part of the branches, in looſe racemes. They appear in july, and the ſeeds ripen in ſeptember. The leaves emit

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[c] Curtis. [d] Linn. ſuec. [e] Curtis. [f] Linn. ſuec. [g] Lyons. [h] Woodw. in Withering. [i] Linn. ſuppl. [k] Hort. kew. [l] Linn. [m] Relh. cant.

[n] Curtis. [o] Ibid. [p] Linn. [q] Curtis.

a very ſtrong odour when bruiſed, ſomewhat like that of Ambroſia; and for this principally the plant is preſerved in gardens, for the flowers have no beauty.

[Native of the South of Europe. Cultivated in 1551 [r].

11. Stem from twelve to eighteen inches high, ſometimes reddiſh, round, ſtriated, with fine ſcattered hairs. Leaves pale green, oblong, ſinuated; at the baſe of each, peduncles an inch long, on which are ſeveral little heads of flowers alternately diſpoſed, with a leaflet under each. It grew firſt in Plater's garden, in the year 1619 [s].

Native of Mexico. Cultivated in 1640 [t].

The leaves and flowery heads of both theſe plants have a ſtrong and not unpleaſant ſmell, and a moderately aromatic taſte ſomewhat bitteriſh: on much handling them, an unctuous reſinous juice adheres to the fingers. The proper menſtruum of their active matter is rectified ſpirit; but they give it out alſo to boiling water. The infuſions, which are not unpalatable, are ſaid to be of ſervice in humoural aſthmas and coughs, and other diſorders of the breaſt: they are ſuppoſed alſo to be antiſpaſmodic and antihyſteric. The ſeed is reckoned among the anthelmintics, and the herb dried is put among cloaths to keep away moths [u].]

β. This has leaves very like thoſe of the Botrys, with the ſame ſcent: but it has a ſhrubby ſtalk, which riſes five or ſix feet high, and divides into many branches. It is a native of the Braſils.

12. This riſes with a ſhrubby ſtalk three or four feet high; with oblong leaves cut into many linear ſegments. It grows naturally at Buenos Ayres.

[It differs from the *Chenopodiums* in having the calyx ſomewhat longer, leſs deeply cut, and not embracing the ſeed ſo cloſely; the ſtyle alſo is five-cleft [x].

13. Stems three cubits high, ſtraight, ſtiff, grooved, hairy, dividing into few branches to the middle, but above that more branched. Leaves green on both ſides, the middle nerve only hairy, in form reſembling thoſe of *Lycopus*, not without ſmell but leſs ſweet than the laſt. Racemes axillary, upright, green. Calyxes very ſmall, incloſing the ſmall, ſhining, brown, roundiſh ſeed, a little compreſſed [y].

At Buenos Ayres, and in Penſylvania and New Jerſey, where it is called *Wormſeed* and *Jeruſalem Oak*. The ſeeds are given to children againſt the worms. It has a diſagreeable ſcent [z].

Cultivated by Dr. Sherard at Eltham, 1732 [a].

14. Stem decumbent, marked with lines, branching, ſmooth, mealy, as is the whole plant. Leaves ſeſſile, alternate, the uppermoſt wedge-form or lanceolate, ſucculent, blue-green with the edges reddiſh [b]. Stem from twelve to eighteen inches high, angular, green. Leaves petioled, angular, obtuſe. Panicles axillary, dichotomous, compoſed of green florets ſeſſile in bunches [c].

According to Villars, it has much affinity to *C. album*; but the leaves are blunt and quite white: the ſtems are lower, and very much branched.

15. The whole plant is ſprinkled with a white pellucid meal. Stems numerous, ſpreading, round, ſomewhat ſtriated, and thinly beſet with leaves, which are alternate, petioled. Flowers axillary and terminal, cloſely cluſtered and ſubſpiked. This ſpecies is eaſily known by its decumbency, and its permanently diſagreeable odour of ſtale ſalt fiſh, both green and dried. Common on dry banks, and at the foot of walls and paling [d].

On account of its ſtrong ſcent it is reckoned an uſeful antihyſteric: ſome recommend a conſerve of the leaves, others an infuſion in water, others a ſpirituous tincture of them. On ſome occaſions, it may perhaps be preferable to the fetids which have been more commonly made uſe of, as not being accompanied with any pungency or irritation, and ſeeming to act merely by virtue of its odorous principle [e]. It is omitted in the laſt edition of the London Pharmacopoeia, and, as Allioni affirms, is not undeſervedly neglected.

This herb dyes a good ſtrong greeniſh lemon colour.

16. This ſpecies is ſufficiently obvious from its ſquare ſtalk generally of a bright red colour, its long extended branches, and its reddiſh ſeeds which are numerous and ſtrikingly viſible from being only in part covered with the calyx [f]. It has the appearance of a ſmall Amaranth. Linneus ſays the ſtem is decumbent. Curtis makes it in general nearly upright. According to Lightfoot and Reichard it is ſometimes one, ſometimes the other.—Leaves in more luxuriant plants with a large tooth on one, and ſometimes on both ſides. The ſmall lanceolate leaves of the upper flowering branches, at firſt ſight induce one to ſuppoſe the racemes to be leafy; theſe when firſt in bloſſom are ovate or globular [g].

Mr. Curtis remarks that it is a troubleſome weed to the gardener, but ſcarcely injurious to the farmer. Mr. Woodward however ſays that it is generally found in turnep fields; and Ray affirms that it grows abundantly in hop grounds, and corn fields where the ſoil is good.—It is a very grateful food to fiſh in ponds [h].

17. Stem round. Leaves ciliated about the edge, nerved beneath. Flowers two ſeſſile in the uppermoſt axils. Style bifid and trifid. Pericarp five-cornered [i].]

It is a beautiful plant, naturally diſpoſed to grow very cloſe and thick, and in as regular a pyramid as if cut by art. The leaves are a pleaſant green, and were it not for that, it has ſo much the appearance of a Cypreſs tree, that at ſome diſtance it might be taken for it.

[Scopoli affirms that this plant drives away bugs. It grows wild in Carniola, Greece, China, and Japan. Cultivated 1633 [k].

18. Stem furrowed. Branches alternate. Flowers ſolitary, axillary: calyx one-leafed, divided: ſtyle ſingle: ſtigmas three, pink-coloured. Seeds gloſſy. On ſea ſhores, and in ſalt marſhes. An excellent pot-herb [l].—It varies much in ſize and appearance; being either very ſmall and decumbent, or elſe growing up into an erect woody ſhrub [m].

19. Panicle large, extremely divaricated and dichotomous, a flower being interpoſed; when the dichotomy ceaſes the flowers are alternate and ſeſſile; under theſe is an awn.—Native of Siberia and Virginia [n]. Introduced 1771, by Mr. Reichard [o].

20. Stem round, ſomewhat woody and even. Branches oppoſite, wand-like, almoſt ſimple, purpliſh. Leaves half-ſtem-claſping, ſcarcely connate, acute, ſcarioſe about the edge. Rudiments of branchlets in the axils of the leaves, ſhort. The appearance of this is different from that of the other ſpecies: perhaps it may be a *Polycnemum* [p].—Native of Siberia.

21. *Root* annual. *Stem* erect, two feet high, round, ſtriated, rigid, yellowiſh at the baſe, red in other parts, with white dots ſcattered all over it. *Leaves* alternate, remote, petioled; petioles ſhort, red: the lower leaves a little ſinuated, and dotted with white; the upper not ſinuated. *Flowers* racemed, crowded into ſpikes, ſeldom an inch long, uſually ſhorter than the ſubjacent leaf: upper racemules leafleſs, lower leafy. *Calyx* red, powdered with white meal, compoſed of five ſubovate leaflets, at firſt converging, afterwards ſeparating. The white dots magnified, appear to be round or oval granules, more or leſs flatted, dark in the middle, but lucid towards the edge: there are many of theſe on the upper leaves, but few on the lower. It is not a native of Europe. The ſeeds were ſent by Marſigli, and the plant flowered in the garden at Pavia on the 28th of june 1786.

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[r] Hort. kew. from Turner. [s] Bauh. pin. [t] Hort. kew. from Park. [u] Krocker. [x] Dillenius. [y] Ibid. [z] Kalm. [a] Dillenius. [b] Krocker. [c] Pollich. [d] Curtis.

[e] Lewis. [f] Curtis. [g] Stokes in Withering. [h] Loeſel. in Linn. ſuec. [i] Scopoli. [k] Gerarde. [l] Withering. [m] Ray. [n] Linn. [o] Hort. kew. [p] Linn. ſuppl.

Perhaps it may be the ſame with *C. Atriplicis*, though it does not agree in the leaves, *&c.*[q].

22. Found in New Zealand[r].

23. Introduced 1781, by P. M. A. Brouſſonet, M. D.[s]

PROPAGATION AND CULTURE.

Moſt of theſe plants are to be eradicated as weeds rather than cultivated. Being very ſucculent and exhauſting, and abounding very much in ſeeds, they ſhould be carefully deſtroyed, eſpecially on dunghills.

1. Sow the ſeed of Engliſh Mercury in march, on a deep loamy ſoil, prepared as for Aſparagus, let the ſeedlings continue to grow till autumn; about the middle of ſeptember, taking advantage of a wet ſeaſon, ſet the plants out on a bed ſimilar to that on which they were ſown, about a foot apart; keep them clear of weeds, and the enſuing ſpring and ſummer they will afford an abundant crop: the young ſhoots with their leaves and tops are to be cut as they ſpring up; and being a perennial plant it will continue thus plentifully to produce for a great number of years. In the winter the bed is to be covered with dung, which ſhould be raked off as the ſpring advances, when the earth around the roots is carefully to be dug or forked up[t].]

The ſeeds of all the ſpecies ſucceed beſt, if they are ſown in autumn; for when they are ſown in the ſpring, they frequently lie a whole year before the plants come up: for which reaſon where the ſeeds ſcatter, the plants will come up much better than thoſe which are ſown by hand.

10, 11. A few of theſe plants, which will come up of themſelves, may be tranſplanted in the ſpring into pots, filled with kitchen garden earth, to be preſerved through the winter, and the others may be planted in the common borders, where they will flower and perfect their ſeeds; but unleſs the winter is very favourable, the roots will be deſtroyed.

11. β. Muſt be houſed in the winter. It is eaſily increaſed by cuttings during any of the ſummer months, planted in a ſhady border and duly watered; then ſet in pots filled with light earth, and placed in the ſhade till they have taken root, after which they may be placed with other hardy exotic plants in a ſheltered ſituation during ſummer; and when froſt comes on, they muſt be removed into the greenhouſe, having plenty of air in mild weather.

12. This is perennial; and retaining its leaves through the year, will add to the variety in a greenhouſe during winter; but it has little other beauty to recommend it. This may be propagated by cuttings, and muſt be treated in the ſame manner with the foregoing.

17. The ſeeds ſhould be ſown in autumn, and in the ſpring, when the plants are come up, they may be put into pots of good earth, and kept ſupplied with water in dry weather: theſe pots may be intermixed with other plants to adorn court-yards, *&c.* where they will appear very handſome, until their ſeeds begin to ſwell and grow heavy, ſo as to weigh down and diſplace the branches, when the pots ſhould be removed for the plants to perfect their ſeeds, which will come of themſelves in the ſpring, if they be permitted to ſcatter.

[CHENOPODIUM. See *Amaranthus, Illecebrum, Polycnemum, Salſola.*

CHERAMELA. See *Averrhoa.*

CHERLERIA. (*From Jo. Hen. Cherler, ſon-in-law to John Bauhin, whom he aſſiſted in his hiſtory.*)

Lin. gen. n. 570. *Reich.* 619. *Schreb.* 775. *Hall. it. helv.* 1. *Juſſ.* 301.

Claſſ. 10. 3. Decandria Trigynia.

Nat. order of *Caryophyllei.*

GENERIC CHARACTER.

CAL. *Perianth* five-leaved; *leaflets* lanceolate, concave, equal.

COR. *Petals* none (unleſs you rather call the calyx or nectaries ſo.)

Nectaries five, emarginate, placed in a circle, very ſmall.

STAM. *Filaments* ten, ſubulate, of which the alternate ones are affixed to the back of the nectaries. *Anthers* ſimple.

PIST. *Germ* ovate. *Styles* three, ſpreading. *Stigmas* ſimple.

PER. *Capſule* ovate, three-celled, three-valved.

SEEDS two or three, kidney-ſhaped.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Nect.* five, bifid, reſembling petals. *Anth.* alternate barren. *Capſ.* one-celled, three-valved, three-ſeeded.

SPECIES.

1. Cherleria Sedoides. *Stone-crop Cherleria.*

Lin. ſpec. 608. *ſyſt.* 425. *Reich.* 2. 367. *Hudſ. angl.* 193. *With.* 462. *Lightf.* 232. *Penn. tour. t.* 33. *Hall. helv. n.* 859. *t.* 29. *opuſc.* 300. *t.* 1. *f.* 3. *Segu. veron.* 3. 180. *t.* 4. *f.* 3. *Scop. carn. n.* 531. *Jacqu. auſtr.* 3. *t.* 284. *Villars dauph.* 3. 647.

Lychnis alpina, &c. *Pluk. alm. t.* 42. *f.* 8.

Sedum montanum perpuſillum luteum. *Park.* 737. *f.* 11. *Mor. hiſt.* 3. 471. *ſ.* 12. *t.* 6. *f.* 14.

DESCRIPTION, *&c.*

1. Leaves oppoſite, linear, rugged about the edge, connate at the baſe into a ſheath. When the leaves are fallen, the ſheaths remain with the keel of the leaves, inveſting the lower part of the ſtem; hence the affinity of this with the caryophylleous plants[a].

It forms large green moſſy tufts. Stems about two inches high, cloſely matted. Flowers from the ſummits of the branches, ſingle, erect, on very ſhort peduncles, yellowiſh green: leaflets of the calyx ſtreaked on the back with three lines. Nectaries much ſhorter than the calyx, fleſhy and connected. The whole plant, at firſt view, has a great reſemblance to a tuft of *Polytrichum* or *Mnium*[b]. Seguier deſcribes the flower as having five petals: Haller and Scopoli deny its having any: Villars ſays, that they are ſo ſmall, as to require the aſſiſtance of a glaſs to view them; but that they are oblong, and cloven at the end: the glands placed between the ſtamens and the calyx are oblong, and four times as large as in *Arenaria.*—Scopoli obſerves that in the garden, the flower ſometimes produces ten entire nectaries, and has all the ſtamens ariſing from the receptacle.

On the mountains of Dauphiné, Switzerland, Savoy, the Valais, Auſtria, Carniola, and the Highlands of Scotland. Perennial. Flowering in july and auguſt.]

CHERRY-TREE, }
CHERRY-LAUREL. } See *Prunus* and *Cordia.*

CHERVIL. See *Chærophyllum* and *Scandix.*

CHESTNUT. See *Fagus.*

CHESTNUT, HORSE. See *Æſculus.*

[CHICK-PEA. See *Cicer.*

CHICKWEED. See *Alſine* and *Arenaria.*

——— Baſtard. See *Bufonia.*

——— Water. See *Callitriche.*

CHIMARRHIS. (*So named by Jacquin* απο του χειμαρρου, *becauſe it uſually grows by torrents.*)

Lin. gen. Schreb. n. 309. *Jacqu. amer.* 61.

Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

CAL. *Perianth* margin entire, crowning the germ, permanent.

COR. one-petalled, funnel-form: *tube* very ſhort: *border* five-cleft; *ſegments* lanceolate, concave, blunt, hirſute below with a longitudinal line running along the middle, and ſpreading.

STAM. *Filaments* five, ſubulate, hirſute at the baſe, below the diviſions of the border, the length of the corolla. *Anthers* oval, erect.

PIST. *Germ* roundiſh, inferior. *Style* filiform, the length of the ſtamens. *Stigma* bifid, obtuſe.

PER. *Capſule* ſubovate, obtuſe, crowned, two-celled, two-valved: the valves bifid at the tip.

SEEDS ſolitary.

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[q] Scop. inſub.

[r] Forſter.

[s] Hort. kew.

[t] Curtis.

[a] Lin. ſyſt.

[b] Lightfoot.

ESSENTIAL CHARACTER.

Cor. funnel-form, with a very ſhort tube. *Capſ.* inferior, obtuſe, two-celled, two-valved, the valves bifid at the tip. *Seed* one in each cell.

SPECIES.

1. Chimarrhis cymoſa.
Jacqu. amer. 61.

DESCRIPTION, &c.

It is a lofty tree, with a handſome head, and the boughs ſpreading out horizontally. Leaves ovate, acuminate at both ends, quite entire, ſhining, petioled, oppoſite, a foot long, commonly eight or ten at the end of each twig. Flowers numerous, ſmall, with white corollas, and without ſcent, diſpoſed in cymoſe racemes half a foot in diameter; thoſe in the axils oppoſite and ſolitary, thoſe at the end uſually four together. Capſules ſmall. Wood white and uſed for beams, rafters, &c. It is called in Martinico, where it is common, *Bois de riviere*[c].

China. See *Smilax.*

China-Pink. See *Dianthus.*

China-Rose. See *Hibiſcus.*

Chinchina. See *Cinchona.*

Chinquapine. See *Fagus.*

CHIOCOCCA. (From χιὼν, *ſnow*, and κόκκος, *a berry.*)
Lin. gen. n. 231. *Reich.* 248. *Schreb.* 315. *Gærtn. t.* 26. *Juſſ.* 204. *Brown.* 164. *Jacqu. amer.* 68.
Claſſ. 5. 1. Pentandria Monogynia.
Natural order of *Aggregatæ. Rubiaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-toothed, ſuperior, permanent.

Cor. monopetalous, funnel-form. *Tube* long, ſpreading. *Border* five-parted; *diviſions* equal, acute, reflected.

Stam. *Filaments* five, filiform, length of the corolla. *Anthers* oblong, erect.

Pist. *Germ* inferior, roundiſh, compreſſed. *Style* filiform, length of the ſtamens. *Stigma* ſimple, obtuſe.

Per. *Berry* roundiſh, compreſſed, crowned with the calyx, one-celled. (two-celled, *Gærtn. & Browne.*)

Seeds two, roundiſh, compreſſed, diſtant. (ſolitary, pendulous, *G.*)

ESSENTIAL CHARACTER.

Cor. funnel-form, equal. *Berry* one-celled, two-ſeeded, inferior.

SPECIES.

1. Chiococca racemoſa. *Climbing Snowberry-tree,* or *David's-root.*
Lin. ſpec. 246. *ſyſt.* 215. *Reich.* 479. *ſuppl.* 145. *Jacqu. amer.* 68. *pict.* 37. *t.* 69. *Brown. jam.* 164. *n.* 1, 2. *Swartz obſ.* 76. *Gærtn. fruct.* 1. 125.
Lonicera racemoſa. *Lin. ſpec. edit.* 1. 175. *hort. cliff.* 496. 8.]
Periclymenum racemoſum. *Mill. dict. n.* 2.——fl. flaveſcente, fr. niveo. *Plum. ic. t.* 217. *f.* 2. *Dill. elth.* 306. *t.* 228. *f.* 295.
Jaſminum fol. myrtino acuminato, fl. albicante racemoſo. *Sloan. jam.* 2. 97. *t.* 188. *f.* 3. *Raii dendr.* 64.
Pandacaqui. *Sonner. guin.* 49. *t.* 19.
[β. C. ſcandens ſarmentis tenuiſſimis & fere indiviſis. *Brown. jam.* 164. *n.* 2.
Scandent, leaves broad-lanceolate, flowers lateral panicle-racemed, one ſtipular tooth.

2. Chiococca barbata.
Forſt. fl. auſtral. n. 96.
Erect, leaves ovate, peduncles axillary one-flowered, corollas bearded in the throat.

DESCRIPTIONS, &c.

1. Stem a fathom in height and more, with ſmooth looſe branches ſpreading out horizontally. Leaves petioled, oppoſite, oblong, acuminate, nerved, glittering on the upper ſurface, and ſmooth. Stipules minute, acuminate, within the petioles. Racemes axillary, oppoſite to the branchlets, looſe, ſimple or ſubdivided, ſcarcely longer than the leaves, many-flowered: flowers peduncled, uſually in pairs, directed one way, pale yellow. Calyx ſmall. Tube

of the corolla ventricoſe, ſlightly five-cornered: border five-cleft; the ſegments ovate, acute, ſpreading. Filaments ſhort, from the bottom of the corolla, villoſe: anthers linear, the length of the ventricoſe tube. Style thickening towards the top: ſtigmas two, blunt. Berry ſnow-white. Seeds two, oblong, acuminate.

This plant is very nearly allied to the genus *Pſychotria*; but it differs not only in the manner of flowering, which is always in a raceme, but alſo in the form of the corolla, the berry and the ſeeds[d].

According to Browne's account, it begins to branch immediately above the root, and riſes by many ſhoots and ſlender twigs from four to ſeven or eight feet, then requiring ſupport. The racemes are very ſlender and numerous towards the top of the branches, and are both terminating and axillary. The ſnow-white berries are of a looſe texture and very numerous.

The root has much the ſame bitter acrid taſte with the Seneka Snake-root, and has been long uſed as a ſtrong reſolutive and attenuant: it is adminiſtered with great ſucceſs in obſtinate rheumatiſms, and old venereal taints; nor is it entirely uſeleſs even in the *ſpina ventoſa.* It is beſt given in a decoction[e].

Native of the Weſt Indies; as in woods, on the lower mountains of Jamaica.

It flowered in Mr. Sherard's garden at Eltham in 1729, and was ſent thither by Mr. Warner, a merchant of London, who received it from Barbadoes[f]. Jacquin obſerved it in St. Domingo, and alſo at Carthagena.

β. There is a variety of this (Brown. jam. n. 2.) which grows to a conſiderable height, and throws ſome of its ſlender twigs again to the ground. The leaves are very like thoſe of the foregoing[g]; but ſmaller, ſubconvex, ſomewhat rigid, and glittering: the racemes are ſhort and ſimple: the corollas a little larger, pale-coloured but purple at the corners[h].

2. This is a native of the Marqueſas, Society and Friendly Iſlands in the South Seas[i].]

PROPAGATION AND CULTURE.

1. Propagated by ſeeds procured from the Weſt Indies. To be ſown in pots plunged in a moderate hot-bed, where they may remain till the autumn; when they ſhould be removed into the ſtove for the winter, and the following ſpring placed on a freſh hot-bed, to bring up the plants; for they rarely come up the firſt year. When they are fit to remove, plant them each in a ſeparate ſmall pot filled with light earth, and plunge them in a freſh hot-bed, ſhading them from the ſun till they have taken new root, and then treating them as other tender plants from hot countries. As they obtain ſtrength, the plants may be ſet abroad in a ſheltered ſituation for two months or ten weeks, in the warmeſt part of the ſummer, and in the winter they may be placed in a dry ſtove, kept to a moderate degree of warmth, where they will thrive, and produce flowers in autumn.

[Chiococca nocturna. See *Ceſtrum nocturnum.*
———— paniculata. See *Pſychotria.*]

CHIONANTHUS. (*From* χιὼν, *ſnow, and* ἄνθος, *a flower.*)
Fringe or *Snow-drop-tree.* Dutch *Sneebaum.*
Lin. gen. n. 21. *Reich.* 21. *Schreb.* 26. *Juſſ.* 105. *Gærtn. t.* 39. *Royen.*
Claſſ. 2. 1. Diandria Monogynia.
Nat. order of *Sepiariæ. Jaſmineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, four-parted, erect, acuminate, permanent.

Cor. monopetalous, funnel-form. *Tube* very ſhort, length of the calyx, ſpreading. *Border* of four diviſions, which are linear, erect, acute, oblique, moſt extremely long.

Stam. *Filaments* two, very ſhort, ſubulate, inſerted into the tube. *Anthers* cordate, erect.

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[c] Jacquin.

[d] Swartz.
[e] Brown. jam.
[f] Dill. elth.
[g] Browne.
[h] Swartz.
[i] Forſter.

Pist. *Germ* ovate. *Style* ſimple, length of the calyx. *Stigma* obtuſe, trifid.

Per. *Drupe* round, one-celled.

Seed. *Nut* ſtriated.

Obs. *The number of ſtamens is often three.*

ESSENTIAL CHARACTER.

Cor. quadrifid, with the diviſions extremely long. *Drupe* with a ſtriated nut.

SPECIES.

1. Chionanthus virginica. *Virginia Fringe-tree, or Snow-drop-tree.*
Lin. ſpec. 11. *ſyſt.* 57. *Reich.* 20. *hort. cliff.* 17. *Duham. arb.* 1. 165. *t.* 63.
Amelanchier virginiana laurocerafi folio. *Pet. ſicc. in Raii ſuppl. app.* 241. *Cateſb. car.* 1. *t.* 68.
Peduncles three-cleft three-flowered.

[2. Chionanthus zeylanica. *Ceylon Snowdrop-tree.*
Lin. ſpec. 11., *Reich.* 20. *fl. zeyl. n.* 14. *Gærtn. fruct.* 1. 189.
Arbor zeylanica, &c. *Burm. zeyl.* 31. *Pluk. alm. t.* 241. *f.* 4. *Raii dendr.* 124.
Peduncles panicled many-flowered.

3. Chionanthus compacta.
Swartz prodr. 13. *Vahl. ſymb.* 2. 1. C. caribæa. *Jacqu. collect.* 2. 110. *t.* 6. *f.* 1.
Panicles trichotomous, the laſt flowers ſubcapitate, calyxes villoſe, leaves lanceolate-oblong, anthers acuminate.

4. Chionanthus Mayepea.
Vahl. ſymb. 2. 1.
Mayepea guianenſis. *Aubl. guian.* 81. *t.* 31.
Panicles axillary trichotomous, all the flowers diſtinct, anthers obtuſe.]

DESCRIPTIONS, *&c.*

1. This ſhrub is common in South Carolina, where it grows by the ſides of rivulets, and ſeldom is more than ten feet high: the leaves are as large as thoſe of the Laurel, but are of a much thinner ſubſtance; the flowers come out in may, hanging in long bunches, and are of a pure white, from whence the inhabitants call it Snowdrop-tree; and, from the flowers being cut into narrow ſegments, they give it the name of Fringe-tree. After the flowers have fallen away, the fruit appears, which becomes a dark-coloured drupe, about the ſize of a Sloe, having one hard ſeed in it.

[It varies with a four, five and ſix-cleft corolla, and four ſtamens[a]. Alſo, with broader, or ovate-elliptic; and with narrower, or lanceolate leaves.—Introduced 1736, by Peter Collinſon, Eſq.[b]

2. Leaves oppoſite, obovate, ſmooth on both ſides, quite entire, ſubpetioled. One panicle from each axil; the peduncle ſubdivided and the flowers ſubſeſſile. The leaves are thicker than in the firſt ſpecies. The panicle has often forty flowers, and the petals are much ſhorter[c]. The fruit is a berried drupe, ſuperior, obovate, ſmooth, black; the ſhell is bony, thin, marked on the outſide with ſix or eight raiſed filiform ſtreaks; within it is very ſmooth; and it does not open with valves. The ſeed is an oblong ſpheroid, and bay-coloured[d].

3. This is a tree fifteen feet in height, covered with a duſky aſh-coloured bark. Leaves oppoſite, on ſhort petioles, ſharp at the baſe, narrowed into a long ſharp and ſometimes ſickle-ſhaped termination, quite entire, thickiſh, firm, ſhining, about half a foot in length, and an inch and half in breadth. Common peduncle terminating, trifid, each diviſion having oppoſite branches, which are alſo trifid; the laſt pedicels ſuſtaining ſeveral ſeſſile flowers. Bractes at the diviſions of the peduncles oppoſite, ſmall, narrow, concave, ſharp, ſomewhat villoſe, as are alſo the peduncles, when viewed with a glaſs. Calyx deeply cut; leaflets ovate, acute, ſomewhat villoſe, ciliate about the edge. Petals ſnow-white, ſcarcely any tube, but the ſegments very long, and of a linear ſhape. Style twice as long as the calyx. The firſt ſpecies differs from this in having ſmooth calyxes; and the ſecond differs from both in having the leaves villoſe underneath.

Native of the Caribee iſlands[e].

4. This is a middle-ſized tree, five or ſix feet high, and five inches in diameter, the wood and bark whitiſh. Leaves oppoſite or nearly ſo, ſmooth, thin, firm, long, oval, ending in a point; the largeſt ſeven inches long and two wide, on a ſhort petiole. Calyx very ſmall, divided into four ſharp ſegments. Petals white, concave, terminated by a thread three lines in length. Fruit the ſize of an olive; rind violet, ſucculent, two lines thick, bitter. The flowers exhale a ſweet and pleaſant odour.—Native of the foreſts of Guiana[f].]

PROPAGATION AND CULTURE.

1. The beſt way to obtain good plants, is from the ſeeds, which muſt be procured from America, for they never have produced any fruit in this country. The ſeeds ſhould be ſown in ſmall pots filled with freſh loamy earth ſoon after they arrive, and ſhould be placed under a hot-bed frame, where they may remain till the beginning of may, when they muſt be removed to a ſituation expoſed to the morning ſun, and ſcreened from the ſun in the middle of the day. In dry weather the pots muſt be watered, and kept clean from weeds; for as theſe ſeeds lie in the ground a whole year before the plants will come up, they ſhould not be expoſed to the ſun the firſt ſummer, but the following autumn they ſhould be removed, and placed under a frame, to protect the ſeeds from being injured by the froſt; and if the pots are plunged into a moderate hot-bed the beginning of march, it will bring up the plants much ſooner than they will otherwiſe riſe; by which means they will get more ſtrength the firſt ſummer, and be better able to reſiſt the cold of the next winter. While theſe plants are very young, they will be in danger of ſuffering by ſevere froſt; but when they have obtained ſtrength, they will reſiſt the greateſt cold of our climate in the open air; therefore for the two or three firſt winters, it will be proper to keep them under ſhelter; ſo that the young plants may remain in the ſeed-pots all the firſt ſummer, and the following winter; and in the ſpring before they begin to ſhoot, they ſhould be ſhaken out of the pots, and carefully ſeparated ſo as not to break off their roots, and each planted in a ſmall pot filled with light loamy ſoil, and plunged into a very moderate hot-bed, juſt to forward their taking freſh root; then they ſhould be gradually inured to the open air, and during the following ſummer, the pots ſhould be plunged into the ground, to prevent the earth from drying, in a ſituation where they may enjoy the morning ſun, but ſcreened from the great heat at noon. During the ſummer ſeaſon, they will require to be frequently watered, and kept clean from weeds. The autumn following, they ſhould be again placed under a hot-bed frame to ſcreen them from froſt; but they ſhould enjoy the free air at all times, when the weather is mild. The april following, the plants may be ſhaken out of the pots, with the ball of earth to their roots, and planted where they are deſigned to remain.

This ſhrub delights in a moiſt, ſoft, loamy ſoil, and if it is planted in a ſheltered ſituation, will endure the cold of our winters very well in the open air; but in dry land it is very ſubject to decay in warm ſeaſons.

It may alſo be propagated by layers; but theſe ſeldom take under two years, and not then, unleſs they are well ſupplied with water in dry weather.

CHIRONIA. (*From the centaur Chiron.*)
Lin. gen. n. 255. *Reich.* 275. *Schreb.* 349. *Juſſ.* 142. *Gærtn. t.* 114.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Rotaceæ.* *Gentianæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted, erect, acute, permanent; *leaflets* oblong.

Cor. monopetalous, equal. *Tube* narrower. *Border* five-parted, ſpreading; *diviſions* ovate, equal.

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[a] Reich. from Du Roi.
[b] Hort. kew.
[c] Linn. zeyl.
[d] Gærtner.
[e] Jacquin collect.
[f] Aublet.

Stam. *Filaments* five, broad, ſhort, growing from the tip of the tube. *Anthers* oblong, erect, large, converging, and (after having ſhed the pollen), ſpirally twiſted.

Pist. *Germ* ovate. *Style* filiform, a little longer than the ſtamens, declinate. *Stigma* headed, aſcending.

Per. ovate, bilocular.

Seeds numerous, ſmall.

Obs. *In ſome ſpecies the pericarp is a berry, in others a capſule.*

ESSENTIAL CHARACTER.

Cor. rotated. *Piſt.* declinate. *Stam.* on the tube of the corolla. *Anth.* finally ſpiral. *Per.* two-celled. The drooping ſtigma ſeems to conſtitute the eſſence of this genus. *Berg.*

SPECIES.

[1. Chironia trinervia.
Lin. ſpec. 272. *Reich.* 527. *fl. zeyl. n.* 90. *hort. cliff.* 54.
Lyſimachia. *Burm. zeyl.* 145. *t.* 67.
Herbaceous; leaflets of the calyx membranaceous-keeled.

2. Chironia jaſminoides.
Lin. ſpec. 272. *Reich.* 528. *amæn.* 6. *afr.* 5.
Herbaceous; leaves lanceolate; ſtem four-cornered.

3. Chironia lychnoides.
Lin. ſyſt. 229. *Reich.* 528. *mant.* 207. *Berg. cap.* 45.
Stem ſimple, leaves linear-lanceolate.

4. Chironia campanulata.
Lin. ſpec. 272. *Reich.* 528.
Herbaceous; leaves ſublinear, calyxes the length of the corolla.

5. Chironia angularis.
Lin. ſpec. 272. *Reich.* 528.
Herbaceous; ſtem acute-angled, leaves ovate ſtem-claſping.

6. Chironia linoides. *Flax-leaved Chironia.*
Lin. ſpec. 272. *ſyſt.* 229. *Reich.* 529. *hort. cliff.* 54. *Berg. cap.* 43.
Rapuntio affinis. *Breyn. cent.* 175. *t.* 90.
Herbaceous; leaves linear.

7. Chironia nudicaulis.
Lin. ſyſt. 229. *ſuppl.* 151.
Herbaceous; leaves oblong bluntiſh, ſtems ſubdiphyllous quite ſimple one-flowered, calyxes with ſetaceous teeth.

8. Chironia tetragona.
Lin. ſyſt. 229. *ſuppl.* 151.
Shrubby; leaves ovate three-nerved bluntiſh, leaflets of the calyx bluntiſh keeled.]

9. Chironia baccifera. *Berry-bearing Chironia.*
Lin. ſpec. 273. *ſyſt.* 229. *Reich.* 529. *Curtis magaz. t.* 233. *Gærtn. fruct.* 2. 156.
Centaurium. *Comm. rar. t.* 9. *Oldenl. afr.* 26.
Shrubby, berry-bearing.

10. Chironia fruteſcens.
Lin. ſpec. 273. *ſyſt.* 229. *Reich.* 529. *amæn.* 4. 308. *n.* 130. *Berg. cap.* 45. *Mill. fig. t.* 97. *Curt. mag. t.* 37.
Centaurium. *Comm. rar. t.* 8. *Oldenl. afr.* 26. *Burm. afr.* 205. *t.* 74. *f.* 1.
Shrubby; leaves lanceolate ſubtomentoſe; calyxes bell-ſhaped.

DESCRIPTIONS, &c.

[1. *Stem* annual, quadrangular, acute. *Leaves* oppoſite, lanceolate, acuminate at each end, ſmooth, quite entire, three-nerved. *Flowers* from the upper axils oppoſite, ſolitary, peduncled[g]. Burman adds, that the *ſtem* is gloſſy, aſh-coloured, furrowed, with four joints or more. At each joint a pair of ſeſſile leaves. *Flowers* elegant, blue. *Capſule* one-celled.—Native of Ceylon and the Cape.

2. *Stem* gloſſy. *Leaves* oppoſite, ſeſſile, ſmooth, quite entire, ſhorter than the internodes, erect. *Panicle* terminal, dichotomous, erect, few-flowered. *Bractes* oppoſite, ſubulate. *Calyx* with lanceolate acuminate leaflets, rather ſpreading, the length of the tube of the corolla[h].

Native of the Cape.

3. *Stem* entirely ſimple, round, ſtiff and ſtraight, two feet high. *Leaves* oppoſite, ſeſſile ſo that the baſes touch, gloſſy, longer than the internodes, erect, ſubdecurrent. *Peduncles* three terminal, longer than the leaves, the lateral ones having a pair of ſubulate bractes. Leaflets of the *calyx* lanceolate-ſubulate, keeled. *Corolla* purple, the ſize of *Gladiolus*; tube length of the calyx, diviſions ſharp, longer than the tube[i].—Native of the Cape.

4. *Stem* a foot high, round with long branches. *Leaves* lanceolate-linear gloſſy. *Flowers* terminal, ſolitary, wheel-ſhaped, purple, on a long peduncle. Leaflets of the *calyx* ſubulate[k].—Obſerved in Canada, by Kalm.

5. This has the appearance of leſſer Centory, (*Gentiana Centaurium*). *Stem* a foot high, four-cornered, with membranaceous wings. *Flowers* heaped, as in *Hypericum*. *Style* bifid[l]. Found in Virginia, by Kalm.

6. An underſhrub, with filiform, round, ſmooth branches. Leaves oppoſite, acute, a little compreſſed, an inch or more in length, ſucculent, ſmooth, ſeſſile, frequent, longer than the internodes. Flowers ſcarlet; ſolitary at the ends of the branches, peduncled. Tube of the corolla only half the length of the calyx[m], which is half-five-cleft and obtuſe[n].

Native of the Cape. Introduced in 1787, by Maſſon[o].

7. This is ſingular for its oblong leaves frequently rooted into a tuft. *Stems* many, elongated, with two leaves in the middle, or two pairs of leaves. Diviſions of the calyx ſubulate.—Diſcovered at the Cape, by Thunberg[p].

8. Corolla yellow, large. It differs from the firſt ſpecies in being ſhrubby; in having ſhorter and more obtuſe leaves.—Native of the Cape[q].

9. This plant grows to the height of a foot and half or two feet, and becomes very buſhy, rather too much ſo in point of ornament. It produces both flowers and fruit during moſt of the ſummer[r].

The ſtem is quadrangular. The calyxes ſubulate and ſhort[s].

The pericarp, according to Gærtner, is a berry, which is ſucculent, ſubdiaphanous, globular, twin, red or ſaffron-coloured, one-celled; with a very thin tranſparent ſkin, and a watery pulp, but two ſpongy receptacles, which are fixed to the ſides of the berry longitudinally, where the groove is externally, and two-lobed within, the lobes curved back to the ſides. The ſeeds are numerous, ſmall, ovate-globular, pitted, dark cheſtnut colour.

It is a native of Africa, and was cultivated in 1759, by Mr. Miller[t].

10. Branches round, tomentoſe, aſh-coloured, moſtly alternate, ſubdividing a little at top. Leaves oppoſite, obtuſe, fleſhy, about two inches in length, ſeſſile, frequent, twice as long as the internodes. Peduncles two or three together, terminating, each having two or three flowers, ariſing from the axils, with a pair of linear folioles in the middle; the pedicels one-flowered[u].

The leaflets of the calyx are ovate, obtuſe, ſubtomentoſe, much broader than the tube of the corolla[x]. The pericarp is berried in this ſort alſo, but it is much ſmaller than in the foregoing, concealed within the calyx, ovate, acuminate, red, and opening at length into two valves at the groove[y].—Native of Africa. Cultivated in 1756, by Mr. Miller[z].]

PROPAGATION AND CULTURE.

9, 10. The ſeeds ſhould be ſown in ſmall pots filled with light ſandy earth, ſoon after they are ripe, and plunged into a moderate hot-bed, and muſt be frequently but gently watered; ſometimes the ſeeds will lie a long time in the ground, ſo that if the plants do not appear the ſame ſeaſon, the pots ſhould not be diſturbed, but preſerved in ſhelter till the following ſpring, aud then plunged into a freſh hot-bed, which will bring up the plants in a ſhort time, if the ſeeds are good. When the plants are fit to remove, they ſhould be tranſplanted into ſmall pots, four or five in each pot; then plunge the pots into a moderate hot-bed, and ſprinkle them with water, and ſhade them every day from the ſun till they have taken new root; after which they muſt have a large ſhare of air in warm weather, to prevent their drawing up weak: when the plants have obtained ſome ſtrength, they muſt be gradually inured to bear the open air; but when they are expoſed abroad, if there ſhould happen much rain, the plants muſt be ſcreened from it, otherwiſe it will cauſe them to rot: when the plants have filled the pots with their roots, they ſhould be parted, and each put into a ſeparate pot filled with light ſandy earth, not rich with dung, placing them in the ſhade till they have taken freſh root; then they may be removed to a warm ſheltered ſituation, and mixed with ſuch other plants as require but little water; in which ſituation they may remain till autumn, when they muſt be placed in a dry airy glaſs-caſe; and in the winter ſhould have very little wet, but muſt enjoy the ſun as much as poſſible; and in mild weather ſhould have freſh air admitted to them, but muſt be protected from froſt: with this management, the plants will thrive and produce flowers the ſecond year from ſeed.

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[g] Linn. zeyl.
[h] Linn. amoen.
[i] Linn. mant.
[k] Linn. ſpec.
[l] Ibid.
[m] Bergius.
[n] Linn. ſyſt.
[o] Hort. kew.
[p] Linn. ſuppl.
[q] Ibid.
[r] Curtis.
[s] Linn. ſyſt.
[t] Hort. kew.
[u] Berg.
[x] Linn. ſyſt.
[y] Gærtner.
[z] Hort. kew.

[The cuttings alſo will take root with proper management, but not very readily.

Moſt of the other ſpecies, coming from the Cape, may be increaſed and treated in the ſame manner.

CHIRONIA. See *Clora*, *Gentiana*.

CHIRONIUM. See *Laſerpitium*.

CHLAMYDIA. See *Phormium*.]

[CHLORA. (*From χλωρὸς, green or pale: becauſe the flowers are of a pale yellow colour.*)

Lin. gen. Reich. n. 519. *Schreb.* 653. *Juſſ.* 142. *Adanſ. fam. plant.* 503. *Blackſtonia. Hudſ. angl. edit.* 1. 146.

Claſſ. 8. 1. Octandria Monogynia.

Nat. order of *Rotaceæ*. *Gentianæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* eight-leaved; *leaflets* linear, ſpreading, permanent.

COR. monopetalous, ſalver-ſhaped. *Tube* ſhorter than the calyx, coating the germ. *Border* eight-parted; *diviſions* lanceolate, longer than the tube.

STAM. *Filaments* eight, very ſhort, ſeated on the throat. *Anthers* linear, erect, ſhorter than the diviſions.

PIST. *Germ* ovate-oblong. *Style* filiform, length of the tube. *Stigmas* four, oblong, cylindric. (Style none; ſtigmas two. *Hudſ.* Style ſimple; ſtigma four-cleft. *Smith.*)

PER. *Capſule* ovate-oblong, one-celled, ſomewhat compreſſed, furrowed, two-valved; valves incurvated on the ſide.

SEEDS numerous minute.

OBS. *This genus is allied to* Gentiana: *but differs in the number of ſtamens, and ſegments of the calyx and corolla.*

Chl. dodecandra *differs in having the flowers twelve-cleft, and furniſhed with twelve ſtamens.* R.

ESSENTIAL CHARACTER.

Cal. eight-leaved. *Cor.* one-petalled, eight-cleft. *Capſ.* one-celled, two-valved, many-ſeeded. *Stigma* fourcleft.

SPECIES.

1. Chlora perfoliata. *Perfoliate Yellow-wort*, or *Yellow Centaury*.
Lin. ſyſt. 361. *Reich.* 2. 161. *Hudſ. angl.* 168. *With.* 392. *Lightf.* 200. *Relh. n.* 301. *Sowerby engl. bot. t.* 60. *Villars dauph.* 3. 412.
Chlora. *Renealm. ſpec.* 80. *t.* 76.]
Gentiana perfoliata. *Lin. ſpec.* 335. *hort. cliff.* 81. 10. & 496. 11. *Mill. dict. n.* 10. [*Hall. helv. n.* 649. *Scop. carn. n.* 299. *Pollich pal. n.* 262. *Sabbat. hort. t.* 100.
Centaurium luteum perfoliatum. *Bauh. pin.* 278. *Camer. epit.* 427. *Mor. hiſt.* 2. 565. *ſ.* 5. *t.* 26. *f.* 1, 2. *Raii ſyn.* 287. *hiſt.* 1093. *Bauh. hiſt.* 3. 355. *fig.*
C. parvum flavo flore. *Cluſ. hiſt.* 2. 180.
C. minus lut. perfol. ramoſum. *Park.* 271. 5. *fig.* 272. 5.
β. C. puſillum luteum. *Bauh. pin.* 278. *Mor. ſ.* 3. *Park.* 273. 7. *fig.* 272. 7.
C. luteum novum. *Col. ecphr.* 2. 78.
Leaves perfoliate

2. Chlora imperfoliata.
Lin. ſyſt. 362. *ſuppl.* 218.
Corollas ſix-cleft.

3. Chlora quadrifolia.
Lin. ſyſt. 362. *Reich.* 2. 161.
Gentiana quadrifolia. *Lin. ſpec.* 1671.
Leaves in fours.

4. Chlora dodecandra.
Lin. ſyſt. 362. *Reich.* 2. 162.
Chironia dodecandra. *Lin. ſpec.* 273.
Gentiana flor. duodecim-petalis, fol. diſtinctis. *Gron. virg.* 29.
Leaves oppoſite.

DESCRIPTIONS, &c.

1. The whole plant generally very glaucous. *Stem* cylindric, ſmooth, from three inches to three feet high. *Root-leaves* oval, ſeſſile, ſpreading in form of a ſtar; *loweſt ſtem-leaves* oval-lanceolate; the reſt perfoliate, as if compoſed of two lanceolate or cordate leaves running into each other at the baſe; all of a glaucous colour. *Flowers* in a kind of umbel, of three rays, encompaſſed by the uppermoſt leaf; the middle one bearing one flower without any leaves: the outer ones terminated by a leaf ſimilar to the ſtem-leaves, from which ariſes an umbellule ſupporting one or more flowers. *Calyx* ſometimes equal to, ſometimes longer, and ſometimes ſhorter than the corolla; leaflets eight to ten. *Corolla* gold-coloured, with a milky juice; ſegments ſometimes nine, ſlightly emarginate. *Stamens* ſix to nine or ten. *Style* cloven, yellow, thickeſt towards the top: *ſtigmas* two, ſhaped like a horſe-ſhoe, yellow [a]. Capſule more rounded than in the Gentians.—Annual. Paſtures, in chalky and limeſtone ſoils; flowering from june through the autumn.

It was firſt ſeparated from the Gentians by Mr. Hudſon. He gave it the name of *Blackſtonia*, from Mr. Blackſtone an apothecary, author of *Faſciculus plantarum circa Harefield*, and *Specimen botanicum*: but Linneus has adopted Reneaume's name of *Chlora*, after Adanſon; and Mr. Hudſon has given up the title of *Blackſtonia*, in the ſecond edition of his Flora.

Haller affirms that it is more bitter than the red (*Gentiana Centaurium*), and that it ſeems to poſſeſs the ſame qualities.

2. *Stem* herbaceous, quite ſimple, erect, four-cornered, gloſſy, a hand in height; the internodes longer than the leaves. Leaves oppoſite, ſeſſile, inclined to ſtem-claſping, ovate, gloſſy, acute. *Flower* peduncled, terminal, full yellow, larger than the leaf. *Calyx* one-leafed, bell-ſhaped, the length of the corolla, bifid beyond the middle, ſpreading, permanent; diviſions lanceolate. *Corolla*, tube ſhort, ſpreading; diviſions of the border oval. *Filaments* ſix, ſubulate, a little longer than the tube on which they are placed: *anthers* roundiſh. *Styles* two, glued together: *ſtigmas* obtuſe. It has the appearance of the foregoing, but differs in having the calyx divided to the baſe, and the diviſions not linear; in the corolla alſo being ſix-cleft, and the ſtyles glued together.—It is a native of the extreme part of Italy, and is annual [b].

3. Produced from *Gentiana perfoliata* and *Linum quadrifolium*. *Stem* ſimple, a ſpan in height, ſomewhat quadrangular, jointed. *Leaves* in whorls, linear, only a little broader towards the end, bluntiſh, the length of the internodes. *Peduncles* terminal, five; the fifth intermediate; each having two ſmall, oppoſite bractes in the middle, and at the end three flowers on pedicels. *Flowers* eight-cleft as in the firſt ſpecies, but the ſegments narrower.—Found in the ſouth of Europe, by Alſtroemer [c].

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[a] Withering.

[b] Linn. ſuppl.

[c] Linn. ſpec.

4. Calyx twelve-cleft; leaflets linear, erect. Corolla longer than the calyx, divided into twelve lanceolate ſegments. Stamens twelve, growing to the corolla, the length of the calyx; anthers oblong, ſpiral. Germ roundiſh. Style long, intorted; ſtigma ſimple[d].

It is a native of Virginia.

PROPAGATION AND CULTURE.

Theſe may eaſily be propagated from ſeeds, and require only common care in the cultivation. Our common Yellow Centaury however does not thrive well in a garden, and though rather impatient of cold, yet if ſheltered, it becomes mildewed[e].]

[CHLORANTHUS. (From χλωρὸς, *pale*, and ἄνθος, *a flower*.)

Lin. gen. Schreb. n. 1730. *p.* 793. *L'Herit. ſert.* 35. *t.* 2. *Swartz in Phil. tranſ. vol.* 77. *part* 2. *p.* 359. *t.* 14. *Juſſ.* 423. Nigrina. *Thunb. gen.* 58. *jap.* 5.

Claſſ. 5. 1: Tetrandria Monogynia.

Nat. order of *Aggregatæ* δ.

GENERIC CHARACTER.

Cal. none; but an ovate, acute, concave ſcale, on which the germ is placed.

Cor. one three-lobed, convex petal, inſerted into the out-ſide of the germ.

Stam. *Filaments* none. *Anthers* four, inſerted into the lobes of the petal on the edges towards the inſide and bivalve.

Pist. *Germ* obovate, prominent in front, and bearing the petal. *Style*, unequal, very ſhort, angular. *Stigmas* three, very minute, erect.

Per. *Drupe* oblong.

Seed. *Nut* oblong, ſmooth.

ESSENTIAL CHARACTER.

Cal. none. *Cor.* a petal three-lobed by the ſide of the germ. *Anthers* growing to the petal. *Drupe* one-ſeeded.

SPECIES.

1. Chloranthus inconſpicuus.

Philoſ. tranſ. 77. 2. *for* 1787. *p.* 360. *t.* 14. *L'Herit. ſert. angl. p.* 1. & 35. *t.* 2. *Ait. hort. kew.* 1. 160.

Nigrina ſpicata. *Thunb. japon.* 65.

DESCRIPTION, &c.

As deſcribed by Swartz, it is an herbaceous plant. *Stems* many from the root, half a foot high, ſpreading, ſuberect, a little branching, round, ſmooth: branches oppoſite, ſpreading, round, ſtriated, ſmooth. *Leaves* petioled, decuſſated, oppoſite, lanceolate-ovate, ſerrate, nerved, veiny, rather ſucculent, very ſmooth, pale green. *Petioles* ſhortiſh, channelled above, ſmooth. *Stipules* between the petioles, having two minute teeth on each ſide, membranaceous, permanent. *Flowers* panicled. *Panicle* terminal, erect, ſimple. *Racemes* or *ſpikes* oppoſite, decuſſated, erectiſh, ſubfaſtigiate. *Flowers* oppoſite, decuſſated, ſeſſile, ſolitary, minute, the ſize of a pin's head, ſomewhat ſucculent, whitiſh yellow. *Pollen* yellow. *Stigmas* whitiſh. *Berry* black, the ſize of Pepper.

According to L'Heritier, it is a ſtoloniferous underſhrub. Stems procumbent at the baſe, knotted, gray; the knots near the ground rooting, ſometimes alternately leafleſs, but annulated with ſtipules like the reſt. Leaves oblong-ovate, acute, the ſerratures mortified at the end, revolute, ſomewhat wrinkled, the ſame colour on both ſides, ſpreading, flat, permanent, from two to three inches long, and from eighteen to twenty lines broad. Petioles one-fourth of the length of the leaves, ending at the baſe in a ring, connecting two ſubulate erect ſtipules. Panicles lax, compoſed of ſpreading decuſſated ſpikes, an inch and half long. Flowers herbaceous, a line in length. Bractes ſeſſile, lanceolate, acute, concave, preſſed cloſe, permanent, under the ſpikes. Perianth double; the lower more properly a bracte, the upper only a ſcale. Style ſcarcely any. Stigma capitate, ſubbivalved, ſometimes two-lobed. Fruit an oval berry, acuminated with the ſtyle, pellucid at the baſe.

It has ſome ſimilitude to, and analogy with *Viſcum* or *Loranthus*. It is ſaid to be called *Chu-Lan* or *Tchu-lan*, by the Chineſe, but muſt not be confounded with the *Tſjiulang* or *Camunium Chinenſe* of Rumphius, which is the *Vitex pinnata* of Linneus.

This plant has long been introduced into the royal garden at Kew as a native of China, where we are told it is cultivated in their gardens, though it ſeems not to have any qualities either palatable or odoriferous, nor has it a beautiful appearance[f].

Dr. Lind aſſerted, that the Chineſe mix it with their Tea, to give it a pleaſant ſmell: but this plant in itſelf has no ſmell whatever[g].

Introduced 1781, by James Lind, M. D.[h] It flowered on board the Atlas on the voyage.

PROPAGATION AND CULTURE.

It is preſerved in the ſtove, and may be increaſed readily by its runners.

Chloroxylon. See *Laurus*.

Chocolate-nut-tree. See *Theobroma*.]

CHONDRILLA. (Chondrilla. *Plin.* Χονδριλλη, *Dioſc.* *From* χονδρὸς, *a hillock of earth, a clot or cluſter.*)

Lin. gen. n. 910. *Reich.* 989. *Schreb.* 1235. *Gærtn. t.* 158. *Tourn.* 268. *Vaill. A. G.* 1721. 12. *Juſſ.* 169.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Semifloſculoſæ. Cichoraceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* calycled, cylindric; *ſcales of the cylinder* very many, parallel, linear, equal; thoſe of the *baſe* few, very ſhort.

Cor. *Compound* imbricate, uniform; *corollets* hermaphrodite very many, equal, in ſeveral rows.

Proper monopetalous, ſtrap-ſhaped, linear, truncated, four or five-toothed.

Stam. *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular.

Pist. *Germ* ſubovate. *Style* filiform, length of the ſtamens. *Stigmas* two, reflex.

Per. none. Calyx cylindric, oblong.

Seeds ſolitary, ovate, compreſſed, muricated. *Pappus* hairy, ſtipe long, attenuated above.

Rec. naked.

ESSENTIAL CHARACTER.

Cal. calycled. *Floſcules* in many rows. *Seeds* muricated. *Pappus* ſimple, ſtipitated.

SPECIES.

1. Chondrilla juncea. *Ruſhy Gum-Succory.*

Lin. ſpec. 1120. *ſyſt.* 713. *Reich.* 3. 627. *hort. cliff.* 383. *Gærtn. fruct.* 2. 363. *Hall. helv. n.* 17. *Pollich pal. n.* 731. *Villars dauph.* 3. 149. *Jacqu. auſtr.* 5. 12. *t.* 427. *Gouan. hort. monſp.* 409. *illuſtr.* 54. *Bauh. pin.* 130. *n.* 1. *D'Aſſo aragon. n.* 757. *Ger.* 226. *f.* 5. *emac.* 288. *f.* 5. *Mor. ſ.* 7. *t.* 6. *f.* 21.

Ch. viminea. *Bauh. hiſt.* 2. 1021. *f.* 1. *Raii hiſt.* 223.

C. juncea viminea arvenſis. *Tabern. ic.* 178.

C. prima Dioſcoridis. *Col. phyt.* 9. *t.* 3.—*t.* 10. (edit. 1592.)

C. viminalibus virgis. *Cluſ. hiſt.* 144. 2. *Park.* 782. *f.* 2.

Radical leaves runcinate, ſtem-leaves linear entire.

[2. Chondrilla crepoides.

Lin. ſyſt. 713. *Reich.* 628.

Leaves ſagittate, ſtem-claſping, ſtem ſimple, flowers ſubſeſſile lateral.

3. Chondrilla nudicaulis.

Lin. ſyſt. 714. *Reich.* 628. *mant.* 278.

Lactuca nudicaulis. *Murr. in comm. gott.* 1772. *p.* 73. *t.* 4.

Scape naked, flowers panicled.

DESCRIPTIONS, &c.

1. *Root* perennial. *Stem* much branched, from two to three feet high, erect, at bottom ſtrigoſe, towards the top ſmooth, bright green. Radical and lower *leaves* ovate-lanceolate, pinnatifid, ſinuate-tooth-letted, decurrent, ſcabrous with few hairs:

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[d] Gronovius.

[e] Engliſh Botany

[f] Swartz.

[g] L'Heritier.

[h] Hort. kew.

leaves higher on the ſtem and on the branches linear, tongue-ſhaped, obtuſe, quite entire (ſometimes with a toothlet or two), ſeſſile, ſmooth, glaucous-green. *Flowers* at the top and ſides of the ſtem and branches ſometimes ſolitary, but uſually in bunches ſeſſile, but ſometimes on ſhort peduncles. *Calyx* ſlender, ſtriated, roughiſh. *Corollas* ſlender, yellow, like thoſe of Lettuce[i]. Seeds, according to Gærtner, oblong, thicker upwards, obſcurely angular, with ruggedly tubercled ſtreaks, rufeſcent. Egret ſilky-white, fugacious; ſtyle briſtle-ſhaped, half as long again as the ſeed.

Native of France, Switzerland, Germany, Auſtria, Italy, Spain; flowering in july, and ripening its ſeeds in ſeptember.—Cultivated 1633[k].

The juice of the whole plant is extremely bitter: in Spain however it is uſed as a ſalad herb.

2. *Stem* ſimple, uſually abſolutely ſo, a foot and a half high, purple at the baſe, ſtriated, ſet with a few white briſtles. *Leaves* reſembling thoſe of *Turritis*, undivided, oblong, rough about the edge but eſpecially along the keel with whitiſh hairs, the upper ſurface gloſſy; the loweſt leaves toothletted. *Flowers* alternate, on a peduncle ſcarcely ſo long as the calyx, with one or two bractes. *Calyx* ſtriated, ſet with black tubercles and a white briſtle: calycle very ſhort, with ſubulate, permanent leaflets. *Corolla* yellow, purpliſh underneath, the length of the calyx. Annual.—It might be placed in the genus *Crepis*[l].

3. Radical leaves runcinate, obtuſe at the end, gloſſy, toothlet-ciliated. *Scapes* few, a foot long, panicled, ſtraight, round, gloſſy, with a ſmall leaf or two on them. *Calyx* eight-leaved, gloſſy, imbricated below with a few leaflets. *Corolla* pale yellow, conſiſting of about twenty-four corollules, all forming the ray, and obtuſely five-toothed. All the ſtyles forming the diſk of the flower are concolor. *Pappus* ſeſſile. *Seeds* black[m]. The calycle is not permanent, but falls off[n].—Native of the Eaſt Indies; not of North America; and by the Egyptian pyramids; as Linneus ſuppoſed.]

PROPAGATION AND CULTURE.

1. The firſt ſort is ſeldom preſerved in gardens, becauſe the roots are very apt to ſpread, and become troubleſome weeds. The downy ſeeds alſo are carried by the wind to a conſiderable diſtance, and fill the ground with plants. The roots ſtrike deep, and ſpread out with thick fibres on every ſide; each of theſe, when cut or broken, will ſhoot up; ſo that, when this plant has once got poſſeſſion of the ground, it is very difficult to root it out.

[The two other ſpecies have not been introduced into our gardens.

CHONDRILLA. See *Apargia*, *Cacalia*, *Catananche*, *Centaurea*, *Crepis*, *Erigeron*, *Lactuca*, *Lapſana*, *Leontodon*, *Pectis*, *Prenanthes*, *Scorzonera*, *Sonchus*.

CHONDRILLÆ GENUS. See *Cichorium*.

CHOUANNA-MANDARU. See *Bauhinia*.

CHRISTIANA RADIX. See *Aſtragalus*.]

CHRISTMAS-ROSE, or FLOWER. See *Helleborus*.

[CHRISTOPHORIANA, or *Herb Chriſtopher*. See *Actæa*, *Adonis*, and *Aralia*.

CHRIST'S-THORN. See *Rhamnus Paliurus*.

CHRYSANTHEMOIDES. See *Oſteoſpermum*.]

CHRYSANTHEMUM.

(Χρυσανθεμον, *Dioſc. from* χρυσὸς, *gold*, and ἄνθος, *a flower.*)

Lin. gen. n. 966. *Reich.* 1048. *Schreb.* 1307. *Juſſ.* 183. *Gærtn. t.* 168. *Tourn.* 280. Leucanthemum. *Tourn.* Bellidioides. *Vaill. A. G.* 1720. *f.* 17. 23. 31.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Natural order of *Compoſitæ Dioſcoideæ*. *Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* hemiſpherical, imbricate; *ſcales* cloſe incumbent; the interior ones larger by degrees; the innermoſt terminated by a parched ſcale.

COR. *Compound* radiated; *corollets* hermaphrodite tubular, numerous, in the diſk. *Females* more than twelve in the ray.

Proper of the hermaphrodites funnel-form, five-cleft, patulous, length of the calyx.

Of the females ſtrap-ſhaped, oblong, three-toothed.

STAM. In the hermaphrodites, *filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular, ſhorter than the corolla.

PIST. In the hermaphrodites, *Germ* ovate. *Style* filiform, longer than the ſtamens. *Stigmas* two, revolute.

In the females, *Germ* ovate. *Style* filiform, equal with the hermaphrodites. *Stigmas* two, obtuſe, revolute.

PER. none. Calyx unchanged.

SEED ſolitary, oblong, without any pappus.

REC. naked, dotted, convex.

OBS. *In* Leucanthemum *of Tournefort, the female corollets are lanceolate, and the calycine membranes narrow.*

In Chryſanthemum *of Tournefort, the female corollets are ovate-truncate, and the calycine membranes ovate.*

Ch. floſculoſum *is deſtitute of the ray.*

Ch. Leucanthemum *has black ſeeds with white ſtreaks, and a yellow cylindric hollow head.* R.

Ch. Balſamina *has a calyx almoſt like* Achillea, *and no pappus.* R.

Ch. Myconis *has ſeeds with a membranaceous crown.* R.

ESSENTIAL CHARACTER.

Cal. hemiſphærical, imbricated; the marginal ſcales membranaceous. *Pappus* margined. *Receptacle* naked.

SPECIES.

* *Leucanthema*: with white corollas.

1. Chryſanthemum fruteſcens. *Canary Ox-eye.*
Lin. ſpec. 1251. *Reich.* 3. 844. *hort. cliff.* 417. 5.
Leucanthemum canarienſe, ſapore pyrethri. *Walth. hort.* 31. *t.* 24.
Pyrethrum fruteſcens. *Gærtn. fruct.* 2. 431.
Chamæmelum canarienſe ceratophyllum fruticoſius, &c. *Mor. hiſt.* 3. 35. *n.* 7.
Bellis canar. frut. fol. craſſis, pyr. ſap. *Raii ſuppl.* 221.
Buphthalmum canar, &c. *Pluk. alm. t.* 272. *f.* 6.
Shrubby; leaves fleſhy linear pinnate toothed trifid at the end.

2. Chryſanthemum ſerotinum. *Creeping-rooted Chryſ.*
Lin. ſpec. 1251. *Reich.* 3. 844. *Jacqu. obſ.* 4. *p.* 8. *t.* 90.
After fol. profunde dentatis, & quaſi laciniatis, ramoſus. *Raii ſuppl.* 162. and
Bellis americana fruteſcens ramoſa. *hiſt.* 1865.
B. major, rad. repente, fol. latioribus ſerratis. *Mor. hiſt.* 3. 29. *f.* 6. *t.* 9. *f.* 11. *Raii hiſt.* 351.
B. amer. procerior ſerotina ramoſa, fl. ampliſſimo. *Pluk. alm. t.* 17. *f.* 2.
Leaves lanceolate, ſerrate at top, acuminate at both ends.

[3. Chryſanthemum atratum. *Fleſhy-leaved Chryſ.*
Lin. ſpec. 1252. *ſyſt.* 772. *Reich.* 3. 844. *Allion. pedem. n.* 684.
Bellis alpina major, fol. rigido. *Bauh. pin.* 261. *prodr.* 120. *Bauh. hiſt.* 3. 115. *Hall. helv. n.* 98. α.
β. B. alp. minor, fol. non rig. *Bauh. hiſt.* 3. 115.
B. montana maj. fol. acuto. *Bauh. pin.* 261. *prodr.* 121.
All the leaves wedge-ſhaped oblong gaſhed fleſhy.]

4. Chryſanthemum alpinum. *Alpine Ox-eye.*
Lin. ſpec. 1253. *ſyſt.* 772. *Reich.* 3. 845. *Ger. prov.* 206. *Gouan. illuſtr.* 70. *Barrel. ic.* 421, 457? 458. *f.* 3. *Allion. pedem. n.* 685. *D'Aſſo. aragon. n.* 844. *Villars dauph.* 3. 203.
Pyrethrum. *Hall. helv. n.* 96.—& 97. *ſec. Allion.*
Chamæmelum alpinum. *Bauh. pin.* 136.
Leucanthemum alp. *Cluſ. hiſt.* 1. 335. 2.
Leaves wedge-ſhaped pinnatifid, ſegments entire; ſtems one-flowered.

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[i] Pollich.
[k] Hort. kew. from Gerarde.
[l] Linn. ſyſt.
[m] Linn. mant.
[n] Murray.

5. Chryſanthemum Leucanthemum. *Common Ox-eye, or great Daiſy.*
Lin. ſpec. 1251. *ſyſt.* 772. *Reich.* 3. 845. *fl. ſuec. n.* 763. *mat. med.* 188. *Hudſ. angl.* 371. *With.* 928. *Curt. lond.* 5. 62. *Lightf.* 488. *Relh. n.* 624. *Pollich pal. n.* 812. *Allion. pedem. n.* 683. *Gærtn. fruct.* 2. 421. *Blackw. t.* 42. *Fl. ruſt. t.* 109.
Matricaria. *Hall. helv. n.* 98. *Scop. carn. n.* 1041.
Bellis ſylveſtris, caule folioſo, major. *Bauh. pin.* 261.
B. major. *Fuchſ.* 148. *Camer. epit.* 635. *Ger.* 509. *emac.* 634. *Bauh. hiſt.* 3. 114. *f.* 2, 3. *Raii hiſt.* 350. *ſyn.* 184. —— vulgaris ſ. ſylveſtris. *Park.* 528. 1.
β. B. montana fol. obtuſo crenato. *Bauh. pin.* 261. *prodr.* 121. *Barrel. ic.* 458. *f.* 2. *Ger. prov.* 206.
γ. Leucanthemum vulgare, caule villis caneſcente. *Tourn. inſt.* 492. *Barr. ic.* 437. *Pluk. alm. t.* 17. *f.* 3. *Gouan illuſtr.* 70. α.
Leaves ſtem-claſping oblong, the upper ſerrate, the lower toothed.

6. Chryſanthemum montanum. *Mountain Ox-eye.*
Lin. ſpec. 1252. *ſyſt.* 772. *Reich.* 3. 846. *Gouan hort. monſp.* 448. *Jacqu. obſ.* 4. *p.* 9. *t.* 91. *Allion. pedem. n.* 689. *t.* 37. *f.* 2. *D'Aſſo. aragon. n.* 843.
Bellis montana minor. *Bauh. hiſt.* 3. 115. *Magn. monſp.* 36.
Leucanthemum mont. minus. *Tourn. inſt.* 492.
Bottom leaves ſpatulate-lanceolate ſerrate, upper linear.

7. Chryſanthemum graminifolium. *Graſs-leaved Ox-eye.*
Lin. ſpec. 1252. *Reich.* 3. 846. *Gouan. hort. monſp.* 448. *illuſtr.* 70. *Jacqu. obſ.* 4. *t.* 92.
Bellis mont. gramineis fol. *Magn. monſp.* 291. *hort. t.* 31.
Leucanth. gramin. folio. *Tournef. inſt.* 493.
Leaves linear; toothed at the end, or the whole length.

8. Chryſanthemum monſpelienſe. *Montpelier Ox-eye.*
Lin. ſpec. 1252. *Reich.* 3. 846. *Gouan. hort. monſp.* 448. *Jacqu. obſ.* 4. *p.* 10. *t.* 93.
Bellis mont. major, fol. chryſ. cretici anguſtioribus. *Magn. monſp.* 306.
Leucanth. mont., fol. chryſanthemi. *Tourn. inſt.* 492.
Lower leaves palmate, leaflets linear pinnatifid.

[9. Chryſanthemum Balſamita.
Lin. ſpec. 1252. *ſyſt.* 772. *Reich.* 3. 847. *Jacqu. obſ.* 4. *p.* 8. *t.* 89.
Leucanth. orientale, coſti hortenſis fol. *Tourn. cor.* 37.
Bellidioides balſamitæ majoris folio facie & odore. *Vaill. act.* 1720. *p.* 282.
Leaves ovate oblong ſerrate eared.

10. Chryſanthemum inodorum.
Lin. ſpec. 1253. *Reich.* 3. 847. *Leers herborn. n.* 648. *Pollich pal. n.* 813. *Fl. dan. t.* 696. *With.* 929.
Matricaria inodora. *Lin. ſuec. n.* 765. *Hudſ. angl.* 372. *Allion. pedem. n.* 697.
Chamæmelum inodorum. *Fuchſ.* 144. *Bauh. hiſt.* 3. 120. *f.* 2. *Pet. brit. t.* 19. *f.* 12. *Raii ſyn.* 186. *n.* 6.
Leaves pinnate multifid, ſtem branching diffuſed.

11. Chryſanthemum Achilleæ. *Milfoil-leaved Chryſ.*
Lin. ſyſt. 772. *Reich.* 3. 847.
Parthenium fol. tenuiſſimis, Achilleæ cæſuris. *Mich. gen.* 34. *t.* 29.
Leaves bipinnate, pinnas imbricate; ſtem ſtiff and ſtraight many-flowered.]

12. Chryſanthemum corymboſum. *Corymbed Chryſan.*
Lin. ſpec. 1251. *n.* 2. *Reich.* 3. 848. *Gouan. hort. monſp.* 449. *Jacqu. auſtr.* 4. *t.* 379. *Leers herborn. n.* 649. *Pollich pal. n.* 811.
Pyrethrum corymboſum. *Scop. carn. n.* 1043. *Hall. helv. n.* 95.—corymbiferum. *Gærtn. fruct.* 2. 430.
Tanacetum inodorum. *Bauh. pin.* 132. *Cluſ. pann.* 551. 2. *hiſt.* 338. *f.* 2.
T. leucanthemum. *Tabern. ic.* 131.
Bellis montana minor tanaceti fol. *Pluk. alm. t.* 82. *f.* 1.
β. T. inodorum fl. majore. *Bauh. pin.* 132. *Cluſ. pan.* 550. 1.—*hiſt.* 338. 1.
T. latifolium inod. magno bellidis fl. *Barr. ic.* 781.
Leaves pinnate gaſh-ſerrate, ſtem many-flowered.

** *Chryſanthema:* with yellow corollas.

[13. Chryſanthemum indicum.
Lin. ſpec. 1253. *Reich.* 3. 848. *Thunb. jap.* 320. *Lour. cochinch.* 499.
Matricaria ſinenſis. *Rumph. amb.* 5. 259. *t.* 91. *f.* 1.
Tsjetti-pu. *Rheed. mal.* 10. *t.* 44.
β. C. maderaſpatanum. *Pluk. alm. t.* 160. *f.* 6.
Matricaria indica. *Mor.* 3. 33.—ſinenſis fl. monſtroſo. *Vaill. act.* 1720. *p.* 285. *Lin. zeyl. n.* 421.—zeylanica hortenſis fl. pleno. *Raii ſuppl.* 224.
Leaves ſimple ovate ſinuate angular ſerrate acute.

14. Chryſanthemum pinnatifidum. *Cut-leaved Chryſ.*
Lin. ſyſt. 773. *ſuppl.* 377. *Ait. hort. kew.* 3. 231.
Shrubby, leaves ſmooth, drawn to a point at the baſe, pinnatifid; ſegments gaſhed.

15. Chryſanthemum arcticum.
Lin. ſpec. 1254. *Reich.* 3. 849.
Pyrethrum. *Gmel. ſib.* 2. 203. *t.* 84.
Leaves ſimple wedge-form ſubpalmate multifid obtuſe.

16. Chryſanthemum pectinatum.
Lin. ſpec. 1255. *Reich.* 3. 849.
Chamæmelum. *Barr. ic.* 457. (flower and habit)—Leucanthemum. *Barr. ic.* 422. (leaves). C. alpinum, according to Haller.
Leaves pinnate linear parallel acute quite entire, peduncles ſolitary one-flowered.]

17. Chryſanthemum ſegetum. *Corn Marygold.*
Lin. ſpec. 1254. *Reich.* 3. 849. *fl. ſuec. n.* 762. *Hudſ. angl.* 371. *With.* 930. *Curt. lond. n.* 63. *Lightf.* 489. *Relh. n.* 625. *Fl. ruſt. t.* 110. *Pollich pal. n.* 814. *Cluſ. hiſt.* 1. 334. 2. *Mor. hiſt.* 3. 15. *ſ.* 6. *t.* 4. *f.* 1, *row.* 2. *Pet. brit. t.* 19. *f.* 6. *Ger. emac.* 743. *f.* 1. *Park.* 1370. *f.* 1. *Raii hiſt.* 339.
Leaves ſtem-claſping, the upper laciniate, the lower tooth-ſerrate.

[18. Chryſanthemum Myconis. *Tongue-leaved Chryſ.*
Lin. ſpec. 1254. *ſyſt.* 773. *Reich.* 3. 850. *Jacqu. obſ.* 4. 10. *t.* 94. *Dalechamp. hiſt. t.* 873. 2.
C. latifolium. *Bauh. hiſt.* 3. 105.
Bellis lutea, fol. ſubrotundis. *Bauh. pin.* 262.
Leaves tongue-ſhaped obtuſe ſerrate, ſcales of the calyx equal.

19. Chryſanthemum italicum.
Lin. ſyſt. 773. *Reich.* 3. 850. *mant.* 116. *Allion. pedem. n.* 690.
Parthenium. *Mich. gen.* 34. *n.* 6. *t.* 29. ſee *n.* 11.
Leaves bipinnate ſerrate; rays of the flowers the length of the diſk; ſtem procumbent.]

20. Chryſanthemum millefoliatum.
Lin. ſyſt. 773. *Reich.* 3. 850.
Anthemis Millefolia. *Lin. ſpec.* 1263.
Achillea. *Mill. fig.* 6. *t.* 9.—tanacetifolia. *dict. n.* 7.
Pyrethrum. *Gmel. ſib.* 2. 207. *t.* 86. *f.* 1, 2.
Leaves bipinnate toothed, ſtem decumbent, rays of the corolla ſhorter than the diſk.

[21. Chryſanthemum bipinnatum.
Lin. ſpec. 1255. *Reich.* 3. 851.
Pyrethrum. *Gmel. ſib.* 2. 205. *t.* 85. *f.* 1.
Leaves bipinnate ſerrate villoſe, rays ſhorter than the diſk.]

22. Chryſanthemum coronarium. *Garden Chryſanthemum. Chryſanthemum creticum,* or *Cretan Corn Marygold.*
Lin. ſpec. 1254. *Reich.* 3. 851. *hort. cliff.* 416. 1. *Gærtn. fruct.* 2. 420.
C. creticum. *Cluſ. hiſt.* 1. 335. *Mor.* 3. 16. *ſ.* 6. *t.* 4. *f.* 2, 3. *Park. parad.* 297. *f.* 1. *Beſl. eyſt. æſt.* V. *t.* 6. *f.* 2, 3. *Zanon. hiſt. t.* 51.
C. fol. matricariæ—&, majus fol. profundius laciniato, magno flore. *Bauh. pin.* 134.
Matricaria. *Hall. helv. n.* 99.
Leaves pinnate-gaſhed broader outwards.

23. Chryſanthemum floſculoſum. *Baſtard Chryſanth.*
Lin. ſpec. 1255. *ſyſt.* 773. *Reich.* 3. 851. *Gouan. hort. monſp.* 449.
Tanacetum fol. integris rigidis dentatis; ſcapo unifloro. *Hall. goett.* 370.
Balſamita fol. Agerati. *Vaill. act.* 336.
Bellis ſpinoſa. *Bauh. pin.* 262. *Alp. exot.* 327. *t.* 326. *Mor.* 3. 29. *ſ.* 6. *t.* 9. *f.* 16.
[β. Cotula grandis. *Lin. ſpec.* 1257. *mant.* 473. *Jacqu. obſ.* 4. *p.* 4. *t.* 81.
Chr. diſcoideum. *Allion. pedem. n.* 687. *t.* 11. *f.* 1.
All the florets uniform hermaphrodite.

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24. Chryſanthemum japonicum.
Lin. ſyſt. 773. *Thunb. jap.* 321.
Leaves petioled, gaſhed at the tip, and toothed.
25. Chryſanthemum ceratophylloides.
Allion. pedem. n. 686. *t.* 37. *f.* 1.
Stem one-flowered; pinnas deeply cut.]
26. Chryſanthemum aragonenſe.
D'Aſſo. aragon. n. 845. *t.* 9. *f.* 1. *Barrel. ic.* 421.
C. pallidum. *Mill. dict. n.* 12.
Stem one-flowered; root-leaves heaped, linear, ſilky, ſlightly three-toothed at the tip; upper ſtem-leaves quite entire, acute.
[27. Chryſanthemum procumbens.
Lour. cochinch. 499.
Matricaria ſinenſis, minore flore, petalis & umbone ochroleucis. *Pluk. amalth.* 142. *t.* 430. *f.* 3.
Leaves ſinuate-gaſhed, blunt, ſtem procumbent.]

DESCRIPTIONS, *&c.*

1. Stem ſhrubby, near two feet high, dividing into many branches. Leaves of a grayiſh colour, cut into many narrow ſegments. Flowers axillary, ſtanding upon naked peduncles ſingly, and greatly reſembling thoſe of common Chamomile. There is a ſucceſſion of theſe great part of the year, for which this plant is chiefly eſteemed. It grows naturally in the Canary iſlands.

[Cultivated 1699 in the Oxford garden[a].

2. Root perennial. Stem branched, erect, ſomewhat villoſe. Leaves ſeſſile, ſmooth; on ſome plants with many acuminate ſerratures beyond the middle, on others very few towards the end only, others again quite entire. The flower approaches in ſize to that of *Ch. Leucanthemum,* but is ſometimes only one third of the ſize[b].]

The roots creep far under the ſurface. The ſtems are ſtrong, and three or four feet high. The flowers appear in ſeptember.

[Cultivated 1731, by Mr. Miller[c].

3. Radical leaves wedge-form, lobed at the tip; ſtem leaves lanceolate, ſerrate. Stem one-flowered: Calyx with a dark edge[d]. Haller makes this a variety of *Ch. Leucanthemum,* and Allioni ſays that it ſcarcely deſerves to be diſtinguiſhed from it.—It is found in the paſtures of the Alps in Switzerland and Savoy, and in Auſtria. Perennial.—Introduced 1775, by Dr. Pitcairn and Fothergill[e].

4. Stems ſtoloniferous. Leaves petioled, pinnatifid, with ſeven acute, diſtant ſegments. Terminal ſtems entirely ſimple, ſcarce a ſpan in length, with three or four linear leaves, uſually undivided, eſpecially the uppermoſt[f]. Scales of the calyx black and ſcarioſe[g]. Radical leaves now only toothed, now deeply cut with ſharp ſegments, now with a kind of palmated end; at ſome times they are a little hoary, at others ſmooth: but theſe differences are owing to ſituation[h].

In the ſouth of France, Switzerland, the Valais, Savoy, about Tubingen, on the Pyrenees, in Aragon, &c. Perennial.—Cultivated 1759, by Mr. Miller[i].

5. *Root* perennial, ſomewhat creeping. *Stem* from twelve to eighteen inches and upwards, erect, rigid, angular, at bottom often purpliſh and hairy, above naked, ſimple or little branched. *Root-leaves* on long petioles, obovate, ſcarcely pubeſcent, deeply ſerrate: ſtem-leaves alternate, ſeſſile or ſtem-claſping, oblong, wedge-ſhaped or lanceolate, ſerrate, ſometimes toothed, or even pinnatifid at the baſe. *Flowers* terminal, ſolitary, large and ſhowy; on *Peduncles* finely grooved, and ſomewhat thicker at top. *Calyx* a flattened hemiſphere: outer ſcales oblong-ovate, bluntiſh, the edge membranous and brown; inner lanceolate and pointed. *Corolla* diſk yellow and convex; ray white and ſpreading; florets about ſixteen, oblong, obtuſe, having commonly three notches at the end, but ſometimes entire; the ſtyles ſaffron-coloured. *Seeds* attenuated to the baſe, deeply grooved all round, and purpliſh black[k]: or, according to Linneus, black with white ſtreaks; and a yellow cylindric hollow head: and, as Scopoli ſays, ten angles. By the accurate Gærtner they are deſcribed as from ovate inverſely pyramidal or turbinate, at firſt ferruginous, beautifully variegated with ten milk-white ridges; but afterwards blackiſh; with the ridges pale bay-colour; the top is bald.

Very common in dry meadows and paſtures, ſometimes on walls, and in corn fields; flowering from may to july, and increaſing greatly by ſeed.—The freſh leaves chewed diſcover a ſweetiſh, unpleaſant, ſlightly aromatic taſte, ſomewhat like Parſley, but not hot or biting; they have been recommended in diſorders of the breaſt, both aſthmatical and phthiſical, and as diuretics, but are now ſeldom called for[l].—Allioni, however, ſpeaks with ſome reſpect of it.—The young leaves may be eaten in ſalads[m]; and John Bauhin relates that they uſe them for this purpoſe at Padua. According to Linneus, horſes, ſheep and goats eat it; cows and ſwine refuſe it.—Mr. Curtis mentions it as a ſingularity, that as ſo many beautiful varieties of the common Daiſy are met with in almoſt every garden, we never ſee this plant in a ſimilar ſtate. He has, however, been credibly informed that two double varieties of this exiſt near Air in Scotland. Haller affirms that the varieties of this plant are innumerable, and he mentions ſeveral; among others one in which the florets of the ray are fiſtulous: it is highly probable, therefore, that culture would produce as many varieties of this as the common Daiſy has afforded. Parkinſon makes mention of it with double flowers.—Beſides the common names of *Great* and *Ox-eye Daiſy,* Dr. Withering mentions that the plant is called *Moon-flower,* and the flowers *Moons.*—Gerard gives us the name of *Maudlin-wort.*

6. Perennial. Stems many, erect, very hirſute at bottom, and ſomewhat villoſe at top, ſimple and one-flowered, but in a ſtate of cultivation becoming branched, and approaching to *Ch. Leucanthemum.* Leaves ſmooth. Flower only half the ſize of the foregoing in its wild ſtate, but equalling it in cultivation[n]. According to Gerard, this is only a variety of the foregoing: and Allioni is of opinion that it is ſcarcely different. Upon the whole, then, it ſeems to be only a variety of that mutable ſpecies, ariſing from its high ſituation.] Mr. Miller ſays, that he received it from Verona, near which place it grows in plenty.

7. [Perennial. Stems ſeveral, almoſt upright, ſimple, one-flowered. All the leaves narrow or ſublinear, or elſe the loweſt are ſpatulate, obtuſe and ſerrate. The calyx has ſcales ſomewhat black. Ray of the corolla white[o].

Gouan affirms, that in all the plants which he has examined, except a few ſmall ones growing from the fiſſures of rocks, the root-leaves were toothed from end to end; thoſe indeed were only three-toothed at the tip, as in Jacquin's figure.

8. An elegant plant, without ſcent. Perennial, very ſmooth and ſlightly villoſe, with erect, branching ſtems. Lower leaves bipinnatifid, upper pinnatifid, one or two at top quite entire. The flowers are very like thoſe of *Ch. Leucanthemum*[p].

9. Perennial. Stems many, erect, roundiſh, very ſlightly villoſe. Leaves obtuſe or acute, unequally

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[a] Hort. kew.
[b] Jacquin.
[c] Hort. kew.
[d] Linn. ſyſt.
[e] Hort. kew.
[f] Linn. ſpec.
[g] Syſt.
[h] Allioni.
[i] Hort. kew.
[k] Curtis, With. Woodw. MSS. Scop.
[l] Curtis.
[m] Withering.
[n] Jacquin.
[o] Ibid.
[p] Ibid.

ſerrate, ſmooth, attenuated to the baſe, ſeſſile: when handled they ſmell like thoſe of *Tan. Balſamita,* with which they agree alſo in colour and ſubſtance [q].

According to Linneus, it reſembles *Tanacetum Balſamita* very much, but is radiated.—Stem ſubangular, branched. Leaves lanceolate-ovate, bluntiſh, ſubtomentoſe, petioled, with a ſmall ear on each ſide. It has a flower like the *Aſter annuus*; the calyx of *Achillea*; a white ray with a yellow diſk; and no pappus [r].—It was found by Tournefort in the Levant.

10. This obſcure plant is eaſily diſtinguiſhed from *Anthemis Cotula,* which it very much reſembles, by having no chaffs on the diſk of the flower: from *Matricaria Chamomilla* by its flattiſh calyx; its ſcales brown and uneven at the edge; and its hemiſpherical, not conical, receptacle; the ray of the flower ſpreading, but not bent down; and its flowers being thrice as large. *Lin. ſuec.*

Stem much branched, ſmooth, ſtriated, ſometimes purpliſh. *Leaves,* pinnas diſtant, twice or thrice divided, the extreme ſegments filiform: mid-rib broad, membranaceous, and ſomewhat ſtem-claſping, narrowing upwards. *Flowers* large, terminating. *Calyx,* ſcales bluntly lanceolate, unequal, with a green line along the back. Middle row of the ſcales largeſt, all more or leſs membranaceous and ſkinny. *Florets* of the ray bent back, ſublinear, three-toothed, eight or nine lines long, twenty or more; of the diſk very numerous. Greeniſh at the baſe, yellow above, ſegments lanceolate, ſpreading. *Receptacle* conical. *Seeds* truncate at each end, with four whitiſh prominent angles [s]: or, as Dr. Stokes deſcribes them, oblong-wedge-ſhaped, ſlightly compreſſed, brown, with three ſides and three angles, the outer ſide broadeſt, convex, ſomewhat prominent along the back, with a browniſh red circular gland in each corner at the top, reſembling the eyes of ſome inſects; the two inner ſides concave; the angles ſharp, prominent and whitiſh, crowned with a very ſhallow, whitiſh, membranaceous border.

In corn fields and by road ſides, flowering from july to ſeptember. Annual.

Old authors uſually rank this plant with the Chamomiles; Linneus had placed it among the Matricarias; but on account of the ſcarioſe or ſkinny edge of the calycine ſcales, he has removed it into this genus.

11. *Stem* erect, ſomewhat angular, a foot high. *Leaves* like thoſe of Milfoil, only eight times as large, with eminent but ſcarcely viſible dots ſcattered over them, and a few white hairs underneath; the ends finiſh in a whitiſh point. Native of Italy. Perennial [t]. Probably this and the *italicum* are one ſpecies.—Introduced 1775, by M. Thouin [u].

12. *Stem* erect, from eighteen inches to two or three feet high, and more. *Leaves* alternate, pinnas pinnate to the middle, the ſegments ſharply toothed. Scales of the *calyx* cloſely imbricate; green with a dark edge, membranaceous; and rounded at the tip. Florets of the ray to twenty in number, white, three-toothed. Diſk flat. *Seeds* crowned with their proper calycle, which is membranaceous and toothletted. The whole plant is without ſmell or taſte [x]. Perennial; flowering in july and auguſt.—South of France, Switzerland, Germany, Auſtria, Carniola, Hungary, Siberia, in mountainous woods.—Cultivated 1759, by Mr. Miller [y].

13. Root perennial. Stem herbaceous, annual, four feet high, upright, round; branches oblique, ſubdivided, ſmooth and even. Leaves pinnate-gaſhed; the ſegments ſerrate, acute, unequal, ſmooth, waved. Flowers ſubterminating, on long peduncles, commonly one-flowered and ſolitary. All the florets ligulate. Their colours are white, red, purple, violet, yellow, orange. The flowers are three inches and more in diameter: their ſmell is of no great account.

The many varieties of this ſpecies differ not only in colour, but in ſize, and doubleneſs. Theſe are cultivated through the whole empire of Japon, for the beauty of their flowers, which diſplay themſelves during the ſummer and autumnal months [z]. Alſo in China and Cochinchina.

14. Reſembles the foregoing ſo much as to ſeem only a variety; but the leaves of this are oblong, not ovate, and nearly four times the ſize, as indeed all vegetables are in theſe iſlands. Found by Maſſon on the higheſt rocks of the iſland of Madeira, near the torrents [a].—As the *indicum* is ſo apt to vary, this may perhaps be no more than a variety.—Introduced 1777 [b].

15. *Stems* weak, diffuſed, herbaceous, branching at bottom. *Leaves* on long petioles, ſomewhat fleſhy, gloſſy, three-lobed, ſinuate-angular. *Flowers* terminating, ſolitary, the ſame ſize as in the *coronarium,* on a ſubvilloſe peduncle. Native of Kamtſchatka and Siberia [c].

16. *Stems* very ſhort, thickiſh, proſtrate, creeping. *Leaves* ſmall, like thoſe of the ſhrubby Tanſy, and pubeſcent. Peduncle very long, with a ſubulate leaf or two at the baſe. Native of Spain and Italy. Perennial [d].

17. Whole plant ſmooth. *Stem* a foot or more in height, upright, ſtriated, branched. *Leaves* alternate, half-ſtem-claſping, glaucous, varying in figure, diſtantly ſerrate towards the baſe, uſually deeply toothed or jagged, with frequently three clefts at the end. Each branch is terminated by one large yellow flower. Peduncle nearly upright, hollow, thicker at top. *Calyx* convex; ſcales ovate, blunt, glaucous, the inner ones gradually larger, with membranaceous edges. *Florets* of the ray ſixteen or eighteen, oblong, truncate, about half an inch long, marked with two lines, and with three irregular teeth at the end. *Seeds* oblong, ſlightly ſtriated, truncate, a little bent, pale brown or whitiſh [e]. Beſides the names of *Corn-Marygold,* and *yellow* or *golden Corn-flower,* it is called *Yellow-bottle* in Kent; *Buddle,* which is a corruption of bottle, in Norfolk; *Golds,* or as it is more commonly pronounced *Goulds* or *Gowls,* in the midland counties. *Goulans* or *Goldins* in the north of England; and *Gules, Gools, Guills,* or *yellow Gowans* in Scotland; from the *golden* colour of the flowers, which however they may give a brilliancy to the fields in tillage, and pleaſe the eye of the paſſing traveller, as Linneus obſerves, are no very agreeable ſight to the farmer; this plant being a very troubleſome weed in ſandy ſoils. Linneus informs us, that it was imported into Sweden along with corn from Jutland, about the end of the laſt century, and that there is a law in Denmark to oblige the farmers to extirpate it.—A large quantity, which grew on arable land, was cut when in flower, dried, and eaten by horſes as a ſubſtitute for hay [f]. The Germans uſe it for dying yellow [g]. Linneus obſerves that the flowers follow the ſun remarkably. They appear from june to october, and the plant is annual.

18. This reſembles the foregoing very greatly, but the *ſtem* is erect, even and roundiſh. *Leaves* broader outwards, obtuſe, obtuſely ſerrate, even, half-ſtem-claſping. *Peduncle* terminating, ſtriated, darker, not thicker at top. *Calyx* with ſcales ſcarioſe at the tip. *Corolla* deep yellow: ray ſhort, three-toothed. Crown of the *ſeed* membranaceous [h]. Native of Portugal, Spain and Italy. Annual.—Introduced 1775, by Monſ. Thouin [i].

19. This reſembles the next ſpecies very much, but the ſtem is more branched, many-flowered, and more erect. The ray of the flower is white, th length of the diſk. Obſerved in Italy by Arduini [k]. There is the ſame reference to Micheli in this and

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[q] Jacquin.
[r] Syſt.
[s] Woodw. Mſſ. & With.
[t] Linn. ſyſt.
[u] Hort. kew.
[x] Pollich.
[y] Hort. kew.

[z] Thunberg.
[a] Linn. ſuppl.
[b] Hort. kew.
[c] Linn. ſpec.
[d] Ibid.
[e] Woodw. Mſſ. With. Curtis.
[f] Hollefear in Withering.
[g] Stokes in With.
[h] Linn. ſyſt.
[i] Hort. kew.
[k] Linn. mant.

the eleventh ſpecies; perhaps they are the ſame plant repeated [l].

20. Diſk of the flower entirely without chaffs. It differs from the next ſpecies in the diameter of the diſk not exceeding the length of the calyx; whereas in that the diſk is twice as broad. It borders on the foregoing ſpecies [m]. The habit is that of Milfoil; the leaves reſembles thoſe of Milfoil, but are a little larger. It has the flowers of *Anthemis tinctoria*, but ſmall, and pale yellow. Native of Siberia [n]. This plant is low and buſhy, but the flower-ſtems riſe near two feet high. It begins to flower in june, and continues till ſeptember. Tournefort firſt diſcovered it in the Levant [o].

21. Habit of *Anthemis tinctoria*. Pinnules of the leaves ſublanceolate, hirſute, almoſt like thoſe of Tanſy. Peduncles axillary, naked, one-flowered, pubeſcent, the length of the leaves. Obſerved in Siberia by Gmelin [p].

22. *Stem* furrowed, leafy, branching, three feet high. *Leaves* ſmooth, ſtem-claſping; pinnas either pinnate or pinnatifid, the end one very large, bifid, with the pinnules ſharply gaſhed. *Peduncles* terminating, one-flowered. Scales of the *calyx* ovate, ſcarioſe. *Florets* of the ray very large, broad, and ſhort, obtuſely three-toothed; in the wild plant yellow [q]. According to Gærtner, the receptacle is ſubparabolic, higher than the border of the calyx, teſſulated with decuſſated ſtreaks, naked, ſmooth. Seeds inverſely pyramidal, a little compreſſed, grooved and angular, ſmooth, very pale ſtraw-colour, bald.

He obſerves, that in the gardens the ray of this ſpecies is always barren.

He removes all the ſpecies of Chryſanthemum which have the ſeeds crowned with a manifeſt margin to the genus *Pyrethrum*: as *fruteſcens*, *ſerotinum*, *atratum* β, *alpinum*, *inodorum*, *corymboſum*, *Myconis*, *bipinnatum*, *arcticum*; with *Matricaria aſteroides*, and *Achillea pubeſcens*. Of *Pyrethrum* he remarks, that it is only *Tanacetum* with a ray.—Native of Crete, Sicily, the Lower Valais, and M. Frala.]

Of this plant there are ſingle and double flowers, both white and yellow. There is alſo a variety with fiſtular florets, called quill-leaved Chryſanthemum; but the ſeeds of this degenerate to the common ſort.

23. [A procumbent, ever-green underſhrub. Leaves obovate, gradually narrowing into the petiole, ſinuate-toothed, ſtiffiſh. Flowers ſmall, terminating, ſolitary [r], of a deep yellow colour.

Native of the Cape of Good Hope, and was introduced before 1605, by Parkinſon [s].

β. Ever-green. Stem ſimple, erect, eighteen inches high, angular, purpliſh. Upper branches elongated, one-flowered; lower barren, leafy. Leaves ſtem-claſping, ſpatulate, finely tooth-ſerrate, obovate, ſinuate-toothed, ſomewhat rigid. Flower terminating, ſolitary. Florets five-cleft [t]. Calyx hemiſpherical, compoſed of ſcales in three or four triangular rows cloſely imbricate, the end entire reddiſh brown, the inner ones ſcarioſe. Diſk flat. Seeds crowned, not with a membrane, but an excavated ring. Perennial [u].

24. Stem ſimple, erect, ſtriated, villoſe. Leaves alternate, oblong, ſmooth, green above, pale underneath, two inches long [x].

25. Approaches very much to *Ch. alpinum*, but differs from it in having the leaves on long petioles, and not only pinnatifid, but reaching to the very petiole; they are ſimple, bifid or trifid. The whole plant is extremely ſmooth. Stem ſimple, one-flowered, leafy, ſtraight, growing to a foot in height. Flower of *C. alpinum*, but larger. Florets of the ray marked with lines, and gaſhed. On the mountains Tende and Briga. Perennial [y].]

26. Stems low and ſhrubby, ſeldom above a foot high, putting out ſeveral ſlender woody branches, with narrow pale-green leaves. From the end of each branch a naked peduncle is produced ſix inches long, ſuſtaining one flower of a ſulphur colour. The flowers appear in june and july, but the ſeeds ſeldom ripen in England.

[Stems hoary, naked at top. Root-leaves uſually three-toothed, but ſometimes there are four or five teeth; they are always ſharp: the lower ſtem-leaves are like theſe, but the upper ones are quite entire, and even linear. Scales of the calyx ſilky, with membranaceous edges. Florets in the ray three-toothed. Seeds oblong. In la Sierra de Villaroya, near Purujoſa, in Aragon [z].

Query? whether different from *alpinum*.

27. Stem perennial, three feet high, frequently creeping, ſlender, and very much branched. Leaves ovate, deeply ſinuate, ſubtomentoſe, petioled. Peduncles many-flowered, terminating. There are many varieties, but the flowers of all are ſmall.

It is found both wild and cultivated in China and Cochinchina [a].]

PROPAGATION AND CULTURE.

1. This plant will perfect ſeeds in England, when the ſeaſons are favourable; but as cuttings take root very eaſily during any of the ſummer months, the ſeeds are rarely ſown.

Being a native of warm countries, it will not live in the open air in England during the winter; therefore when the cuttings have made good roots, they ſhould be each planted into a ſeparate pot, and placed in the ſhade till they have taken freſh root; then remove them to a ſheltered ſituation till autumn, and thence into the green-houſe; giving them free air in mild weather, and frequently refreſhing them with gentle waterings in winter. In ſummer they will require more moiſture, and ſhould be treated in the ſame manner as other hardier exotics.

2. Multiplies very faſt by its creeping roots, and will thrive in any ſoil or ſituation.

6. Sow the ſeeds in a ſhady border; they will come up in about ſix weeks. Tranſplant them, when fit to remove, into another ſhady border, where they may remain, and keep them clean from weeds.

7, 12. Theſe rarely perfect ſeeds in England, but being perennials, may eaſily be increaſed by parting the roots: the beſt time for this is in autumn.

8. This ſort ripens every year in England, by which the plant is eaſily propagated; for if the ſeeds are ſown in the ſpring on a common border, the plants will come up in ſix weeks; when theſe are fit to remove, they may be tranſplanted into a nurſery-bed at about a foot diſtance every way, and kept clean from weeds till autumn, when they may be removed to the places where they are deſigned to remain. As theſe plants extend their branches pretty far on every ſide, they ſhould be allowed at leaſt two feet room; therefore they are not very proper furniture for ſmall gardens, where there is not room for theſe large growing plants; but in large gardens, theſe may have a place for the ſake of variety.

If theſe plants are planted in poor dry land, or upon lime-rubbiſh, they will not grow ſo vigorous as in good ground; but they will endure the cold better, and continue longer; when very ſucculent they are apt to rot in winter, but where they grow from the joints of old walls, they continue in vigour ſeveral years.

[17. In order to deſtroy this weed, Linneus recommends to dung the ground in autumn; then to give the land a ſummer fallow, and to harrow in about five days after ſowing.]

20. Is very hardy, will live in the open air, and may be increaſed eaſily by ſlips; but does not perfect ſeeds in England unleſs in warm dry ſeaſons.

22. Theſe plants are always eſteemed as annual, ſo the ſeeds are uſually ſown upon a ſlender hot-bed

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[l] Reichard.
[m] Linn. ſyſt.
[n] Linn. ſpec.
[o] Mill. fig.
[p] Linn. ſpec.
[q] Haller.
[r] Gouan.
[s] Hort. kew. from Lobel.
[t] Linn. mant. & ſyſt.
[u] Allioni.
[x] Thunberg.
[y] Allioni.
[z] D'Aſſo.
[a] Loureiro.

in the ſpring, and the plants treated in the ſame manner as the African Marigold, for the culture of which we ſhall refer the reader to the article *Tagetes*; but as the plants which riſe from ſeeds, do many of them produce ſingle flowers, although the ſeeds are ſaved from the beſt double flowers, therefore many perſons now propagate theſe plants from cuttings, whereby they continue the double ſorts only; theſe cuttings, taken from the plants the beginning of ſeptember, and planted in pots, will readily take root; and if they are placed under a hot-bed-frame to ſcreen them from the froſt in winter, letting them have free air in mild weather, they will live through the winter; and in the ſpring theſe plantes may be tranſplanted into the borders of the flower-garden, where they will flower in june, and continue in ſucceſſion till the froſt puts a ſtop to them; by this method all the varieties may be continued without variation, but the plants which are propagated this way by cuttings will become barren ſoon, and will not produce ſeeds.

23. May be increaſed and treated as n. 1.

26. May alſo be propagated the ſame way, but the cuttings do not ſo readily take root. This ſort muſt be ſheltered under a common frame in winter, for unleſs the ſeaſon prove favourable, it will not live in the open air here.

[Chrysanthemum. See *Amellus*, *Anacyclus*, *Anthemis*, *Arctotis*, *Athanaſia*, *Baltimora*, *Bidens*, *Brunia*, *Buphthalmum*, *Cacalia*, *Carpeſium*, *Chryſogonum*, *Coreopſis*, *Cotula*, *Eclipta*, *Ethulia*, *Helenium*, *Helianthus*, *Oſteoſpermum*, *Othonna*, *Polymnia*, *Protea*, *Senecio*, *Silphium*, *Spilanthus*, *Verbeſina*.

Chrysis. See *Helianthus*.

CHRYSITRIX. (*From* χρυσεις *golden*, and θριξ *hair.*)
Lin. gen. *Reich. n.* 1281. *Schreb.* 1610. *Juſſ.* 27.
Claſſ. 23. 3. Polygamia Dioecia.
Nat. order of *Calamariæ*. *Cyperoideæ* Juſſ.

GENERIC CHARACTER.

* Hermaphrodite Plant.

Cal. *Glumes* bivalve, many, imbricate; *valvelets* ovate-oblong, cloſe, cartilaginous, permanent.

Cor. *Chaffs* extremely numerous, heaped into a faſcicle, ſetaceous, membranaceous, coloured, bright, longer than the calyx, permanent.

Stam. *Filaments* ſolitary, between the chaffs, capillary, the length of the chaffs.
Anther linear, growing on each filament (except the tip of the filament).

Pist. Common *Germ* oblong, obtuſe; *Style* filiform; length of the ſtamens. *Stigma* ſimple.

Per.

Seed

* Male in a diſtinct individual.

Cal. Cor. Stam. as in the hermaphrodite.

ESSENTIAL CHARACTER.

Hermaph. *Glume* bivalve. *Cor.* of numerous, ſetaceous chaffs. *Stam.* many, ſolitary, between the chaffs. *Piſt.* one.

Male as in the hermaphrodite. *Piſt.* none.

SPECIES.

1. Chryſitrix capenſis.
Lin. ſyſt. 921. *Reich.* 4. 363. *mant.* 304.

DESCRIPTION, *&c.*

Root perennial. Stature of *Siſyrinchium*. *Leaves* enſiform, equitant, even, a palm or foot in length. *Scape* very much like a leaf, compreſſed-membranaceous, terminated by a bivalve ſpathe, one valve ſtraight as if it were continued from the ſcape; the other, which is the lower, gaping and ovate. The flower comes forth from the upper edge of the ſcape, like a faſtigiate faſcicle of golden briſtles ſtraitened by a cartilaginous perianth[a].

Juſſieu remarks, that this herb has graſſy root-leaves; a compreſſed ancipital ſcape towards the top cloven on one ſide at the edge, putting forth a ſingle ſeſſile head, with a one-valved coriaceous ſpathe below it; and that the germ is ſometimes abortive. The ſtigmas are five, according to Koenig. It has the habit of the *Cyperoideæ*, but the character is a little different. The fruit is probably one-ſeeded. Native of the Cape of Good Hope.]

CHRYSOBALANUS. (*From* χρυσὸς, *gold, and* βάλανος, *a drupe. Lin.*—βαλανός *is an acorn, and is put alſo for other fruits, as cheſtnuts, beech-maſt, &c.*)
Lin. gen. 621. *Reich.* 677. *Schreb.* 850. *Juſſ.* 340. *Icaco. Plum. gen. t.* 5. *Jacqu. amer.* 154.
Span. *Icaco.* Fr. *Prunier Icaque.*
Claſſ. 12. 1. Icoſandria Monogynia.
Nat. order of *Pomaceæ*. *Roſaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-ſhaped, five-cleft, *diviſions* expanding, withering.

Cor. *Petals* five; oblong, flat, ſpreading, inſerted by their claws into the calyx.

Stam. *Stamens* very many, placed in a circle, erect, inſerted into the calyx. *Anthers* ſmall, twin.

Pist. *Germ* ovate. *Style* of the ſhape and length of the ſtamens; inſerted laterally at the baſe of the germ. *Stigma* obtuſe.

Per. *Drupe* ovate, large, one-celled.

Seed. *Nut* ovate, marked with five furrows, wrinkled, five-valved.

Obs. *Allied to* Hirtella *in the inflorescence, flower, and inſertion of the ſtyle.*

ESSENTIAL CHARACTER.

Cal. five-cleft. *Pet.* five. *Style* lateral. *Drupe* with a five-furrowed, five-valved Nut.

SPECIES.

1. Chryſobalanus Icaco. *Cocoa Plum.*
Lin. ſpec. 681. *ſyſt.* 464. *Reich.* 2. 490. *Jacqu. amer.* 154. *t.* 94. *pict.* 76. *t.* 141. *Cateſb. car.* 1. *t.* 25? *Mill. dict. n.* 1.
Guajeru. *Marcgr. braſ. l.* 2. *c.* 14. *fig.*
α. Icaco fructu ex albo rubeſcente. *Plum. gen.* 44. *ic.* 158.
β. I. fr. nigro. *Plum. gen.* 44.
γ. I. fr. purpureo. *Plum. gen.* 44.
C. purpurea. *Mill. dict. n.* 2.
δ. C. fruticoſus. *Brown. jam.* 250. *t.* 17. *f.* 5.

DESCRIPTIONS, *&c.*

[1. It is deſcribed by Jacquin, as an irregular ſhrub, from three to ten feet high, covered with a ferruginous bark with pale ſpots. Leaves ovate-roundiſh, obtuſe, entire, coriaceous, ſhining, on very ſhort petioles, alternate, two inches long. Racemes branched, corymbed, lax, terminating and axillary, ſhort; the laſt common peduncles three-flowered. Flowers inodorous, ſmall, with white petals, having almoſt the character of the Plum. Fruits roundiſh, about an inch in diameter, either quite entire, or with five, ſix or ſeven grooves; red, purple, yellow, whitiſh or variegated, but never blue, as Cateſby deſcribes it. Whence the ſhrub of the Bahama iſlands may perhaps be a different ſort. The ſkin is very thin, and the pulp is ſmall, white, with very little ſmell, adhering very firmly to the nut, the conſiſtence of a baked apple, the taſte ſweet with ſome auſterity, but not unpleaſant. They are ſold in the markets in the Weſt-Indies, and are eaten both raw and preſerved. The nut or ſtone varies in form, but approaches to the ovate-acuminate, and ſometimes has ſix or ſeven angles.

Native of the Caribbee iſlands, and the neighbouring continent, near the ſea.]

γ. Leaves compounded of ſeveral winged leaflets, branched out oppoſite, each having ſix or ſeven pairs of pinnas, the ſtones of the ſame ſhape with thoſe of the other. Native of Jamaica.

[δ. Height ſeven or eight feet. Fruit like a plum, black or white, inſipid, but containing a large nut, which incloſes a kernel of a very pleaſant flavour. It thrives beſt in a cool moiſt ſoil, and when planted in a dry ſunny expoſure, the nut is covered only by a thin ſkin. This ſhrub is very common in St. Eliſabeth's and Portland, in Jamaica[b].—Cultivated 1752, by Mr. Miller[c].

Linneus being acquainted only with the laſt, doubts whether all theſe be different ſpecies, or varieties only of one.—Of δ he ſays, that it has not a ſcabrous ſtem; that the leaves are alternate, roundiſh, quite entire, ſubemarginate; that the flowers are in a panicle; and that the peduncles are rounded on the outſide, and flat within.]

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[a] Linn. mant.

[b] Browne. [c] Hort. kew.

PROPAGATION AND CULTURE.

As theſe trees are natives of the hot parts of America, they will not thrive in England unleſs they are kept in a warm ſtove. They are propagated by ſeeds, which muſt be obtained from the countries where the plants naturally grow; theſe muſt be ſown in the ſpring in ſmall pots filled with light earth, and plunged into a hot-bed of tanner's bark, obſerving frequently to water the pots, but not to let them have much at each time. In ſix weeks the plants will come up, and, if properly managed, will be fit to remove in a month after, when they ſhould be carefully ſeparated, and each planted into a ſmall pot filled with light kitchen-garden earth, and then plunged into the hot-bed again, obſerving to ſhade them from the ſun till they have taken freſh root; after which they muſt have air every day in proportion to the warmth of the ſeaſon, and their waterings during the ſummer ſhould be frequent, but ſparing. In the autumn the plants muſt be removed into the bark-ſtove, and plunged into the tan-bed; and in winter the plants muſt not have too much water, leſt it occaſion their throwing off their leaves. In ſummer they muſt have a good ſhare of air, and the plants in the ſtove ſhould be conſtantly treated in the ſame manner as other tender plants from the ſame countries.

CHRYSOCŎMA. (Chryſocoma, *Plin.* Χρυσοκομη, *Dioſc. From* χρυσὸς, *gold, and* κομη, *the head of hair; the head, flowering or leafy top of trees and herbs.*)

Engl. *Goldy-locks.*

Lin. gen. 939. *Reich.* 1019. *Schreb.* 1275. *Gærtn. t.* 166. *Juſſ.* 180. *Chryſocome. Dill. gen.* 14. *Coma aurea. Boerh.* 1. *p.* 121.

Claſſ. 19. 1. Syngeneſia Polygamia Aequalis.

Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* hemiſpherical, imbricate, *ſcales* linear, outwardly convex, acuminate.

Cor. *Compound* tubular, longer than the calyx; *Corollets* hermaphrodite, tubular, numerous, equal. *Proper* funnel-form, *border* five-cleft, revolute.

Stam. *Filaments* five, filiform, very ſhort; *Anthers* cylindric, tubular.

Pist. *Germ* oblong, crowned. *Style* filiform; ſcarce longer than the florets. *Stigmas* two, oblong, depreſſed, involute.

Per. none. Calyx ſcarcely changed.

Seeds ſolitary, ovate-oblong, compreſſed. *Pappus* hairy.

Rec. naked, flat.

Obs. C. Linoſyris *is diſtinguiſhed by its ſquarroſe calyx.*

ESSENTIAL CHARACTER.

Cal. hemiſpherical, imbricate. *Style* ſcarcely longer than the florets. *Pappus* ſimple. *Recept.* naked.

SPECIES.

* Shrubby.

[1. Chryſocoma oppoſitifolia. *Oppoſite-leaved Goldy-locks.*
Lin. ſpec. 1177. *ſyſt.* 739. *Reich.* 3. 724. *amœn.* 6. *afr.* 49. *p.* 97.
Eupatorium divaricatum. *Berg. cap.* 229.
Cyanus arb. minor, fol. majoranæ. *Breyn. ic. t.* 17. *f.* 2.
Shrubby; leaves oppoſite, obovate, flowers faſcicled, peduncled.]

2. Chryſocoma comaurea. *Great ſhrubby Goldy-locks.*
Lin. ſpec. 1177. *Reich.* 3. 725.
Conyza. *Pluk. alm. t.* 327. *f.* 2.
Elichryſum. *Volk. norib. t.* 148.
Shrubby; leaves linear, ſtraight, ſmooth, decurrent by the back.

[3. Chryſocoma ſericea.
Lin. ſyſt. 739. *ſuppl.* 360.
Shrubby, ſilky-white; leaves linear, channelled; ſmall branches panicled at top.

4. Chryſocoma montana.
Vahl. ſymb. 1. 70.
Shrubby, leaves oblong, quite entire, flowers ſolitary.

5. Chryſocoma patula.
Lin. ſyſt. 739. *Reich.* 3. 725. *mant.* 280. *Berg. cap.* 234.
Underſhrubby; leaves linear, ſmooth; branches divaricate.]

6. Chryſocoma cernua. *Small ſhrubby Goldy-locks.*
Lin. ſpec. 1177. *Reich.* 3. 725. *hort. cliff.* 397. 3.
Coma aurea africana fruticans, fol. linariæ anguſtis, major. *Comm. hort.* 2. 89. *t.* 45.
Shrubby; leaves linear, recurved, ſubſcabrous; flowers during impregnation drooping.

7. Chryſocoma ciliata. *Heath-leaved Goldy-locks.*
Lin. ſyſt. 1177. *Reich.* 3. 725.
Coma aurea frut. ericæ fol. *Comm.* 2. 95. *t.* 48.
Underſhrubby; leaves linear, ſtraight, ciliate; branches pubeſcent.

[8. Chryſocoma tomentoſa.
Lin. ſyſt. 739. *Reich.* 3. 726.
Underſhrubby; leaves and branches tomentoſe.

9. Chryſocoma ſcabra.
Lin. ſpec. 1177. *Reich.* 3. 726.
Baccharis. *Lin. hort. cliff.* 404. 2.
Conyza africana. *Dill. elth.* 104. *t.* 88. *f.* 103.
Underſhrubby; leaves lanceolate-ovate, recurved, toothlet-ſerrate; peduncles pubeſcent.]

** *Herbaceous.*

10. Chryſocoma Linoſyris. *German Goldy-locks.*
Lin. ſpec. 1178. *Reich.* 3. 726. *fl. ſuec. n.* 729. *Gærtn. fruct.* 2. 403. *Hall. helv. n.* 144. *Pollich pal. n.* 778. *Allion. pedem. n.* 634. *t.* 11. *f.* 2. *D'Aſſo. Arag. n.* 803. *Villars dauph.* 3. 188.
Chryſocome dioſcoridis & plinii. *Col. ecphr.* 1. 81. *t.* 82. *Park.* 688. *f.* 1.
Linoſyris nuperorum. *Lob. hiſt.* 223. *ic.* 1. 409. *Ger. emac.* 553. *f.* 9.
Oſyris auſtriaca. *Cluſ. hiſt.* 1. 325.
Linariæ tertium genus. *Trag.* 358.
L. folioſo capitulo luteo, major & minor. *Bauh. pin.* 213.
L. aurea. *Ger.* 442. 8. *Raii hiſt.* 292.
Herbaceous; leaves linear, ſmooth; calyxes lax.

11. Chryſocoma biflora. *Two-flowered Goldy-locks.*
Lin. ſpec. 1178. *Reich.* 3. 726.
After. *Gmel. ſib.* 2. 189. *t.* 82. *f.* 1.
Conyza. *Amm. ruth.* 192.
Panicled; leaves lanceolate three-nerved dotted naked.

[12. Chryſocoma villoſa.
Lin. ſpec. 1178. *Reich.* 3. 727. *Pall. itin.* 1. 73. *Gærtn. fruct.* 2. 403. *Lour. cochinch.* 486.
After. *Gmel. ſib.* 2. 192. *t.* 82. *f.* 2, 3.
Leaves lanceolate, villoſe, calyxes cloſe.

13. Chryſocoma purpurea.
Forſt. florul. auſtr. n. 286.
Herbaceous; leaves elliptic-lanceolate ſubſerrate pubeſcent; panicle terminating corymbed.

DESCRIPTIONS, &c.

1. A ſhrub, with brachiate diſtorted branches. Leaves ſubpetioled, ſubtomentoſe, extremely obtuſe. Flowers yellow, terminating. Calyxes cylindric, obtuſe, ſhorter than the corolla. This differs as much from its congeners, as it agrees with *Pteronia oppoſitifolia* in outward appearance, calyxes, ſtem, &c. but the receptacle is naked[a]. Native of the Cape.]

2. The ſecond ſort grows alſo naturally at the Cape of Good Hope. This riſes with a ligneous ſtalk about a foot high, dividing into many ſmall branches, which are garniſhed with narrow leaves, of a deep green, coming out on every ſide without order; the back part of each leaf has a ſmall ſhort appendix, which runs along the ſtalks. The flowers are produced at the end of the branches, on ſlender naked foot-ſtalks, and are of a pale yellow. This plant flowers great part of the year, for which it is

[a] Linn. amoen. & ſyſt.

chiefly eſteemed; and the ſeeds ripen very well in autumn.

[Cultivated 1748, by Mr. Miller[b].

3. This is eaſily diſtinguiſhed by its very white ſilky leaves, branches and peduncles, and by its yellow flowers. Leaves long, flaccid. Branchlets ſimple, but with panicles of flowers at the ends: the ſhorter branchlets-terminated with a few-flowered panicle. Calyxes ſmooth; with ſubulate, yellow ſcales. The bark and wood have an acrid pungent taſte. It differs from *C. tomentoſa* in its panicled branches, not one-flowered; in having leaves near an inch in length, and flowers much ſmaller; beſides being ſo much whiter.—Theſe two are natives of Spain, and this is uſed by the inhabitants againſt the tooth-ach[c].

4. Stem ſhrubby, with round villoſe branches. Leaves acute, villoſe. Flowers ſingle at the ends of the branches. The outer ſcales of the calyx oblong, obtuſe, coloured at the tip, ſpreading; the inner longer, linear, acute. Egret the length of the calyx, ferruginous. Forſkal gathered it on mount Horeb[d].

5. Stem compound, with the branches by threes or fours, even. Leaves obtuſe, ſpreading. Flowers terminating, ſolitary, ſcarcely peduncled. Nearly related to *C. Comaurea*, but diſtinguiſhed by the extreme divaricating of the branches, and the flowers being ſcarcely peduncled. Native of the Cape[e].]

6. The ſixth ſort is a native of the Cape of Good Hope; this is a leſs plant than the ſecond; it has a ſhrubby ſtalk, branching out in the ſame manner; the leaves are ſhorter, and a little hairy; the flowers are not half ſo large, of a pale ſulphur colour, and nod on one ſide before they are blown. This alſo flowers great part of the year, and ripens ſeeds very well.—[Cultivated 1739, by Mr. Miller[f].]

7. The ſeventh ſort is alſo a native of the ſame country; this has a low ſhrubby ſtalk, which branches out on every ſide, leaves very narrow, ſhort, rough, and reflexed; the flowers ſtand ſingle on the top of naked peduncles, which ariſe from the upper part of the branches; theſe flowers are larger than thoſe of the laſt, and ſtand erect.

[Introduced 1774, by Mr. Fr. Maſſon[g].

8. Leaves linear, ſtraight. Flowers as in the others[h].

9. Height nine or twelve inches, about the middle dividing into many woody branches covered with a brown bark, and theſe into ſmaller green ones, on which are very narrow, ſubhirſute, alternate leaves. Peduncles long, ſlender, with a few ſmall leaves on them. Heads of flowers at firſt roundiſh, not hirſute; afterwards longer, and contracted towards the end. Scales of the calyx many, narrow, green. Corollas very ſmall, yellow. It flowers in auguſt and ſeptember; and is a native of the Cape[i].]

10. The tenth ſort grows naturally in Germany, Switzerland, France, Italy, &c.; this has a perennial root; the ſtalks riſe two feet and a half high, are round, ſtiff, and cloſely garniſhed with long, narrow, ſmooth leaves, which come out without any order, of a pale green colour; the upper part of the ſtalk divides into many ſlender peduncles, each ſuſtaining a ſingle head of flowers, of a bright yellow, and diſpoſed in form of an umbel.

[The peduncles ſwell under the flower, according to Haller and Pollich; this Allioni denies.—Very ſhort briſtles on the receptacle. Pappus grows reddiſh by age. The plant, when handled, ſends forth a very fine aromatic ſmell[k].—Cultivated 1683, by Mr. James Sutherland[l].]

11. Root perennial, creeping, ſpreading on every ſide to a conſiderable diſtance, ſending up many erect ſtalks, with flat ſpear-ſhaped leaves, ending in points; theſe are rough, and have three longitudinal veins; the upper part of the ſtalks branch out, and form looſe panicles of yellow flowers, which are larger than thoſe of the former ſort. This flowers in june and july, and the ſeeds ripen in autumn.

[Cultivated 1759, by Mr. Miller[m].

12. Stem a foot and half high, upright, round, hoary, branched. Leaves quite entire, hoary, alternate, ſeſſile. Lower part of the ſtems naked; flowering-branches ſcarcely an inch long, and not much ſubdivided, ſometimes three inches long and more ſubdivided; all of them however reach the top of the ſtem, ſo as that the flowers together form a ſort of umbel. Flowers yellow. Calyx hairy. Seeds ſmall, hirſute, crowned with dun-coloured hairs. Native of Siberia[n].

13. Found in the iſle of Tanna the 12th of auguſt 1774[o].]

PROPAGATION AND CULTURE.

Moſt of theſe plants are perennial, and natives of the Cape of Good Hope. They may be increaſed by cuttings, which, if planted in a common border in any of the ſummer months, and covered with hand-glaſſes, will eaſily take root, provided they are ſhaded from the ſun, and duly watered: when theſe have gotten good roots they ſhould be carefully taken up, and each planted in a ſeparate pot, filled with light earth, placing them in the ſhade till they have taken new root; then they may be expoſed with other hardy exotic plants till autumn, when they muſt be removed into the green-houſe during the winter ſeaſon; they ſhould enjoy a large ſhare of free air in mild weather, for they only require protection from froſt, and muſt not be too tenderly treated.

Some of them, as the ſecond and ſixth, ripen their ſeeds very well, and may be increaſed by ſowing theſe in the ſpring on a border of light earth; but the way of raiſing them by cuttings is more expeditious, and therefore moſt common.

10. In favourable ſeaſons the ſeeds of this ſort will ripen in ſeptember; but the ſeedling plants do not flower till the ſecond or third year: the moſt general method therefore of increaſing it, is by parting the roots. The beſt time for this, and for removing the plants, is ſoon after the ſtalks decay in autumn, that the plants may get freſh roots before winter. In a dry looſe ſoil, it will increaſe very faſt by the roots, and live in the open air; but in ſtrong wet land the roots often rot in winter.

11. Propagates too faſt by its creeping roots to be admitted into the flower-garden, for the roots will often extend two or three feet every way in the compaſs of one year, ſo that they will interfere with the neighbouring flowers; but as the plants will grow in any ſoil or ſituation, a few roots may be planted on the ſide of extenſive rural walks round the borders of fields, where they will require no care, and their flowers will make a good appearance, and continue long in beauty.

[CHRYSOCOMA. See *Gnaphalium.*

———— dichotoma. See *Conyza Inuloides.*

———— graminifolia. See *Solidago lanceolata.*

CHRYSOCOME. See *Chryſocoma, Gnaphalium, Xeranthemum.*

CHRYSOGŏNUM. (*χρυσογονον, Dioſc. From χρυσὸς, gold, and γόνυ, the knee,* or *a joint. q. Golden-joint.*)
Lin. gen. n. 988. *Reich.* 1071. *Schreb.* 1337. *Gærtn. t.* 174. *Juſſ.* 188.

Claſſ. 19. 3. Syngeneſia Polygamia Neceſſaria.

Nat. order of *Compoſitæ Oppoſitifoliæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* five-leaved, flat, ſpreading; *leaflets* lanceolate, nearly the length of the flower.

COR. *Compound* radiate. *Corollets* hermaphrodite, very many in the diſk; *females* five in the ray.

Proper, in the Hermaphrodites funnel-form, five-toothed, erect.

In the *Females* ligulate, oblong, truncate, three-toothed.

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[b] Hort. kew.

[c] Linn. ſuppl.

[d] Vahl.

[e] Linn. mant.

[f] Hort. kew.

[g] Ibid.

[h] Linn. ſyſt.

[i] Dillenius.

[k] Allioni & Pollich.

[l] Hort. kew.

[m] Hort. kew.

[n] Gmelin. & Loureiro.

[o] Forſter.

Stam. In the Hermaphrodites, *filaments* five, very ſmall. *Anthers* cylindrical, tubular.

Pist. In the Hermaphrodites *Germ* very ſmall. *Style* ſetaceous, length of the corollet. *Stigma* obſcure. In the females *Germ* larger, covered with its proper perianth. *Style* ſhorter. *Stigmas* two, revolute.

Per. None. Calyx unchanged.

Seeds of the Hermaphrodites none.

Of the Females ſolitary, inverſe-heart-ſhaped, depreſſed-quadrangular, with the ſides widiſh; crowned with a three-toothed ſcale gaping inwards, contracted towards the baſe. Each ſeed lies concealed within it's proper four-leaved *Glume*, the outward ſcale being ovate and wider; the three remaining ones very narrow, cloſely converging, and gaping when the ſeed is ripe.

Rec. chaffy, flat; chaffs linear, obtuſe.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Seed* involved in a four-leaved calycle. *Pappus* one-leafed, three-toothed. *Recept.* chaffy.

SPECIES.

1. Chryſogonum virginianum.
Lin. ſpec. 1303. *Reich.* 3. 923. *hort. cliff.* 424. *Gron. virg.* 133. 106. *Gærtn. fruct.* 2. 436.
Chryſanthemum virg. villoſum, diſco luteo, quinis petalis crenato. *Pluk. alm. t.* 83. *f.* 4? & *t.* 242. *f.* 3. *Raii ſuppl.* 213.

DESCRIPTION, &c.

Leaves reſembling thoſe of *Lamium purpureum*, or common Baum, moderately hairy, oppoſite on long petioles. On the top a golden flower [p].

Chaffs of the receptacle difform: thoſe of the diſk ſimple, linear-oblong, obtuſe, concave, pubeſcent on the outſide, one to each floret; thoſe of the ray compound, four to each floret, united into a ſheath for the ſeed, the outer one larger than the reſt, obovate, convex on one ſide, concave on the other; lying on the back of the ſeed, the three inner ones narrow, linear-oblong, cloſing the aperture left by the outer, ſo that two cover the ſides of the ſeed, whilſt the third is on the middle of the belly, and bears the germ of the barren floret before it. Seeds obovate, convex without, concave within, having two obſcure grooves on them, and of a pale bay colour. Pappus membranaceous, one-leafed, turbinate, ſhorter by half than the ſeed, opening inwards, and having ſix teeth or fewer on the upper margin [q].

Native of Virginia, where it was firſt obſerved by Gronovius.

Chrysogonum. See *Leontice* & *Zinnia.*]

CHRYSOPHYLLUM. (*From* χρυσὸς & φύλλον; *golden leaf.*)

Lin. gen. 263. *Reich.* 282. *Schreb.* 355. *Brown.* 171. *Juſſ.* 152. Cainito *Plum.* 9. *Jacqu. amer.* 51.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Dumoſæ*. *Sapotæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, ſmall: *leaflets* roundiſh, obtuſe, permanent.

Cor. monopetalous, bell-ſhaped: *border* five-cleft; (ten-cleft. *ſyſt.*) *ſegments* roundiſh, very much expanded, ſhorter than the tube.

Stam. *Filaments* five, ſubulate, placed on the tube, converging. *Anthers* roundiſh, twin, incumbent.

Pist. *Germ* roundiſh. *Style* very ſhort. *Stigma* obtuſe, ſubquinquefid.

Per. *Berry* globular, ten-celled, large.

Seeds ſolitary, bony, compreſſed, marked with a ſcar, ſhining.

ESSENTIAL CHARACTER.

Cor. bell-ſhaped, ten-cleft; ſegments alternate, ſpreading. *Berry* ten-ſeeded.

SPECIES.

1. Chryſophyllum Cainito. *Broad-leaved Star-apple.*
Lin. ſpec. 278. *ſyſt.* 231. *Reich.* 535. *hort. cliff.* 491. *Jacqu. amer.* 51. *t.* 37. *f.* 1. *pict.* 30. *t.* 51.
α. Cainito. *Laet. amer.* 390. *Plum. gen.* 10. *ic.* 69?
Sideroxylon Pacurero. *Loefl. it.* 204.
β. C. jamaicenſe, fructu purpureo. *Jacqu. amer.* 52. *pict.* 31. *Brown. jam.* 171. *t.* 14. *f.* 2.—*Lin.* γ. *See n.* 4.
Anona. *Sloan. jam.* 2. 170. *t.* 229. *Raii dendr.* 78.
γ. C. (cæruleum) fr. cær. globoſo. *Jacqu. amer.* 52. *t.* 37. *f.* 1. *pict.* 31. *t.* 52.—*Lin.* δ.
δ. C. (microphyllum) fol. minoribus. *Jacqu. amer.* 53. *t.* 37. *f.* 2. *pict.* 31. *t.* 53.
Leaves ovate, ſtriated in parallel lines, tomentoſe and ſhining underneath.

2. Chryſophyllum argenteum. *Narrow-leaved Star-apple.*
Lin. ſyſt. 232. *Jacqu. amer.* 53. *t.* 38. *f.* 1. *pict.* 31. *t.* 54.
Leaves ſickle-ovate, ſhining and tomentoſe underneath.

3. Chryſophyllum glabrum. *Smooth-leaved Star-apple.*
Lin. ſpec. 278. *ſyſt.* 232. *Reich.* 536. *Jacqu. amer.* 53. *t.* 38. *f.* 2. *pict.* 31. *t.* 55.
Leaves quite ſmooth on both ſides.

Species from Swartz.

[4. Chryſophyllum monopyrenum.
Swartz prodr. 49.
Ch. 2. *Brown. jam.* 171.
Leaves elliptic acuminate, golden-tomentoſe beneath, fruit ovate one-ſeeded.

5. Chryſophyllum microcarpum.
Swartz prodr. 49.
Leaves ovate ſmooth, pubeſcent beneath, berries oblique oblong one-ſeeded.

6. Chryſophyllum rugoſum.
Swartz prodr. 49.
Leaves oblong acuminate ſmooth on both ſides, fruit acuminate wrinkled.

DESCRIPTIONS, &c.

1. Leaves alternate, petioled, quite entire. Peduncles lateral, one-flowered, numerous, very ſhort [r].—Cultivated 1739, by Mr Miller [s].

Browne has two ſpecies of Chryſophyllum, which he calls 1. Star Apple-tree, and 2. Damſon Plum. The latter is made a diſtinct ſpecies by Swartz. See n. 4. Both have the leaves ferruginous underneath. The fruit of the firſt is larger and globular: of the ſecond, ſmaller and ſmooth. The laſt, he ſays, is found wild in many parts of Jamaica, but ſeldom grows to any conſiderable ſize: the firſt is cultivated all over the country, and thrives with very little care; it riſes commonly to a conſiderable ſize, and ſpreads much; but its branches, like thoſe of the other ſort, are very ſlender and flexile, and hang down when charged with fruit. This, like the *Achras*, (to which it is very nearly allied) is full of milk, and the fruit retains it even in the moſt perfect ſtate; but though this juice be rough and aſtringent in the bark, &c. and even in the fruit before it ripens; yet when it grows to full perfection, it becomes ſweet and gelatinous, with an agreeable clammineſs, and is very much eſteemed. The juice of this fruit, a little before it is perfectly ripe, being mixed with a ſmall quantity of orange juice, binds the body extremely, and doubtleſs would make a very powerful remedy on many occaſions; or eating the two fruits together would have the ſame effect. Perhaps the action of the fire might take off much of the native roughneſs of the juice, if it were to be inſpiſſated by that means. The germ has ten diſtinct cells, but moſt of the ſeeds are abortive, and when the fruit is ripe, it ſeldom contains above four or five [t].

Theſe vary chiefly in the fruit, which in α is very large, flattiſh, roſe-coloured, with a ſlight mixture of yellow and green; the rind is thin and ſmooth; the pulp ſoftiſh, ſomewhat glutinous, milky before it is ripe, fleſh-coloured near the circumference, dirty white within, of a ſweet inſipid taſte. The Americans are fond of it, but it is rarely eaten by the Europeans. Seeds brown, with a white rough edge; ſeldom more than three or four ripen. Native of Martinico and Domingo.

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[p] Raii ſuppl. from Bobart.

[q] Gærtner.

[r] Linn. ſpec.

[s] Hort. kew.

[t] Brown. jam.

β. The fruit of this is ſubovate, with a green or purple rind; the pulp alſo purple, and ſomewhat better flavoured than the foregoing. Native of Jamaica, where it is called Star-apple.

γ. Fruit almoſt globular, entirely blue, and only one-third of the ſize of the other. Pulp blue, ſofter, but nearly of the ſame taſte. Native of Martinico.

δ. This is an erect ſhrub, growing ſcarcely ten feet in height; and the leaves hardly an inch and half in length. It is common in the Havannah[u].

Miller refers to the *argenteum* and *glabrum* of Jacquin, but by his deſcriptions he intends the *Damſon-Plum* of Browne by his firſt, and the *Star-Apple-tree* of the ſame author by his ſecond ſpecies. See n. 1. α and β, which laſt is the ſame with n. 4.

2. The leaves of this are green and ſmooth on their upper ſurface, without the parallel lines which mark the foregoing; underneath they are of a ſilvery ſhining green. The fruit is roundiſh, of a dirty blue purple, the ſize of a middling plum, and eatable; the pulp is ſoft, blueiſh, ſlightly milky, and has the taſte of the others. It is a native of Martinico[x].

According to Mr. Aiton's catalogue of the royal garden at Kew; it was cultivated by Mr. Miller in 1758.

3. This tree grows fifteen feet in height, erect and branching. Leaves ovate, acute, quite entire, ſhining on both ſides, petioled, hardly two inches in length. Fruit blue, the form and ſize of a ſmall olive, with the taſte of the foregoing; but ſeldom eaten except by ſlaves and children[y].

4, 5, 6. Theſe, with the other ſpecies, are natives of the Weſt-Indies. The fourth is the ſame with variety β of the firſt ſpecies. The fifth is found in Hiſpaniola; and the ſixth in Jamaica[z].]

PROPAGATION AND CULTURE.

Theſe trees are preſerved in ſeveral curious gardens for the beauty of their leaves, eſpecially the firſt ſort, whoſe under ſides ſhine like ſattin, the upper ſides are of a deep green. The leaves continue all the year, and make a very pretty appearance in the ſtove at all ſeaſons.

Theſe trees, being natives of the hotteſt parts of the world, cannot be preſerved in this country, without being kept in the warmeſt ſtoves; and ſhould always remain in a hot-bed of tanners bark, otherwiſe they will make but little progreſs. They are propagated by ſeeds, which muſt be procured from the places of their growth, for they do not produce fruit in Europe. Theſe ſeeds muſt be freſh, otherwiſe they will not grow; and if they are ſent over in ſand, it will preſerve them from drying too much; when the ſeeds arrive, they muſt be ſown as ſoon as poſſible in ſmall pots filled with light freſh earth, and plunged into a good hot-bed of tanners bark. If the ſeeds are good, and the bed in a proper temperature of warmth, the plants will appear in five or ſix weeks; and in about two months after, will be ſtrong enough to tranſplant; in doing which, the plants, with all the earth, ſhould be ſhaken out of the pots very carefully, and ſeparated with their roots entire, and each planted into a ſingle ſmall pot filled with freſh rich earth, and plunged again into a hot-bed of tanners bark, watering and ſhading them until they have taken freſh root. If the hot-bed in which theſe plants are plunged, is from time to time ſtirred, and a little freſh tan added to it, to renew the heat when it declines, the plants will make good progreſs, and in three or four months will be near a foot high, and may then be ſhifted into pots a ſmall ſize larger than thoſe they before were in. If theſe plants are conſtantly kept in a warm bed in the ſtove, and ſhifted twice a year, to renew the earth to their roots, they will thrive very faſt, and put out their ſide branches, ſo as to make a handſome appearance in the ſtove, with other curious plants of the ſame country; for though they do not produce either flowers or fruit, yet as they keep their leaves through the year, which are ſo very beautiful, they deſerve a place in the ſtove, better than moſt other plants. The chief care they require, is to keep them conſtantly in a proper degree of heat, and never to put them into too large pots; and in winter they ſhould not have too much water, about twice a week will be often enough to water them; and in the depth of winter they ſhould not have much at each time.

Theſe trees are frequently propagated in the Weſt-Indies, by planting their branches (as I have been informed by perſons of credit;) but I have not heard of their being propagated in England by that method.

[CHRYSOPHYLLUM. See *Jacquinia* & *Sideroxylon*.
Chryſoplenii foliis. See *Diſandra*.]

CHRYSOSPLENIUM. (*From* χρυσὸς *and* σπλὴν, *the ſpleen; on account of the golden colour of the flowers, and the ſuppoſed virtue of the plant in diſeaſes of the ſpleen.*) *Golden Saxifrage.*

Lin. gen. n. 558. *Reich.* 607. *Schreb.* 763. *Gærtn. t.* 44. *Tournef.* 60.

Claſſ. 10. 2. Decandria Digynia.

Nat. order of *Succulentæ*. δ.

GENERIC CHARACTER.

CAL. *Perianth* four or five-parted, ſpreading, coloured, permanent: *diviſions* ovate, the oppoſite ones narrower.

COR. none, unleſs the coloured calyx be called ſo.

STAM. *Filaments* eight or ten, ſubulate, erect, very ſhort, placed in an angular receptacle. *Anthers* ſimple.

PIST. *Germ* inferior, ending in two ſubulate *Styles*, the length of the ſtamens. *Stigmas* obtuſe.

PER. *Capſule* two-beaked, two-parted, one-celled, two-valved, ſurrounded with the green calyx.

SEEDS very many, very ſmall.

OBS. *The terminating flower is five-cleft; the others are later and four-cleft.*

ESSENTIAL CHARACTER.

Cal. four or five-cleft, coloured. *Cor.* none. *Capſ.* two-beaked, one-celled, many-ſeeded.

SPECIES.

1. Chryſoſplenium alternifolium. *Alternate-leaved Golden Saxifrage.*

Lin. ſpec. 569. *Reich.* 2. 307. *fl. lapp. n.* 151. *ſuec. n.* 365. *hort. cliff.* 149. *Gærtn.* 1. 208. *Hudſ. angl.* 179. *With.* 404. *Lightf.* 219. *Sowerby Engl. Bot. t.* 54. *Hall. helv. n.* 1548. *Scop. carn. n.* 487. *Pollich pal. n.* 400. *Leers. herb. n.* 312. *Allion. pedem. n.* 2067. *Oed. dan. t.* 366. *Berg. phyt. t.* 57. *Villars dauph.* 3. 659.

C. fol. pediculis oblongis inſidentibus. *Tourn. inſt.* 146.

Saxifraga aurea. *Raii hiſt.* 206. *ſyn.* 158. *Pet. brit. t.* 6. *f.* 10. *Bauh. hiſt.* 3. 707. *f.* 1. *Beſl. eyſt. hyem. t.* 6. *f.* 5.

Sedum paluſtre luteum majus, &c. *Mor. hiſt.* 477. *ſ.* 12. *t.* 8. *f.* 8.

Leaves alternate.

2. Chryſoſplenium oppoſitifolium. *Oppoſite-leaved Golden Saxifrage.*

Lin. ſpec. 569. *Reich.* 2. 308. *Hudſ. angl.* 178. *With.* 405. *Curt. lond.* 2. *t.* 27. *Lightf.* 220. *Hall. helv. n.* 1549. *Pollich pal. n.* 401. *Neck. gallob.* 190. *Leers. herb. n.* 313. *Oed. dan. t.* 365. *Sabb. hort.* 2. *t.* 51. *Villars dauph.* 3. 659.

C. fol. amplioribus auriculis. *Tourn. inſt.* 146.

C. ſ. Saxifraga aurea. *Tabern. hiſt.* 1224.—*ic.* 841.

Saxifraga aurea. *Dod. pempt.* 316. 2. *Lob. hiſt.* 336. 1. *ic.* 612. *Ger. emac.* 841. 2. *Park.* 425. 2. *Pet. brit. t.* 6. *f.* 9.

Sedum pal. lut. fol. ſubrotundis ſeſſilibus. *Mor. ſ.* 7.

Leaves oppoſite.

DESCRIPTIONS, &c.

[1. This is ſo much larger in all reſpects than the ſecond ſpecies, that it may eaſily be diſtinguiſhed.

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[u] Jacquin.

[x] Ibid.

[y] Ibid.

[z] Swartz.

guiſhed. *Root* has off-ſets, but no creeping ſuckers. *Leaves* all deeply notched: root-leaves two or three, kidney-ſhaped, bluntly notched, on long hairy petioles: ſtem-leaves two or three on petioles decreaſing in length as they approach the top; the upper ſmooth. *Stem* three-cornered with imperfect angles, hairy below, ſmooth upwards, near the top forked: the forks bare of leaves. *Branches* one or two very ſhort ones, juſt above the root-leaves, with alternate leaves ſimilar to them: *ſubdiviſions* of the upper not ſo regularly forked as in *C. oppoſitifolium.* *Flowers* ſolitary and in umbels; the firſt on a ſhort peduncle on one of the branches a little above the forks; the latter with a leaf at their baſe. *Stamens* eight; four from the baſe of the ſegments, the other four from the fiſſures. *Seeds* roundiſh, ſhining, not readily ſhaking out, browniſh [a]. According to Gærtner, the capſule is ſmall, faſtened to the calyx up to the middle, obcordate, compreſſed like a lens, opening into two parts down to the middle, the ſegments emarginate, ſpreading out horizontally. Seeds about fifty, faſtened by capillary threads to the bottom of the capſule, ovoid, marked with a filiform ſcar on one ſide, ſmooth, lucid, ferruginous-red or cheſtnut-coloured.

Several modern botaniſts affirm, that the terminating flower, as well as the ſide ones, is generally four-cleft, and has eight ſtamens: others even inſiſt that it is always ſo; and accordingly have removed this genus into the claſs *Octandria.*

Moiſt ſhady places, and by the ſides of rivulets in Lapland, Sweden, Denmark, Germany, Switzerland, Carniola, Italy, Siberia, Japan; and with us in Britain with *C. oppoſitifolium,* but not ſo common: as near Bingley and about Eſholt, eight miles from Leeds, in Yorkſhire. Porland heath near Norwich, in Worceſterſhire, and Scotland.—A black boggy ſoil by rills in wet woods is the favourite ſituation of this plant.

2. Linneus almoſt doubts whether this be a diſtinct ſpecies.—*Stems* creeping at bottom, ſquare, very tender, erect, about four inches in height, beſet with a few ſtiffiſh hairs; branched and forked at top. *Leaves* connate, petioled, ſpreading, roundiſh, with a few white ſtiffiſh hairs on the upper ſurface, crenate, ſomewhat fleſhy, yellowiſh green, whitiſh underneath; the upper more deeply notched. *Flowers* yellow, in a ſeſſile, faſtigiate corymb: ſegments of the calyx nearly equal: what Linneus calls the angular receptacle is more properly a nectary; it is a ſcale with a crenate edge, ſurrounding the germ: the ſtamens proceed from beneath, not out of it: the anthers are double and roundiſh. *Seeds* of an orange colour [*]. *Stem* erect, round, with two oppoſite deep furrows, but not quadrangular; and two or three pairs of oppoſite leaves: dichotomous at the top, without any leaves at the diviſion: each branch is again dichotomous, with a leaf at each diviſion, and a ſingle flower on a ſhort peduncle; from theſe ariſe ſmall leafy umbels of ſeſſile flowers. *Leaves* all alike, circular, with the baſe truncate on each ſide, indiſtinctly and irregularly notched, with a few hairs on the upper ſurface, but none on the under: root-leaves ſeveral, on ſhort hairy petioles: upper leaves ſmooth.

According to late obſervations, the terminal flower of this ſpecies alſo has rarely more than four diviſions of the calyx, and eight ſtamens; ſome ſay never, but others affirm that they have ſeen five diviſions, and ten ſtamens. Dr. Withering has ſometimes obſerved only ſix or ſeven. Mr. Woodward affirms, that both ſpecies in Britain are truly octandrous: that in april 1785 he examined great numbers of both in their native places of growth, and did not find a ſingle primary flower decandrous; that the calyx has four diviſions, in which four of the ſtamens are placed, and the other four in the centre of each ſegment; ſo that the flower cannot be decandrous, unleſs the calyx has accidentally five diviſions.

This is found in like places with the other, in Denmark, Holland, Switzerland, Germany: with us it is much more common; as on Hampſtead heath; in the boggy part of Charlton wood; Polingland heath, near Norwich; Selborne, Hants.

Theſe flower in april, or early in may, and ripen their ſeeds in may or june; they are perennial.]

PROPAGATION AND CULTURE.

If any perſon has curioſity to cultivate theſe plants in a garden, they muſt be planted in very moiſt ſhady places, otherwiſe they will not thrive. [They ſucceed beſt in pots filled with bog earth, ſet in a pan of water, and placed under the ſhade of a wall or hedge.

CHU-LAN. See *Chloranthus.*

CHYTRACULIA. See *Calyptranthes.*]

Ciboules or *Chibouls.* See *Allium.*

[CICCA.

Lin. gen. Reich. n. 1146. *Schreb.* 1417. *Juſſ.* 386.

Claſſ. 21. 4. Monoecia Tetrandria.

GENERIC CHARACTER.

* *Male* flowers ſcattered.

CAL. *Perianth* four-leaved: *leaflets* roundiſh, concave.
COR. none.
STAM. *Filaments* four, ſetaceous. *Anthers* ſubglobular, the length of the calyx.

* *Female* flowers ſcattered on the ſame plant.

CAL. as in the males. (three-leaved. *Syſt.*)
COR. none.
PIST. *Germ* roundiſh. *Styles* four two-parted, ſubulate, the length of the germ. *Stigmas* acute, permanent.
PER. *Capſule* ſubglobular, tetracoccous, elaſtic.
SEEDS ſolitary.

OBS. *This genus bears an affinity to* Phyllanthus.

ESSENTIAL CHARACTER.

MALE. *Calyx* four-leaved. *Cor.* none.
FEM. Calyx three-leaved. *Cor.* none. *Styles* four. *Capſ.* tetracoccous.

SPECIES.

1. Cicca diſticha.

Lin. ſyſt. edit. 14. 848.—*ed.* 13. 708.—*ed.* 12. 621. *mant.* 124. *Reich.* 4. 125. *ſuppl.* 416.
C. racemoſa. *Lour. cochinch.* 556.
Averrhoa acida. *Lin. ſyſt. ed.* 13. 357. Terme *Gærtn.* 2. 487. *t.* 180.

DESCRIPTION, &c.

A ſhrub. *Leaves* alternate, petioled, diſtich, ovate, acuminate, gloſſy. *Racemes* ſimple; the floſcules being heaped and mixed at every point, and placed on pedicels, ſcarcely ſo big as thoſe of *Clutia,* to which this is allied. Native of the Eaſt-Indies [b].

A tree, with long ſimple branches. *Leaves* alternate, diſtich: the lower rounded-ovate, ſmaller; the upper ovate-lanceolate, acuminate, entire, very ſmooth. *Flowers* proceeding from the loweſt part of the branches, after the falling of the leaves, and occupying their places; aggregate in ſeſſile heads, male and female on the ſame tree, but on different branches: *males* more aggregate, ſmall, like thoſe of *Phyllanthus,* white, four-cleft: *females* leſs, not ſo aggregate; calyx four-parted; germ ovate; ſtyles reflected; pericarp an ovate berry, not elaſtic like the capſule of *Phyllanthus.* It ſeems however to be a true ſpecies of *Phyllanthus,* except in the number of parts, and having a berry for the fruit: it remains a doubt, therefore, whether this genus of *Cicca* ſhould remain [c].

Loureiro deſcribes his *Cicca racemoſa* as a middle-ſized tree with aſcending branches, the leaves ovate ſubacuminate quite entire, ſmooth alternate petioled diſtich, the flowers in compound ſhort ſubterminating racemes, the males and females on different branches; neither have any calyx, the corolla is bell-ſhaped, four-parted, the ſegments ovate, ſpreading, red, dotted with white; filaments ſhorter than the corolla, anthers two-celled; the fruit is a roundiſh berry, half an inch in diameter, pale, ſmooth, acid, eatable, containing four ovate ſeeds.

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[a] Woodw. Mſſ.

[*] Curtis.

[b] Linn. mant.

[c] Linn. ſuppl.

Loureiro obſerves, that what Linneus calls the calyx is rather the corolla, on account of its colour and tenuity. It is frequent in the kingdom of Champava; and is cultivated, but rarely, in the metropolis of Cochinchina.

Gærtner deſcribes the fruit of his *Terme*, which is the Javaneſe name, as a ſmall fleſhy drupe; the ſtone or ſhell is ſtony, depreſſed a little, at top pyramidally four-ſided with a ſhort point, thence with a croſs-ſhaped furrow; having at bottom eight ſwellings in pairs, and perforated in the middle of the baſe with a four-cornered canal; it is four-celled and valveleſs. Seeds ſolitary, ovate, acuminate upwards, convex on one ſide, angular on the other, with a little umbilical pit in the middle of the angle.

It is doubtful whether the *Cicca* and the *Averrhoa acida* be the ſame ſpecies, the deſcriptions of the fruit given above being ſo different. It certainly is not an *Averrhoa*.]

Cicely. See *Chærophyllum.*

CICER. (*Of uncertain origin, unleſs it be from the Greek* κίκυς, *ſtrength. The Cicerones had their name from this pulſe, as the Piſones had from the Piſum or Pea, and the Lentuli from the Lens or Lentil.*)

Lin. gen. n. 875. *Reich. n.* 949. *Schreb.* 1189. *Juſſ.* 361. *Gærtn. t.* 151. *Tourn. t.* 210.
Lens. *Tourn. t.* 210.

Claſſ. 17. 4. Diadelphia Decandria.
Nat. order of *Papilionaceæ*, or *Leguminoſæ.*

GENERIC CHARACTER.

Cal. *Perianth* five-parted, length of the corolla: *ſegments* four, incumbent on the banner: the two middle converging longitudinally: the lower under the keel.

Cor. papilionaceous. *Banner* flat, roundiſh, larger, bent in on the ſides. *Wings* obtuſe, half the length of the banner. *Keel* ſhorter than the wings, ſharpiſh.

Stam. *Filaments* diadelphous (one and nine) riſing. *Anthers* ſimple.

Pist. *Germ* ovate. *Style* ſimple, riſing. *Stigma* obtuſe.

Per. *Legume* rhomboid, turgid, inflated.

Seeds two, roundiſh, gibbous, with knots on the ſides, crooked and bent in at top.

ESSENTIAL CHARACTER.

Cal. five-parted, length of the corolla: the four upper ſegments incumbent on the banner. *Legume* rhombed, turgid, two-ſeeded.

SPECIES.

1. Cicer arietinum. *Chich-pea.*
Lin. ſpec. 1040. *Reich.* 3. 478. *hort. cliff.* 370. *upſ.* 224. *mat. med.* 173. *Gærtn. fruct.* 2. 327. *Hall. helv. n.* 399. *Villars dauph.* 3. 405. *Blackw. t.* 557. *Dod. pempt.* 525. 1. *Riv. t.* 19. *Bauh. hiſt.* 2. 292.
C. ſativum. *Bauh. pin.* 347. *Camer. epit.* 204. *Raii hiſt.* 917. *Ger.* 1047. *emac.* 1222. *Park.* 1076.
Leaflets ſerrate.

DESCRIPTION, &c.

[Annual. Stem from a foot to eighteen inches in height, erect, leafy, branched. Stipules large, unequally gaſhed, with ſome very ſharp teeth. Leaves hirſute, compoſed of eight (ſeven to nine) pairs of leaflets, with an odd one, ovate, and finely ſerrate. Peduncles one-flowered, axillary, recurved. Corolla purple or white. Calyx hirſute [d]. Legume ovate-rhomboid, villoſe. Seeds two, ſometimes perfectly globular, with a ſhort beak at the navel, ſometimes angular, and reſembling a ram's head, whitiſh or ruſeſcent [e].

Native of the South of Europe, the Levant, and Africa: where it is frequently eaten both raw and boiled.

Cultivated 1551, at Kew, by William Turner, M. D. [f]. Gerarde ſays, it is ſown in our London gardens, but not common: and is named in Engliſh common Cich or Ciches, red Cich, or Sheep's Ciche, Peaſe or Peaſon: Parkinſon adds the names of Cicers and Rammes Ciches.]

PROPAGATION AND CULTURE.

The ſeeds of this plant may be ſown in the ſpring, in the ſame manner as Peaſe, making drills with a hoe, about an inch and a half deep, in which the ſeeds ſhould be ſown at about two inches aſunder, then with a rake draw the earth into the drill to cover the ſeeds. The drills ſhould be made at three feet diſtance from each other, that there may be room for their branches to ſpread, when the plants are fully grown, as alſo to hoe the ground between them, to keep it clean from weeds, which is all the culture theſe plants require.

This plant flowers in june, and the ſeeds ripen in auguſt; but unleſs the ſeaſon proves warm and dry, the plants decay in this country before the ſeeds are ripe.

[Cicer. See *Aſtragalus, Ervum, Galega, Ononis.*
Cicera. See *Lathyrus.*
Ciceri affinis. See *Aſtragalus.*
Cichorio affinis. See *Siegeſbechia.*]

CICHORIUM. (*Originally, according to Pliny, an Egyptian name, and adopted by the Greeks. It is written ſometimes* Κιχόρειον, *whence Horace has*

——Cichoreæ leveſque Malvæ:

ſometimes Κιχόριον or Κιχώριον. *It is ſuppoſed to have this name* παρὰ τὸ διὰ των χωρίων κίειν, *from its creeping through the fields.—Others derive it from* κιχέω, *invenio; on account of its being ſo readily found, or ſo common.*)

Engl. *Succory.* Fr. *Chicorée.*

Lin. gen. n. 921. *Reich. n.* 1000. *Schreb.* 1251. *Gærtn. t.* 157. *Juſſ.* 171. *Tournef. t.* 272. *Vaill. mem.* 1721. 9. 10.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.
Nat. order of *Compoſitæ Semifloſculoſæ. Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* calycled cylindric: *ſcales* eight, narrow-lanceolate, equal, forming a cylinder: and five others incumbent and ſhorter.

Cor. *Compound* flat, uniform: *corollules* hermaphrodite twenty, in a ring.—*Proper* monopetalous, ligulate, truncate, deeply five-toothed.

Stam. *Filaments* five, capillary, very ſhort. *Anther* cylindric-pentagon, tubulous.

Pist. *Germ* oblong. *Style* filiform, the length of the ſtamens. *Stigmas* two revolute.

Per. none. *Calyx* cylindric, converging at top.

Seeds ſolitary, compreſſed, with ſharp angles. *Pappus* obſcurely hairy, ſlightly five-toothed. (many-leaved, and as it were compoſed of a double row of leaves. *G.*)

Rec. ſomewhat chaffy.

ESSENTIAL CHARACTER.

Cal. calycled. *Pappus* ſlightly five-toothed, obſcurely hairy. *Rec.* ſomewhat chaffy.

SPECIES.

1. Cichorium Intybus. *Garden* and *wild Succory.*
Lin. ſpec. 1142. *Reich.* 3. 665. *fl. ſuec. n.* 711. *hort. cliff.* 389. 2. *mat. med.* 179. *Gærtn. fruct.* 2. 357. *Hudſ. angl.* 348. *With.* 862. *Curt. lond.* 4. *t.* 56. *Hall. helv. n.* 1. *Scop. carn. n.* 991. *Neck. gallob.* 334. *Pollich pal. n.* 758. *Allion. pedem. n.* 752. *Fl. dan. t.* 907. *Villars dauph.* 3. 59.
C. ſylveſtre ſ. officinarum. *Bauh. pin.* 125. *Blackw. t.* 183, 177.
C. ſylv. & ſativum. *Bauh. hiſt.* 2. 1007. *fig.* 1008. *Raii hiſt.* 255.
C. ſylveſtre. *Ger. emac.* 284. 1. *Park.* 776. 2. *Mor. ſ.* 7. *t.* 1. *f.* 2.
Intybus ſylveſtris. *Cam. epit.* 285. *Fuchſ.* 679.
Flowers twin ſeſſile, leaves runcinate.

2. Cichorium Endivia. *Broad-leaved Succory,* or *Common Endive.*
Lin. ſpec. 1142. *ſyſt.* 772. *Reich.* 3. 665. *hort. cliff.* 389. 3. *upſ.* 247. *mat. med.* 180. *Lour. cochinch.* 478.
Intybus ſativa latifolia ſ. Endivia vulgaris. *Bauh. pin.* 125. 1. α I, ſat. anguſtifolia. *n.* 2.

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[d] Haller.

[e] Gærtner.

[f] Hort. kew.

Intybum ſativum. *Dod. pempt.* 634.—latifolium & anguſtifolium. *Bauh. hiſt.* 2. 1011.
Intybus ſativa. *Ger. emac.* 282. *Raii hiſt.* 254. 1, 2.
Endivia ſativa. *Park.* 774. *f.* 1.—& minor anguſtifolia. *f.* 2.
β. C. criſpum. *Mill. dict. n.* 4. *Curled Endive.*
Intybus criſpa. *Bauh. pin.* 125. *Raii hiſt.* 254.
Endivia criſpa. *Ger.* 221. 4.
Flowers ſolitary peduncled, leaves entire crenate.

3. Cichorium ſpinoſum. *Prickly Succory.*
Lin. ſpec. 1143. *Reich.* 3. 666. *hort. cliff.* 388. 1. *Bauh. pin.* 126. *Bauh. hiſt.* 2. 1011. *f.* 3. *Ger. emac.* 283. *f.* 5. *Raii hiſt.* 255.
C. ſpin. creticum. *Bauh. prodr. t.* 62. *Park.* 776. *f.* 3.
Chondrillæ genus elegans, cæruleo fl. *Cluſ. hiſt.* 2. 145. 1.
Stem dichotomous, ſpiny; flowers axillary, ſeſſile.

DESCRIPTIONS, *&c.*

[1. *Root* perennial, yellow on the outſide, tapering, branched, the thickneſs of the finger, from a ſpan to a foot in length, milky. *Stem* from one to three feet in height, upright, rigid, crooked, angular, roughiſh to the touch, and generally very much branched. *Leaves* radical, numerous, runcinated, roughiſh: thoſe of the ſtem ſmoother, alternate, half-ſtem-claſping, lanceolate, toothed towards the baſe, fringed with briſtly hairs terminating in globules; the teeth and ends finiſhing in a ſharp ſtiff awn. *Flowers* generally in pairs, ſeſſile, in the boſom of the upper leaves. *Calyx*, outer ſcales five or ſix, bent back, edged with glandular hairs: inner narrow, equal, forming an angular clammy cylinder, ſet along the back with ſimilar hairs, woolly at the ends. *Florets* of a fine blue; frequently white, and ſometimes red: tube white, dilated and hairy at top; border ribbed on the under ſide and villoſe. Anthers deep blue. Germ ſubconic, crowned with very ſhort hairs. Stigmas blue. Seeds irregularly five-cornered[g], obovate, flatted a little, obſcurely ſtriated, ſmooth, ſtraw-coloured. Pappus many-leaved, the leaflets chaffy, acuminate, very ſhort, white. Receptacle flattiſh, ſometimes with minute depreſſed papillas, ſometimes with ſmall diſtant briſtles, and obſcure little pits between them[h]. The fine blue colour of the florets is convertible into a brilliant red by the acid of ants[i]. —The flowers open at eight, and cloſe at four[k]. Common on the borders of corn-fields, flowering from july to ſeptember, and increaſing itſelf much by ſeed.

This plant has generally been regarded in the light of a noxious weed; it has however for ſeveral years paſt been cultivated in France as food for cattle. Monſ. Crette is ſaid to have been the firſt who introduced it there, at leaſt to any extent, for field culture; and he publiſhed a memoir on the ſubject. For its introduction into England for the ſame purpoſe we are indebted to Arthur Young, Eſq. who firſt brought the ſeed from France in the year 1788, and has ſince cultivated it to a conſiderable extent with great ſucceſs. In Lombardy it is ſown mixed with other herbs of paſture, and cut three or four feet high. It is reputed there to increaſe both the milk and fleſh of cattle, and to be very nutritious when made into hay. Horſes eat it greedily; and it is an important object for ſummer-ſoiling both them and cattle. It is alſo freely eaten by ſheep.

Succory or Chicory, as the agriculturiſts affect to call it from the French name Chicorée, defies drought, being of early growth, and the firſt large and ſpreading leaves covering the ground ſo as to retain the moiſture. The ſtalks are ſo thick and ſtiff as to ſupport themſelves againſt winds and the heavieſt rains. The moſt ſevere cold does not injure it. The quickneſs of growth renders it very valuable, becauſe it furniſhes abundance of ſalutary fodder at a ſeaſon when green food is ſcarce. It has been found to grow ſeven inches in three weeks, whilſt Saintfoin and Burnet grew only four inches. Two cuttings may be made of it the firſt year, and three or four according to the ſeaſon every year after, in april, june, auguſt and october, or in may, july and october, never letting it ſtand till it becomes hard and ſticky: or it may be cut continually, by beginning again when the whole piece is gone over, and thus yield a conſtant ſupply of freſh food during ſeven or eight months.

The produce is ſaid to be ſuperior upon the whole to that of Lucerne in the proportion of three to one. A piece of ground ſown with Succory was found to yield by the acre the year of ſowing at two cuttings, july the 24th, and october the 17th
19 tons, 4 cwt.
Second year, at three cuttings, may 21ſt. july 24th. and dec. 3d. 38 9
And the whole average produce of four years was near thirty tons.

In our moiſt climate this ſucculent plant ſeldom dries well for hay, unleſs the ſeaſon be very favourable.

The quantity of ſeed produced on an acre has been, the firſt year, an hundred and an half; the ſecond, two hundred weight, and the third, from three hundred and an half to four hundred and an half[l].

Upon the whole, allowing for the partiality with which novelties are commonly viewed, as far as our preſent experience has extended, Succory ſeems to be a valuable object of culture, as freſh feed for horſes, kine and ſheep. The leaves blanched are eaten early in the ſpring in ſalads; and the roots, gathered before the ſtem ſhoots up, are eatable, and when dried may be made into bread[m]. Dried and pulverized they are uſed in Germany, to mix with coffee, one part of Succory roots to two parts of coffee, which it is ſaid to increaſe in ſtrength, taſte and ſalubrity[n].

Succory is a uſeful detergent, aperient and attenuating medicine; acting without much irritation, tending rather to cool than heat the body, and at the ſame time corroborating the tone of the inteſtines. The juice taken in large quantities, ſo as to keep up a diarrhœa, and continued for ſome weeks, has been found to produce excellent effects in ſcorbutic and other chronical diſorders[o].

2. Stem herbaceous, annual, two feet high, upright, round, thick, branched. Root-leaves many, large, ſubcuneiform, ſinuate-toothed, ſmooth on both ſides; the uppermoſt lanceolate, ſmall. Flowers pale blue, ſolitary, peduncled.[p]]

This differs from the firſt ſort in its duration, being at moſt biennial; and if the ſeeds be ſown in the ſpring, the plants will flower and produce ſeeds the ſame year, and periſh in the autumn: the leaves alſo are broader, rounder at the top, and not laciniated on the ſides, the branches are more horizontal, and the ſtalks never riſe ſo high.

[Native of China and Japan. Cultivated 1562[q].

Jacquin (Obſ. 4. t. 80.) has deſcribed and figured a *Cichorium*, under the name of *C. humile*, which is allied to this ſpecies[r].]

3. The third ſort grows naturally on the ſea-coaſts in Sicily, and the iſlands of the Archipelago. This ſends out from the root many long leaves, which are indented on their edges, ſpreading flat on the ground; from between theſe ariſe the ſtalks, which have very few leaves, and thoſe ſmall and entire: the ſtalks are divided in forks upward, from between theſe come out the flowers, which are of a pale blue, and are ſucceeded by ſeeds ſhaped like thoſe of the common ſort; the ends of the ſmaller branches are terminated by ſtar-like ſpines, which are very ſharp. The plant is biennial with us in England, and in cold winters is frequently killed. It flowers

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[g] Curtis & Withering.
[h] Gærtner.
[i] Haller & Curt. from Tragus.
[k] Linn.
[l] Young's Annals, vol. 6. p. 48. 11. p. 145. 12. p. 186. 13. p. 252. 16. p. 377. 17. p. 202. 18. p. 316. 23. p. 383.
[m] Withering.
[n] Young's Annals, vol. 13. p. 544.
[o] Lewis.
[p] Loureiro.
[q] Hort. kew. from Turner.
[r] Linn.

and ſeeds about the ſame time with the firſt ſort, and may be treated in the ſame way as the Endive.

[It was cultivated here in 1633[s].

PROPAGATION AND CULTURE.

1. The common Succory, or rather a highly improved variety of it, for in its ordinary wild ſtate it is dry, hard and juiceleſs, is now introduced into field culture to great advantage. The proper quantity of ſeed to be ſown on an acre, either alone or with ſpring corn, is twelve pounds; but if it be ſown with various other ſeeds, the quantity of Succory or Chicory ſeed muſt be leſs, in proportion to the quantity of ſuch ſeeds. When ſown with Barley or Oats, with either of which it ſucceeds very well, it muſt be ſown of courſe at the uſual time of ſowing theſe grains; but alone it may ſafely be put into the ground at any time from march to ſeptember. It ſhould not be mixed with Clover, unleſs the latter is expected to fail. Chicory does not ſtool, tiller, or thicken on the ground. It flouriſhes beſt where it has moſt room and air; it ſhould ſeem therefore that the drill huſbandry would be moſt ſuitable to it. Thus cultivated, after the firſt year, it may be mown four times a year.

If ſown for ſeed only, it ſhould be drilled alone; or at leaſt drilled acroſs corn before it is up, but it is better ſown by itſelf.]

2. The plain broad-leaved Endive is not much cultivated in the Engliſh gardens, for the curled Endive being more tender and not ſo bitter, is generally preferred to it: but it is ſtill cultivated in Italy.

The curled Endive is now much cultivated in the Engliſh gardens, being one of the principal ingredients in autumn and winter ſalads.

The firſt ſeaſon for ſowing the ſeeds is in may, for thoſe which are ſown earlier, generally run up to ſeed before they have arrived to a proper ſize for blanching; and it frequently happens that the ſeeds ſown in may in the rich ground near London will run to ſeed the ſame autumn; but in ſituations which are colder, they are not ſo apt to run up; therefore there ſhould be ſome ſeeds ſown about the middle or end of the month. The next ſowing ſhould be about the middle of june; and the laſt in the middle of july. From theſe three crops there will be a ſupply for the table during the whole ſeaſon; for there will be plants of each ſowing, very different in their growth, ſo that there will be three different crops from the ſame beds.

When the plants come up they muſt be kept clean from weeds, and in dry weather duly watered, to keep them growing till they are fit to tranſplant, when there ſhould be an open ſpot of rich ground prepared to receive the plants, in ſize proportionable to the quantity intended. When the ground is well dug and levelled, if it ſhould be very dry, it muſt be well watered to prepare it to receive the plants; then the plants ſhould be drawn up from the ſeed-bed carefully, ſo as not to break their roots, drawing out all the largeſt plants, leaving the ſmall ones to get more ſtrength; which, when they have room to grow, by taking away the large ones, they will ſoon do. As the plants are drawn up, they ſhould be placed with their roots even, all the ſame way, and every handful as they are drawn, ſhould have the tops of their leaves ſhortened, to make them of equal length: this will render the planting of them much eaſier, than when the plants are promiſcuouſly mixed, heads and tails: then the ground ſhould be marked out in rows at one foot aſunder, and the plants ſet ten inches diſtant in the rows, cloſing the earth well to their roots, and let them be well watered; and repeat this every other evening, till the plants have taken good root, after which they muſt be kept clean from weeds.

When the plants of the ſeed-bed have been thus thinned, they ſhould be well cleaned from weeds and watered, which will encourage the growth of the remaining plants, ſo that in ten days or a fortnight after, there may be another thinning made of the plants, which ſhould be tranſplanted in the ſame manner. And at about the ſame diſtance of time, the third and laſt drawing of plants may be tranſplanted.

Thoſe plants which were the firſt tranſplanted, will be fit to blanch by the latter end of july at fartheſt; and if they are properly managed, in three weeks or a month, they will be ſufficiently blanched for uſe, which will be as ſoon as theſe ſalads are commonly required; for during the continuance of good Cos Lettuce, few perſons care for Endive in their ſalads; nor, indeed, is it ſo proper for warm weather. If any of the plants ſhould put out flower-ſtems, they ſhould be immediately pulled up and carried away, being good for nothing. As the quantity of roots neceſſary for the ſupply of a middling family is not very great, there ſhould not be too many plants tied up to blanch at the ſame time, therefore the largeſt ſhould be firſt tied, and in a week after thoſe of the next ſize; ſo that there may be three different times of blanching the plants, on the ſame ſpot of ground. But as in ſome large families there is a great conſumption of this herb for ſoups, the quantity of plants ſhould be proportionably greater, at each time of planting and blanching.

Blanching Endive.

In order to this you ſhould provide a parcel of ſmall Oſier twigs (or baſs mat) to tie up ſome of the largeſt heads; which ſhould be done in a dry afternoon, when there is neither dew nor rain to moiſten the leaves in the middle of the plants, which would occaſion their rotting ſoon after their being tied up. The manner of doing it is as follows: you muſt firſt gather up all the inner leaves of the plant in a regular order, into one hand, and then take up thoſe on the outſide that are found, pulling off and throwing away, all the rotten and decayed leaves which lie next the ground; obſerving to place the outſide leaves all round the middle ones, as near as poſſible to the natural order of their growth, ſo as not to croſs each other: then having got the whole plant cloſe up in your hand, tie it up with the twig, baſs, *&c.* at about two inches below the top, very cloſe; and about a week after go over the plants again, and give them another tie about the middle of the plant, to prevent the heart leaves from burſting out on one ſide; which they are ſubject to do, as the plants grow, if not prevented this way.

In doing this you need only tie up the largeſt plants firſt, and ſo go over the piece once a week, as the plants increaſe in their growth; by which means you will continue the crop longer, than if they were all tied up at one time: for when they are quite blanched, which will be in three weeks or a month after tying, they will not hold ſound and good above ten days or a fortnight, eſpecially if the ſeaſon proves wet: therefore it is that I would adviſe to ſow at three or four different ſeaſons, that you may have a ſupply as long as the weather will permit. But in order to this, you muſt tranſplant all the plants of the laſt ſowing under warm walls, pales, or hedges, to ſcreen the plants from froſt; and if the winter ſhould prove very ſharp, you ſhould cover them with ſome Peaſe haulm, or ſuch other light covering, which ſhould be conſtantly taken off in mild weather: theſe borders ſhould alſo be as dry as poſſible, for theſe plants are very ſubject to rot, if planted in a moiſt ſoil in winter.

Although I before directed the tying up of the plants to blanch them, yet this is only to be underſtood for the two firſt ſowings; for after october, when the nights begin to be froſty, thoſe plants which are ſo far above ground will be liable to be much prejudiced thereby, eſpecially if they are not covered in froſty weather; therefore the beſt method is, to take up your plants of the latter ſowings in a very dry day, and with a large flat-pointed dibble, plant them into the ſides of trenches of earth, which ſhould be laid very upright, planting them ſideways, on the ſouth ſide of the trenches, towards the ſun, with the tops of the plants only out of the ground; ſo that the haſty rains may run off, and the plants be kept dry, and ſecured from froſts.

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[s] Hort. kew.

The plants thus planted, will be blanched fit for uſe in about a month or five weeks time, after which they will not keep good more than three weeks, before they will decay; you ſhould therefore continue planting ſome freſh ones into trenches every fortnight or three weeks, that you may have a ſupply for the table; and thoſe which were laſt tranſplanted out of the ſeed beds, ſhould be preſerved till february, before they are planted to blanch; ſo that from this you may be ſupplied until the beginning of april, or later: for at this laſt planting into the trenches, it will keep longer than in winter, the days growing longer; and the ſun, advancing with more ſtrength, dries up the moiſture much ſooner than in winter, which will prevent the rotting of theſe plants; but if the weather ſhould prove froſty, theſe latter plantations of Endive ſhould be covered with mats and ſtraw to preſerve them, otherwiſe the froſt will deſtroy them, but the coverings muſt always be taken off when the weather is favourable.

When your Endive is blanched enough for uſe, you muſt dig it up with a ſpade; and after having cleared it from all the outſide green and decayed leaves, you ſhould waſh it well in two or three different waters to clear it the better from ſlugs, and other vermin, which commonly ſhelter themſelves amongſt the leaves.

But in order to have a ſupply of good ſeeds for the next ſeaſon, you muſt look over thoſe borders where the laſt crop was tranſplanted, before you put them into the trenches to blanch; and make choice of ſome of the largeſt, ſoundeſt, and moſt curled plants, in number according to the quantity of ſeeds required: for a ſmall family, a dozen of good plants will produce ſeeds enough; and for a large, two dozen or thirty plants.

Theſe ſhould be taken up and tranſplanted under a hedge or pale, at about eighteen inches diſtance, in one row about ten inches from the hedge, *&c.* This work ſhould be done in the beginning of march, if the ſeaſon is mild, otherwiſe it may be deferred a fortnight longer. When the flower-ſtems begin to advance, they ſhould be ſupported with a packthread, which ſhould be faſtened to nails driven into the pale, or to the ſtakes of the hedge, and run along before the ſtems, to draw them upright cloſe to the hedge or pale, otherwiſe they will be liable to break with the ſtrong winds. Obſerve alſo to keep them clear from weeds, and about the beginning of july your ſeeds will begin to ripen; as ſoon as you find the ſeeds are quite ripe, you muſt cut off the ſtalks, and expoſe them to the ſun upon a coarſe cloth to dry; and then beat out the ſeeds, which muſt be dried, and put up in bags of paper, and preſerved for uſe in ſome dry place. But I would here caution you, not to wait for all the ſeeds ripening upon the ſame plant; for if ſo, all the firſt ripe and beſt of the ſeeds will ſcatter and be loſt before the others are near ripe; ſo great a difference is there in the time when the ſeeds of the ſame plant are ripe.

[CICHORIUM. See *Crepis*, *Lapſana*, and *Picris*.

CICLA. See *Beta*.]

CICŪTA. (*Signifies the internode or ſpace between two joints of a reed; the hollow ſtem of any plant, which the ſhepherds uſed for making their rural pipes; ſuch ſtems in our old and rural language we call Keckſies.*

> "Eſt mihi diſparibus ſeptem conjuncta *Cicutis*
> "Fiſtula ———" *Virg.*)

Lin. gen. n. 354. *Reich. n.* 384. *Schreb.* 486. *Gærtn. t.* 22. *Juſſ.* 223.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ*, or *Umbelliferæ*.

GENERIC CHARACTER.

CAL. *Umbel univerſal* roundiſh: rays very many equal. *Partial* roundiſh, with very many, equal, ſetaceous rays.——*Involucre univerſal* none: *partial* many-leaved: *leaflets* briſtly, ſhort.

Perianth proper ſcarcely viſible.

COR. *univerſal* uniform: *floſcules* all fertile.—*Proper* of five ovate, inflected, nearly equal petals.

STAM. *Filaments* five, capillary, longer than the corolla. *Anthers* ſimple.

PIST. *Germ* inferior. *Styles* two, filiform, longer than the corolla, permanent. *Stigmas* headed.

PER. none. *Fruit* ſubovate, furrowed, bipartile.

SEEDS two, ſubovate, convex and ſtriated on one ſide; flat on the other.

ESSENTIAL CHARACTER.

Fruit ſubovate, furrowed.

SPECIES.

1. Cicuta viroſa. *Long-leaved Water Hemlock.*

Lin. ſpec. 366. *Reich.* 702. *mant.* 355. *hort. cliff.* 100. *fl. ſuec. n.* 253. *lapp. n.* 103. *mat. med.* 82. *Hudſ. angl.* 122. *With.* 299. *Lightf.* 164. *Pollich pal. n.* 294. *Krock. ſileſ. n.* 442. *Oed. dan. t.* 208. *Gunn. norv. n.* 42. *t.* 2. *Villars dauph.* 2. 590. *Blackw. t.* 574. *Plenck. ic. t.* 213.

C. aquatica. *Wepfer monogr. Philoſ. tranſ.* 44. 237. *t.* 4, 5. *abr.* X. 769. *f.* 135, 136.

Cicutaria. *Riv. pent. t.* 76.

Sium. *Hall. helv. n.* 781. *Mor. hiſt.* 3. 283. *ſ.* 9. *t.* 5. *f.* 4. *umb. t.* 5. *Bauh. pin.* 154. *n.* 3. *Dod.* 589. 3. *Lob. obſ.* 105. 2. *ic.* 1. 208. 2. *Ger. emac.* 256. 4. *Park.* 1241. 3. *Pet. brit. t.* 28. *f.* 1. *Bauh. hiſt.* 3. 175. *f.* 2. *Raii hiſt.* 450. *ſyn.* 212. *n.* 7.

Umbels oppoſite-leaved; petioles margined obtuſe.

2. Cicuta bulbifera.

Lin. ſpec. 367. *Reich.* 702.

Ammi. *Gron. virg.* 31, 42.

Umbellifera aquatica, &c. *Raii ſuppl.* 260.

Branches bulbiferous.

3. Cicuta maculata.

Lin. ſpec. 367. *ſyſt.* 286. *Gron. virg.* 44. *Gærtn. fruct.* 1. 100. *Riv. pent. t.* 75. *Blackw. herb. t.* 451. & 573. *a. b. Hall. helv. n.* 766.

Ægopodium. *Gron. virg.* 32.

Angelica. *Pluk. alm. t.* 76. *f.* 1. *Mor. hiſt.* 3. 281. *t.* 3. *f.* 9.

Myrrha. *Mitch. gen.* 18. *Act. nat. cur.* 8. *app.* 217.

Serratures of the leaves mucronate, petioles membranaceous two-lobed at the end.

DESCRIPTIONS, *&c.*

1. [*Stem* round, hollow. *Leaves* pinnate; leaflets lanceolate ternate, the ſerratures white at the tip. *Umbel* ſpreading, red at the baſe: involucels many-leaved, ſetaceous, ſhort. *Flowers* white, hermaphrodite: ſtyles erect, white, in the fruit divaricated: ſtigmas ſimple. *Fruit* compreſſed, gloſſy, truncate, opening tranſverſely[a].

Stem two, three, and even four feet high, ſtriated, ſmooth, reddiſh towards the bottom, dichotomous. *Leaves* ſheathing, a foot and half long, and near a foot broad; the lower on long hollow petioles, the upper almoſt ſeſſile; bipinnate: ſome of the pinnas ſimple, others bifid or trifid: the ſerratures ſometimes brown; the end leaf cut into three to the bottom: all ſmooth. Univerſal umbel wide, of fourteen rays or more: partial almoſt ſemiorbicular, of about forty-eight rays. Univerſal involucre uſually none, though ſometimes there is a leaflet or two: partial has about ten leaflets, ſome longer, ſome ſhorter than the umbellule. Calyx tolerably diſtinct. Petals heart-ſhaped, bifid, nearly equal, yellowiſh pale green. Anthers white or reddiſh purple. Styles at firſt ſhort and very cloſe, after flowering much longer; ſtigmas white, obtuſe[b].

This plant generally grows near the ſides of large ſtagnant waters, or in ſhallow ſlow rivers. Towards the end of autumn, the root for the ſucceeding ſummer is formed out of the lower part of the ſtalk: this is divided tranſverſely into many large unequal cells; ſo that it becomes ſpecifically lighter than water, and in winter, when the rivers or pools ſwell,

[a] Linn. mant.

[b] Withering, Pollich, Krecker.

is buoyed up. The old root then rots, floats all the winter, and in rivers is frequently carried to great diſtances. In the ſpring the old root is waſhed away, and the new one, on coming near the ſoil, ſends out many ſlender fibres, by which it is again fixed, grows, and flowers[c].

It is an inhabitant of the northern part of Europe, from Lapland to Germany and Switzerland. In Britain it is not very common; but it is found at Iſleworth, in the Coln near Colnbrook and Uxbridge, on Hounſlow-heath, in the iſle of Ely, Lovingland in Suffolk, near Norwich, and Yarmouth, Hatton in Shropſhire, Brereton-mere in Cheſhire, near Northwich, in Nottingham-park, in the Trent near Abbot's Bromley, near Stafford, and in Scotland, and Wales: flowering in july and auguſt.

This plant is one of the rankeſt of our vegetable poiſons. Numerous inſtances are recorded of its fatality to the human ſpecies by Wepfer, Haller, *&c.* and in the Philoſphical Tranſactions, by Dr. Watſon[d].

Linneus (in flor. ſuec.) relates its fatal effects on kine: and Dr. Withering obſerves, that early in the ſpring, cows often eat of it, and are killed by it; but that, as the ſummer advances, and its ſcent becomes ſtronger, they carefully avoid it: that goats however devour it greedily with impunity, and that horſes and ſheep eat it with ſafety.

Strong emetics are the moſt approved remedy to this poiſon.

2. The leaves are divided into very minute capillary ſegments. The umbels terminate the ſtem and branches, and at the origin of the rays the ſtem and branches which ſupport them are ſurrounded with like capillaceous leaflets. The flowers are white, with the ſmell of Cumin flowers[e].

Native of Virginia and Canada, in watery places. Cultivated by Mr. Miller, in 1768.

3. Stem thick, ſpotted with purple, three feet high and more. Leaves black, ſhining, triply pinnate, the laſt pinnules ſomewhat bluntly toothed. Umbels many. Flowers white[f]. Fruit middle-ſized, ovate-globular, thick, gibbous; diſtantly ribbed. Seeds ovate, narrower upwards, very gibbous, ending in a ſhort conical tubercle bearing the ſtyle, and the waved rudiment of the calyx: ribs five, three dorſal and two lateral, white, ſubflexuoſe, much raiſed, and compreſſed ſo as to be almoſt membranaceous; interſtices ſmooth, bay-ruſeſcent; ventral parts flat[g].

Native of Virginia, Switzerland, *&c.* in watery places. Cultivated by Mr. Miller in 1759.]

PROPAGATION AND CULTURE.

The firſt ſort will not grow well, unleſs there be a conſiderable depth of water for it to root in.

The ſecond and third ſorts may be propagated by ſeeds, which ſhould be ſown in autumn on a ſhady border: the plants will come up in the ſpring, and require no other care but to keep them clean.

CICUTA. See *Æthuſa*, *Chærophyllum*, and *Conium*.

CICUTARIA. See *Æthuſa*, *Chærophyllum*, *Cicuta*, *Conium*, *Liguſticum*, and *Phellandrium*.

[CIMICIFUGA. (*Quod cimices fugat; from its quality of driving away bugs.*)

Lin. gen. Reich. n. 740. *Schreb.* 933. *ſyſt. n.* 1282. *p.* 505. *Gærtn. t.* 140. *Juſſ.* 234.

Claſſ. 13. 4. Polyandria Tetragynia.

Natural order of *Multiſiliquæ*. *Papaveraceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved: *leaflets* roundiſh, concave, caducous.

COR. *Nectaries* four, petal-ſhaped, urceolate, cartilaginous.

STAM. *Filaments* twenty, filiform. *Anthers* twin.

PIST. *Germs* four to ſeven. *Styles* recurved. *Stigmas* longitudinal on the ſtyle.

PER. *Capſules* oblong, opening with a lateral ſuture.

SEEDS very many, covered with ſpreading ſcales.

OBS. *It varies extremely in the number of parts in the calyx, corolla and piſtils; nor is either the ſex or proportion conſtant.*

ESSENTIAL CHARACTER.

Cal. four or five-leaved. *Nect.* four, urceolate. *Capſules* four to ſeven.

SPECIES.

1. Cimicifuga foetida.
Lin. ſyſt. 505. *Reich.* 2. 618. *Gærtn. fruct.* 2. 275.
Actæa cimicifuga. *Lin. ſpec.* 722. *amæn.* 7. *t.* 6. *f.* 2. *Gmel. ſib.* 4. 181. *t.* 70.
Thalictroides foetidiſſimum, criſtophorianæ facie. *Amm. ruth.* 102.

DESCRIPTION, &c.

Linneus remarks, that it bears a great reſemblance to *Actæa racemoſa*. Root perennial, thick knotty ſhort, with many thickiſh fibres creeping tranſverſely. Stem ſometimes two yards in height, red at the baſe, thence pale green, ſlightly hirſute, ſcarcely ſtriated, ſoon dividing into two, one branch naked for the ſpace of three inches, then ſwelling into a knot, and ſubdividing into three hirſute branchlets, each ſuſtaining a pinnate glutinoſe leaf, the pinnas ſerrate, hairy on the rib, pale green, veined; the other branch near the baſe bears a leaf ſimilar to the other, with more following which are gradually ſmaller, till the uppermoſt becomes entire. Flowers in long terminating racemes, alternate, globular, on very ſhort pedicels[h]. Capſules four, ſometimes fewer, ſometimes twice as many, netted, beaked with the ſtyle which is very ſhort and curved back, one-celled, opening on the interior or ventral ſuture. Seeds ſeveral oblong, covered all round with membranaceous linear-oblong flexile pale ſcales, and faſtened along the whole of the opening ſuture[i].

The flowering ſpike hangs down at firſt, but becomes erect as the flowers open. The whole plant has a ſtrong viroſe ſmell, occaſioning the head-ach.

Native of the farther Siberia, from the river Jeniſea: flowering the middle of july, and ripening its ſeed the middle of auguſt[k].

It was introduced here in 1777, by Meſſrs. Gordon and Græfer[l].]

PROPAGATION AND CULTURE.

See *Actæa*.

CINARA. See *Cynara*.

[CINAROIDES. See *Protea*.

CINCHONA. (*So named from the Counteſs del Cinchon, lady of a Spaniſh Viceroy, whoſe cure is ſaid firſt to have brought the Peruvian Bark into reputation.*)

Lin. gen. n. 228. *Reich. n.* 245. *Schreb.* 301. *Gærtn. t.* 33. *Juſſ.* 201. Quinquina. *Condam. act. gall.* 1738.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Contortæ*. *Rubiaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, ſuperior, ſhort, five-toothed, permanent: teeth ſharp.

COR. monopetalous, funnel-ſhaped, five-cleft: *tube* long, obſcurely angular: *ſegments* lanceolate or linear, equalling the tube.

STAM. *Filaments* five, in the middle of the tube. *Anthers* linear, erect.

PIST. *Germ* inferior, turbinate, obſcurely angular. *Style* the length of the ſtamens. *Stigma* thick, bifid or entire.

PER. *Capſule* crowned with the calyx, bipartile, opening into two parts inwardly; the partition parallel.

SEEDS many, oblong, compreſſed, ſurrounded by a membranaceous wing.

ESSENTIAL CHARACTER.

Capſ. inferior, two-celled, bipartile, the valves parallel to the partitions opening inwardly.

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[c] Watſon in philoſ. tranſ.
[d] Withering.
[e] Gronovius and Linn. ſuppl.
[f] Haller.
[g] Gærtner.
[h] Gmelin.
[i] Gærtner.
[k] Gmelin.
[l] Hort. kew.

SPECIES.

* *Flowers tomentoſe, ſtamens included.*

1. Cinchona officinalis. *Common Jeſuit's-bark,* or *officinal Cinchona.*
Lin. ſpec. 244. *ſyſt. ed.* 10. 929. *Reich.* 1. 476. *mat. med.* 61. *Vahl in act. havn.* 1. 1. *p.* 17. *t.* 1. *Gærtn. fruct.* 1. 169. *Swartz obſ.* 72. *Commerſ. noric.* 1744. *p.* 217. *t.* 1. *f.* 3. *Plenck, ic. t.* 131. *Woodv. med. bot.* 546. *t.* 200.
Quinquina. *Condamine in act. par.* 1738. fig.
Arbor febrifuga peruviana. *Raii hiſt.* 1796.
Leaves ovate-lanceolate ſmooth, capſules oblong.

2. Cinchona pubeſcens. *Pubeſcent Cinchona.*
Vahl in act. havn. 1. 1. *p.* 19. *t.* 2.
Leaves ovate elongated at the baſe pubeſcent underneath, capſules cylindrical.

3. Cinchona macrocarpa. *Long-fruited Cinchona.*
Vahl in act. havn. 1. 1. *p.* 20. *t.* 3.
C. officinalis. *Lin. ſyſt. ed.* 12. 164. *ed.* 14. 213. *ſuppl.* 144.
Leaves oblong pubeſcent underneath ribbed.

** *Corollas ſmooth, ſtamens ſtanding out.*

4. Cinchona caribæa. *Caribean Cinchona.*
Lin. ſpec. 245. *ſyſt.* 214. *Reich.* 477. *Jacqu. amer.* 61. *t.* 169. *t.* 95. *pict.* 35. *t.* 63. *obſ.* 2. 27. *t.* 47. *Vahl in act. havn.* 1. 1. *p.* 21. *Swartz obſ.* 72. *Gærtn. fruct.* 1. 169. *Pluk. phyt. t.* 103. *f.* 3. *Plenck, ic. t.* 132.
C. jamaicenſis ſ. caribbeana. *Wright in philoſ. tranſ. vol.* 67. *p.* 504–506. *t.* 10.
Peduncles axillary one-flowered.

5. Cinchona corymbifera. *Corymbiferous Cinchona.*
Lin. ſyſt. 214. *ſuppl.* 144. *Forſter in nov. act. upſ.* 3. 175. *flor. auſtral. n.* 88. *Vahl in act. havn.* 1. 1. *p.* 22.
Leaves oblong-lanceolate, corymbs axillary.

6. Cinchona lineata.
Vahl in act. havn. 1. *p.* 22. *t.* 4.
Panicle terminating, leaves ovate acuminate ſmooth, capſules five-cornered.

7. Cinchona floribunda.
Swartz prodr. 41. *Vahl in act. havn.* 1. 23. *Philoſ. tranſ. vol.* 74. *p.* 452–456. *t.* 19.
C. montana. *Magaz. bot.* 6. 96. *t.* 3.
Kinkina. *Piton. act. nat. cur.* 1787. *Rozier journ. de phyſ.* 1781. *p.* 169–179. & 1789. *p.* 129–132. *t.* 1.
Panicle terminating, capſules turbinate ſmooth, leaves elliptic acuminate.

8. Cinchona brachycarpa.
Swartz prodr. 42. *Vahl in act. havn.* 1. *p.* 24.
Panicle terminating, capſules obovate ribbed, leaves elliptic obtuſe.

9. Cinchona anguſtifolia.
Swartz prodr. 42. *act. holm.* 1787. *p.* 117–123. *t.* 3. *Vahl in act. havn.* 1. *p.* 25.
Panicle terminating, capſules oblong five-cornered, leaves linear-lanceolate pubeſcent.

DESCRIPTIONS, &c.

The Cinchonas are trees. The branches are round except at the top, where they are obſcurely four-cornered: the flowering-branches are alternately compreſſed. The leaves are oppoſite, undivided and quite entire. Stipules are interpoſed between the leaves, and preſſed cloſe to the branches. The infloreſcence in moſt of the ſpecies is a brachiate panicle, with trifid peduncles.

Swartz propoſes to divide the ſpecies into ſuch as have a ſhort, or an elongated tube to the corolla.

1. Official Cinchona is a tall tree, with a trunk rather bigger than a man's thigh. The branches are covered with a purpliſh brown bark, frequently rugged with obliquely tranſverſe chinks, and ſcarred by the fallen leaves. Theſe are ovate or ovate-lanceolate, ſharp, even, ſmooth on both ſides, veinleſs above, obliquely nerved, the lower nerves oppoſite; beneath they are a little paler and veined: they are about two inches long, approximating at the ends of the branches, but remote on the flowering-branches; they ſpread very much. The petioles are half an inch in length, channelled above, convex beneath, towards the baſe wrinkled and rugged. Stipules in pairs on each ſide, minute, ſharp. Panicle terminating, ſpreading, trichotomous. Peduncles and pedicels ſlightly tomentoſe; pedicels one-flowered. There is a minute bracte at the baſe and in the middle of the pedicel. Calyx a ſuperior rim, with very ſhort teeth. Corolla tomentoſe on the outſide, the ſegments acute, woolly within, ſhorter than the tube. Filaments alſo ſhorter than the tube: with anthers the length of it. Germ tomentoſe: ſtigma thickened at the top and ſlightly bifid. Capſules oblong, ſmooth, half an inch in length, marked with obſcure raiſed lines[a].

It is a native of Peru, growing moſt abundantly on a long chain of mountains extending to the north and ſouth of Loxa; between two and five degrees of S. latitude. Here the trunks of theſe trees frequently exceed in ſize the body of a man. The ſoil in which they thrive beſt is a red clayey or rocky ground, eſpecially on the banks of ſmall rivers or torrents. The moſt proper ſeaſon for cutting the bark is from ſeptember to november, which is the only time of ſome intermiſſion from rain. On a ſpot where the trees abound, having made a road to it from the neareſt plantation in the low country, they build huts for the workmen, and a large hut for the bark. Each Indian is provided with a large knife, and a bag that will hold about fifty pounds of green bark: he cuts down the bark as high as he can reach from the ground; he then faſtens a ſtick about half a yard long, with tough withs to the tree like the ſtep of a ladder, and having ſliced off the bark as high as he can reach with this, he fixes a new ſtep, and thus mounts to the top, another Indian below gathering up what he cuts: this they do by turns, going from tree to tree until the bag is full. Care is taken not to cut the bark wet, and if it ſhould happen to be ſo, it is carried directly to the low country to dry, for otherwiſe it loſes its colour, turns black and rots; and if it lie any time in the hut without being ſpread, it runs the ſame riſk; ſo that if the weather permit, it remains as ſhort a time there as poſſible, and whilſt the Indians are cutting, the mules are employed in carrying the bark to the drying place, where it is ſpread in the open air and frequently turned[b].

The trees are ſaid ſoon to periſh on being ſtripped of their bark, and hence a ſcarcity of it has been apprehended. Condamine however aſſerts, that the young trees do not die by loſing their bark, but ſend out freſh ſhoots from the baſe; and as the trees which ſtand to any conſiderable age, probably increaſe by ſeed, the fear that this valuable bark may be exhauſted ſeems to be groundleſs.

We have no ſatisfactory account at what time, or by what means the medicinal efficacy of the Peruvian Bark was firſt diſcovered. Some of the tales which are commonly related have too fabulous an air to juſtify the recital of them here.

Geoffroy relates, that the uſe of the Bark was firſt learned from the following circumſtance. Some Cinchona trees being thrown by the winds into a pool of water, lay there till the water became ſo bitter that every body refuſed to drink it, till one of the neighbouring inhabitants being ſeized with a violent paroxyſm of fever, and finding no other water to quench his thirſt, was forced to drink of this, by which means he became perfectly cured; and afterwards relating his caſe to others, they made uſe of the ſame remedy.

The uſe of this excellent medicine was very little known till about the year 1638, when a ſignal cure having been performed by it on the Spaniſh Viceroy's lady, the Counteſs del Cinchon, at Lima, it came into general uſe, and hence was diſtinguiſhed by the appellation of *pulvis Comitiſſæ, cortex china china* or *chinchina, kina kina* or *kinkina, quina quina* or *quinquina.* The Counteſs, on her recovery, is ſaid to have diſtributed a large quantity of the Bark among the Jeſuits, in whoſe hands it acquired ſtill greater reputation, and by them it was firſt introduced into Europe, and thence called Jeſuit's Bark, *cortex ſ. pulvis jeſuiticus, pulvis patrum*[c], and alſo Cardinal de Lugo's powder; that charitable prelate having bought a large quantity of it at a great expenſe for the uſe of the poor at Rome.

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[a] Vahl.

[b] Arrot, in philoſ. tranſ. vol. 40. p. 83.

This Bark is brought to us in pieces of different ſizes, ſome rolled up into ſhort quills, and others flat. Thoſe who affect to be nice in the choice of their drugs, prefer ſuch pieces as are rolled up about the ſize of a common quill. The outſide is browniſh and ſometimes whitiſh: the inſide of a fine ferruginous brown. To the taſte it is aſtringent and bitter, and it has an advantage over other bitters in being aromatic. To enumerate its virtues would require the extent of a volume. Morton, the contemporary of Sydenham, was one of the firſt who made conſiderable uſe of the Bark. From us it was carried into France, where the Dauphin was cured by it. Boerhaave reſtrains the uſe of the Bark with almoſt innumerable cautions, while Hoffman and others are as boundleſs in its praiſe, and indeed all the prejudices in its disfavour are entirely done away, and its character has long been univerſally eſtabliſhed. This Bark gives out its virtues both to cold and boiling water; but the decoction is thicker, and gives out its taſte more readily. Its principal uſe however is in ſubſtance, and it may be employed in very conſiderable doſes with the moſt perfect ſecurity. Sometimes it is neceſſary to join opiates with it, in order to prevent its paſſing off too ſuddenly by acting as a purgative. A very elegant tincture of the Bark is kept in the ſhops under the title of Huxham's tincture: in which preparation the Bark is rendered ſtill more efficacious by the addition of orange-peel and ſnake-root.

It is not only in fevers of every kind that the Bark is ſo highly ſucceſsful a remedy, but alſo in numerous other caſes, and particularly in mortifications. It has alſo been much uſed of late in caſes of acute rheumatiſm, eſpecially after the violence of the diſeaſe has in ſome degree been moderated by the antiphlogiſtic treatment, or when an evident remiſſion has taken place. In the fluor albus, profluvia, and hæmorrhages of every kind, the decoction of the Bark is of excellent uſe; and the tincture taken in water of various parts, as chalybeate, &c. is extremely uſeful in caſes of decayed appetite. In ſhort, if any medicine deſerved the title of a panacea, the Bark would have the faireſt claim. Caſes however ſometimes occur in which its liberal exhibition is found hurtful: *viz.* where ſymptoms of congeſtion, or topical inflammation of the head appear, which are ſhewn by the redneſs of the eyes, phrenitic delirium, &c. It has alſo been ſometimes accuſed of cauſing a degree of difficulty of breathing.

The other ſpecies of Cinchona approach in ſome degree to the virtues of the Peruvian or common officinal Bark, but ſeem leſs efficacious, and their power leſs perfectly aſcertained in practice. The red Bark indeed has been often conſidered as of ſtill higher efficacy than the common, and has been thought to be the Bark which, according to Arrot, the Spaniards called Caſcarilla colorada, and was probably the kind brought originally to Europe, and which proved ſo ſucceſsful in the hands of Sydenham, Morton, and Liſter; it appearing from the teſtimony of the oldeſt practitioners, that the Bark firſt employed was of a much higher colour than the common Bark.

2. The branches of this are pubeſcent towards the end. Leaves a ſhort ſpan in length, a hand in breadth, obtuſe, decurrent a little along the petiole at the baſe, tender, veined, pubeſcent beneath along the nerves: petiole two inches long, pubeſcent, convex underneath. Panicle terminating, brachiate, pubeſcent: partial peduncles twice trifid: pedicels very ſhort, one-flowered. Bractes minute, at the baſe of the pedicels. Calyx a ſuperior rim, with minute ovate ſharp teeth. Tube of the corolla thicker in the middle. Capſule an inch long, cylindric only a little narrowing at each end.

Native of Peru. Communicated to Vahl, by Juſſieu.

3. Branches jointed, the ſize of a ſwan's quill, villoſe-tomentoſe. Leaves more than a hand in length, oblong, the younger ones elliptic, ſomewhat coriaceous, the upper ſurface ſmooth and ſhining, the lower pubeſcent and ribbed, the ribs villoſe-tomentoſe; the younger ones hairy above, eſpecially along the nerves: petioles an inch long, flat above, convex beneath. Stipules lanceolate, deciduous, longer than the petiole, connate at the baſe, ſmooth within. Panicle terminating, trichotomous, pubeſcent. Peduncles compreſſed three-flowered an inch and half in length. Flowers ſubſeſſile. There is a linear-lanceolate bracte on each ſide at the diviſions of the univerſal peduncle, an inch in length; and another, which is ſmall and awl-ſhaped at the baſe of each flower. Calyx bell-ſhaped, pubeſcent, ſilky within, commonly five-toothed, ſometimes but ſeldom ſix-toothed, the teeth obſcure but ſharp. Corolla coriaceous, an inch and half long, tomentoſe with minute hairs preſſed cloſe: ſegments of the border lanceolate, blunt, the length of the tube. Filaments very ſhort: anthers linear ſtanding juſt above the throat. Germ five-cornered: ſtigma bifid. Capſule cylindric, two inches long, ſmooth, a little narrower at the baſe: the valves opening in a ſinus at top and bottom.

Native of Santa Fé. Vahl received it from Ortega.

It is deſcribed in the latter editions of the *Syſtema vegetabilium* under the name of *C. officinalis*; and is there ſaid to have been received from Mutis.

4. According to Jacquin, this is an erect branching ſhrub ten feet high: from fifteen to twenty feet in height, as Swartz affirms. Branches round below, with an aſh-coloured bark, at the end ſomewhat compreſſed, purpliſh brown with aſh-coloured dots. Leaves petioled an inch and half in length, ovate (ovate-lanceolate or lanceolate) acuminate, ſmooth, veined: petioles ſhort, (lax, ſmooth.) Stipules ſmall, acuminate, broader than long, ciliate. Peduncles axillary ſolitary oppoſite the length of the petioles. Calyx a rim with five minute teeth. Corolla ſmooth: ſegments of the border linear, the length of the tube. Stamens the length of the corolla. Style the length of the ſtamens: ſtigma thickened undivided. Capſule oblong ſmooth and even[d].

Jacquin ſays, that the leaves are from two to three inches long, and reflex at the end; that the flowers are of a very pale fleſh-colour, and exceedingly ſweet-ſcented; and the capſules before they are ripe green, very bitter, and abounding in a juice that excites a heat and irritation on the lips and noſtrils.

Swartz adds, that the leaves are chiefly crowded at the ends of the twigs, that they are decuſſated, and channelled along the midrib; that the ſtipules are blackiſh: that the peduncles are both terminating and axillary, one-flowered and ſmooth: that the tube of the corolla is an inch long and quinquangular; the ſegments reflex, revolute at the edge: that the filaments are inſerted towards the baſe of the tube; the anthers narrow, almoſt the length of the filaments.

Dr. Wright informs us, that the Jeſuit's Bark tree of Jamaica and the Caribbees riſes only to twenty feet, with a trunk not thick in proportion, but hard, tough, and of a yellowiſh-white colour in the inſide. The leaves are of a ruſty-green, and the young buds of a blueiſh-green hue. The flowers are of a duſky yellow colour, and the pods black: when ripe they ſplit in two, and are, with their flat brown ſeeds, in every reſpect ſimilar to thoſe of *Cinchona officinalis*. The bark in general is ſmooth and gray on the outſide, though in ſome rough and ſcabrous: when well dried, the inſide is of a dark-brown colour. Its flavour at firſt is ſweet, with a mixture of the taſte of horſe-radiſh and of the aromatics of the eaſt, but when ſwallowed, of that very bitterneſs and aſtringency which characterizes the Peruvian Bark. It grows near the ſea-ſhore, and is called in Jamaica Sea-ſide Beech.

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[c] Woodville, 548.

[d] Vahl.

Linneus, in the thirteenth edition of Syſtema Vegetabilium, doubts whether this ſpecies belongs to the genus Cinchona.

It is a native of the Weſt Indies, and was introduced in 1780, by W. P. Perrin, Eſq.[e]

5. Trunk upright round ſmoothiſh, a fathom or more in height, the thickneſs of the human arm: branches round ſpreading oppoſite, the upper ones herbaceous, compreſſed at the joints. Leaves acuminate, ſpreading, ſmooth and even, a hand in length, deep green, with the midrib purple underneath: petioles round, ſpreading, longer than the interſtices of the leaves, ſcarcely an inch in length. Stipules membranaceous, acute. Peduncles ſolitary, axillary, round except at the tip where they are compreſſed, the length of the leaves. Corymb large, trichotomous. Partial peduncles three, angular, trifid, from the wings of the floral leaves, an inch in length. Floral leaves oppoſite, at the diviſions of the corymb, like the branch-leaves, an inch long. Pedicels one-flowered, two, three, four or more together, round, ſlender, erect, half an inch in length. Bractes membranaceous, ſolitary, acute, very minute, at the baſe of each pedicel. Flowers white, red on the outſide: before they open they appear of a duſky purple. The bark is extremely bitter, and ſubaſtringent, very like the common Jeſuit's Bark.

Native of the iſlands of Tongatabu and Eaoowe, in the South Seas; where it is cultivated for the pleaſant odour or elegance of the flowers[f].

6. Branches round at bottom, with an aſh-coloured bark, purpliſh at top. Leaves on very ſhort petioles, an inch and half long, not at all ſhining, bluntiſh, marked with lines on the upper ſurface along the nerves. Stipules ovate acute. Panicle trichotomous; peduncles compreſſed, three-flowered. Bracte briſtle-ſhaped at the baſe of the pedicels. Teeth of the calyx briſtle-ſhaped, the length of the germ. Corolla and ſtamens as in the next ſpecies. Germ five-cornered.

It differs from *C. floribunda* in having the leaves by no means ſhining, rounded at the baſe, ſmaller, marked with lines on the upper ſurface: the panicle ſmall: the ſegments of the calyx briſtle-ſhaped and the length of the germ: the capſules not even, but marked with five raiſed lines.

Native of the iſland of Dominica.

7. The whole of this ſpecies is very ſmooth. The branches are round at bottom, but obſcurely four-cornered at top and purpliſh. Leaves reſembling thoſe of the Coffee ſhrub, frequently a ſhort ſpan in length, ſpreading very much, lanceolate-elliptic, on the upper ſurface even, ſhining, with a groove along the middle, on the under paler, veined, nerved, the nerves oblique and but little raiſed: petiole half an inch in length, convex beneath. Stipules oblong, obtuſe, ſheathing. Panicle brachiate, ſpreading, peduncle alternately compreſſed, and a little below the ramifications. Calyx a ſuperior rim, with very ſhort ſubulate teeth. Corolla as in *C. caribæa*, with the tube an inch long; ſegments of the border linear. Filaments capillary, the length of the tube. Style the length of the filaments. Stigma ovate, undivided[g].

Native of St. Lucia, Martinico and Hiſpaniola. In the firſt of theſe iſlands it was diſcovered by Mr. Alexander Anderſon, about the year 1779, in the woods near the Grand Cul de Sac.

The tree there is nearly the ſize of a Cherry-tree, ſeldom thicker than the thigh, and tolerably ſtraight; the wood is light and porous, without any of the bitterneſs and aſtringency of the bark. The flowers, which appear in June, are in ſmall tufts, at firſt white, but afterwards purpliſh. The bark is of a lighter red, than what was ſent to St. Lucia under the name of Red Bark; inclining more to the colour of Cinnamon. The tree grows in a ſtiff red clay; delights in a ſhady ſituation, a N. W. aſpect, under larger trees, and is generally near the middle of a hill, by ſome running water[h].

8. The whole plant ſmooth as in *C. macrocarpa*; the leaves alſo nearly as in that, on very ſhort petioles. The flowers only half the ſize of thoſe of *C. floribunda*. Capſule obovate, with eleven ribs.—Native of Jamaica[i].

9. This is a ſmall tree from ten to fifteen feet in height, with an upright ſmooth trunk, covered with a wrinkled aſh-coloured bark, which becomes brown and ſtriated near the root. Branches long, ſubdivided, lax, ſmooth, covered with an aſh-coloured bark: branchlets almoſt ſimple, round, pubeſcent. Leaves acuminate with a bluntiſh tip, ſpreading, nerved, ſomewhat veiny, duſky green but pubeſcent beneath. Petioles ſhort, round, pubeſcent. Stipules minute, ovate, acute. Panicles trichotomous or trifid. Pedicels one-flowered, the length of the peduncles, erect; both they and the peduncles villoſe-pubeſcent. Calyx pubeſcent, ferruginous, with erect linear acute long ſegments. Corolla white, half as large again as that of *C. caribæa*, and odorous; tube an inch long, ſegments of the border the length of the tube. Stigma thickened, oblong, entire. Capſule oblong, roundiſh. Native of Hiſpaniola[k].]

CINERARIA. (*From cinis, aſh.—Aſh-coloured: moſt of the ſpecies being gray, hoary, or the colour of wood aſhes.*)

Lin. gen. n. 957. *Reich.* 1036. *Schreb.* 1294.
Gærtn. t. 170. *Juſſ.* 181.

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* ſimple, many-leaved: *leaflets* equal.

Cor. *Compound* radiated. *Corollets* hermaphrodite, equal, numerous in the diſk: *female* ligulate, the ſame number with the leaves of the calyx, in the ray.—*Proper* of the hermaphrodite funnel-ſhaped, with an erect, five-cleft border: *female* ligulate, lanceolate, toothletted at top.

Stam. in the hermaphrodite, *filaments* five, filiform, ſhort. *Anther* cylindric, tubulous, five-cleft at top.

Pist. in the hermaphrodite, *germ* oblong. *Style* filiform, the length of the ſtamens. *Stigmas* two, almoſt erect—*females*, germ oblong; ſtyle filiform, ſhort; ſtigmas two, oblong, bluntiſh, revolute.

Per. none. *Calyx* unchanged.

Seeds ſolitary, linear, quadrangular. *Pappus*, hairy, copious.

Rec. naked, flattiſh.

Obs. C. glauca *and* purpurata *have a feathered pappus.*

ESSENTIAL CHARACTER.

Cal. ſimple, many-leaved, equal. *Pappus* ſimple. *Recept.* naked.

SPECIES.

1. Cineraria geifolia. *Kidney-leaved Cineraria.*
Lin. ſpec. 1242. *Reich.* 3. 818. *Berg. cap.* 289.
Othonna geifolia. *Lin. ſpec. edit.* 1. 924.
Solidago. *Lin. hort. cliff.* 410. *n.* 7.
Jacobæa. *Comm. hort.* 2. 145. *t.* 73. *Seb. muſ.* 1. *t.* 22. *f.* 3. (good.)
Peduncles branching, leaves kidney-ſhaped ſuborbiculate ſublobed toothed petioled.

[2. Cineraria cymbalarifolia.
Lin. ſpec. 1242. *Reich.* 3. 818. *amæn.* 6. *afr. n.* 81. *p.* 106.
β. Jacobæoides afra, geranii columbini fol. *Vaill. act.* 1720. *p.* 300.
Leaves lyrate, the end-leaf kidney-ſhaped toothletted; upper ſtem-leaves claſping lobed quite entire.

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[e] Hort. kew.

[f] Forſter.

[g] Vahl.

[h] Davidſon, in philoſ. tranſ. vol. 74. p. 452—456.

[i] Vahl.

[k] Swartz.

3. Cineraria ſibirica. *Siberian Cineraria.*
Lin. ſpec. 1242. *ſyſt.* 764. *Reich.* 3. 819. *mant.* 472.
Othonna. *Lin. hort. upſ.* 273. *n.* 1.
Jacobæaſtrum cacaliæ folio. *Amm. ruth.* 221. *t.* 24.
Raceme ſimple, leaves cordate obtuſe toothletted even, ſtem entirely ſimple one-leafed.

4. Cineraria glauca.
Lin. ſpec. 1242. *ſyſt.* 764. *Reich.* 3. 819.
Solidago. *Gmel. ſib.* 2. 166. *t.* 74.
Raceme ſimple, leaves ſpatulate-cordate quite entire, ſtem quite ſimple.

5. Cineraria ſonchifolia.
Lin. ſpec. 1243. *Reich.* 3. 819.
Jacobæa. *Breyn. prodr.* 3. 31. *t.* 21. *f.* 1.
Leaves ſtem-claſping ſinuate difform.

6. Cineraria cordifolia. *Heart-leaved Cineraria.*
Lin. ſyſt. 764. *ſuppl.* 375. *Jacqu. auſtr.* 2. 47. *t.* 176. *Gouan. illuſtr.* 69.
C. alpina α. *Lin. ſpec.* 1243.
β. C. cordifolia auriculata. *Jacqu. auſtr.* 2. *t.* 177. *Cluſ. hiſt.* 2. 23. *f.* 1.
Senecio alpinus. *Lin. ſuppl.* 371. *Hall. helv. n.* 63.
Panicle few-flowered, ſtem-leaves petioled cordate ſharply ſerrate ſmooth, ſtem angular.

7. Cineraria criſpa.
Lin. ſyſt. 764. *ſuppl.* 376. *Jacqu. auſtr.* 2. 48. *t.* 178.
Flowers panicled, ſtem-leaves ſpatulate-oblong ſerrate obtuſe claſping, dilated and toothed at the baſe.

8. Cineraria integrifolia. *Mountain Cineraria* or *Flea-wort.*
Lin. ſyſt. 764. *Engl. bot.* 152. *Wither. arr.* 920.
C. alpina. *Hudſ. angl.* 370. *Relh. cant. n.* 622. fig. *Lin. ſpec.* 1243. γ.
C. integr. pratenſis. *Jacqu. auſtr.* 2. 48. *t.* 180.
Senecio. *Hall. helv. n.* 68.
Jacobæa montana non laciniata. *Raii hiſt.* 272. *n.* 4. *ſyn.* 178. *n.* 4. *Petiv. brit. t.* 17. *f.* 4. (Cambridge Ragwort.)
Leaves oblong, obſcurely toothed (or *almoſt entire*) *ſhaggy; flowers in a ſimple involucred umbel,* (*ſometimes ſingle.*)

9. Cineraria longifolia.
Lin. ſyſt. 765. *Jacqu. auſtr.* 2. *t.* 181. & *t.* 179.
Leaves obſcurely toothletted, all oblong.

10. Cineraria paluſtris. *Marſh Cineraria.*
Lin. ſpec. 1243. *Reich.* 3. 820. *Gærtn. fruct.* 2. 446. *Fl. dan. t.* 573. *Hudſ. angl.* 369. *With.* 919. *Engl. bot. t.* 151.
Othonna paluſtris. *Lin. ſuec. n.* 778.
Solidago. *Lin. hort. cliff.* 410. 10. *Gmel. ſib.* 2. 158. *t.* 72.
Conyza. *Bauh. pin.* 266. *Ger. emac.* 483. *f.* 5. *Park.* 126. 3. *Pet. brit. t.* 16. *f.* 6. *Raii ſyn.* 174. 3. *hiſt.* 264. 12.
Jacobæa. *Mor. hiſt.* 3. 110. *ſ.* 7. *t.* 19. *f.* 24.
Flowers corymbed, leaves broad-lanceolate tooth-ſinuated, ſtem villoſe.

11. Cineraria aurea.
Lin. ſpec. 1244. *Reich.* 3. 822.
Flowers corymbed, leaves lanceolate ſerrate tomentoſe underneath.]

12. Cineraria maritima. *Sea Cineraria.*
Lin. ſpec. 1244. *Reich.* 3. 822. *Villars dauph.* 3. 225.
Othonna. *Lin. hort. upſ.* 273. 2.
Solidago. *Lin. hort. cliff.* 140. 11.
Jacobæa maritima. *Bauh. pin.* 131. *Ger.* 218. *f.* 2. *emac.* 280. *f.* 4. *Park.* 669. *f.* 7. *Raii hiſt.* 286. 6.
Cineraria. *Dod. pempt.* 642. not the figure.
β. C. tomentoſa. *Mill. dict. n.* 5.
Flowers panicled; leaves pinnatifid tomentoſe, diviſions ſinuated; ſtem ſhrubby.

[13. Cineraria canadenſis.
Lin. ſpec. 1244. *Reich.* 3. 822.
Jacobæa maritima ſ. C. latifolia. *Bauh. pin.* 131. *prodr.* 69. *f.* 1.
Flowers panicled; leaves pinnatifid ſubvilloſe, diviſions ſinuated; ſtem herbaceous.

14. Cineraria capillacea.
Lin. ſyſt. 765. *ſuppl.* 375.
Leaves pinnate, pinnas capillaceous entire.

15. Cineraria linifolia.
Lin. ſpec. 1244. *Reich.* 3. 822. *amæn.* 6. *afr. n.* 82. *p.* 106.
Peduncles one-flowered, leaves ſcattered, ſtem ſhrubby.

16. Cineraria purpurata.
Lin. ſyſt. 765. *Reich.* 3. 822. *mant.* 285.
Stem ſubbiflorous, leaves obovate ſubtomentoſe.]

17. Cineraria Amelloides. *Blue-flowered Cineraria,* or *Cape Aſter.*
Lin. ſpec. 1245. *ſyſt.* 765. *Reich.* 3. 823. *Berg. cap.* 290. *Gærtn. fruct.* 2. 446. *Curt. magaz. t.* 249.
Aſter. *Mill. fig. t.* 76. *f.* 2. *Raii ſuppl.* 158. *n.* 19.
Peduncles one-flowered; leaves oppoſite ovate naked, ſtem underſhrubby.

[18. Cineraria americana.
Lin. ſyſt. 765. *ſuppl.* 373.
Shrubby; panicles axillary, leaves alternate petioled broad-lanceolate ſerrate, ſmooth above and hoary underneath.

19. Cineraria alata.
Lin. ſyſt. 765. *ſuppl.* 374.
Stem herbaceous; leaves obovate decurrent, flowers corymbed.

20. Cineraria elongata.
Lin. ſyſt. 765. *ſuppl.* 374.
Leaves ſubcordate gnawn, peduncles very long ſubulate-ſcaly.

21. Cineraria Cacalioides.
Lin. ſyſt. 765. *ſuppl.* 374.
Leaves columnar oblong fleſhy, panicle terminal elongated few-flowered, peduncles alternate.

22. Cineraria denticulata.
Lin. ſyſt. 765. *ſuppl.* 375.
Leaves lanceolate ſmooth toothletted, flowers panicled.

23. Cineraria perfoliata.
Lin. ſyſt. 765. *ſuppl.* 375.
Leaves ovate cordate ſtem-claſping; peduncles one-flowered elongated.

24. Cineraria lineata.
Lin. ſyſt. 765. *ſuppl.* 375.
Leaves lanceolate, tomentoſe underneath, ſerrated at the end, toothed at the baſe.

25. Cineraria haſtifolia.
Lin. ſyſt. 765. *ſuppl.* 376.
Leaves haſtate, diviſions lateral bifid divaricated.

26. Cineraria japonica.
Lin. ſyſt. 766. *Thunb. jap.* 317.
Leaves ſword-ſhaped toothed tomentoſe, flowers terminal.

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27. Cineraria rotundifolia.
Forſt. florul. auſtr. n. 294.
Brachyglottis rotundif. *Forſt. char. gen.* 46. *n.* 2.
Panicles few-flowered, leaves petioled ovate-roundiſh quite entire tomentoſe underneath, ſtem arboreous.

28. Cineraria repanda.
Forſt. fl. auſtr. n. 295.
Br. repanda. *F. char. gen.* 46. *n.* 1.
Panicles compound racemed diffuſed, leaves petioled ovate repand-ſinuate, tomentoſe underneath, ſtem arboreous.

29. Cineraria lanata. *Woolly Cineraria.*
Curt. mag. t. 53. *L'Herit. ſert. angl. n.* 5. *t.* 30.
Peduncles one-flowered; leaves cordate-roundiſh ſeven-angled lanuginous underneath.

30. Cineraria humifuſa. *Trailing Cineraria.*
L'Herit. ſert. angl. n. 1.
Aſter fl. luteo, fol. cymbalariæ. *Raii hiſt.* 3. 158.—& afric. min. monanthes luteus, &c. 161.
Peduncles one-flowered, leaves kidney-form ſomewhat angular, petioles eared or naked at the end.

31. Cineraria viſcoſa. *Clammy Cineraria.*
L'Herit. ſert. angl. n. 2.
Peduncles one-flowered, leaves pinnatifid-lobed acute viſcid ſomewhat fleſhy.

32. Cineraria populifolia. *Poplar-leaved Cineraria.*
L'Herit. ſert. angl. n. 6.
Cacalia appendiculata. *Lin. ſuppl.* 352.
Flowers corymbed; leaves cordate ſomewhat angular tomentoſe underneath; petioles having ſeveral pairs of appendicles at the end.

33. Cineraria aurita. *Purple-flowered Cineraria.*
L'Herit. ſert. angl. n. 7. t. 31.
Flowers corymbed; leaves cordate ſomewhat angular tomentoſe underneath; petioles two-eared at the baſe.

34. Cineraria malvæfolia. *Mallow-leaved Cineraria.*
L'Herit. ſert. angl. n. 9. t. 32.
Flowers cymed; leaves cordate angular ſomewhat tomentoſe underneath; petioles ſimple.

35. Cineraria cruenta. *Purple-leaved Cineraria.*
L'Herit. ſert. angl. n. 11. t. 33.
Flowers cymed; leaves cordate angular purple underneath; petioles eared at the baſe.

36. Cineraria lobata. *Lobed Cineraria.*
L'Herit. ſert. angl. n. 13. t. 34.
Flowers ſubcorymbed; leaves roundiſh many-lobed ſmooth; petioles eared at the baſe; calyxes ſubcalycled.

37. Cineraria repanda.
Lour. cochinch. 501.
Panicled diffuſed, leaves ovate-lanceolate ſerrate-repand ſmooth.

38. Cineraria minuta.
Cavan. hiſp. 21. n. 33. t. 33. f. 3.
Leaves pinnatifid, ſtem one-flowered capillary.

39. Cineraria glabra.
Swartz prodr. 113.
Flowers corymbed, calyxes cylindric, leaves oblong acute ſomewhat toothletted nerveleſs ſmooth on both ſides and a little ſucculent, ſtem ſhrubby.

40. Cineraria diſcolor.
Swartz prodr. 114.
Flowers corymbed, leaves oblong-lanceolate acuminate ſomewhat toothletted ſmooth, beneath white-tomentoſe, ſtem ſhrubby.

41. Cineraria japonica.
Thunb. jap. 317.
Leaves enſiform toothed tomentoſe, flowers terminating.

DESCRIPTIONS, *&c.*

The leaves are commonly entire, but ſometimes pinnatifid. Moſt of the ſpecies are tomentoſe. Some have two or three ſcalelets at the baſe of the calyx, as in *Senecio*. *C. Amelloides* recedes ſomewhat from the genus[a].

In general *Cineraria* is *Cacalia* furniſhed with a ray. The difference between this and *Jacobæa*, which border very much on each other, conſiſts (according to Gærtner) not ſo much in the mortified ſcales of the calyx, as in the one having entire, the other pinnatifid leaves: hence he removes *C. maritima, canadenſis,* and *capillacea*, into the genus *Jacobæa*.]

1. *Kidney-leaved Cineraria* has weak ſtalks trailing on the ground; but if ſupported riſing four feet high. [They are herbaceous, round, ſtriated, and have white hairs ſcattered over them. Leaves alternate, ſmoothiſh above, ſubhirſute beneath, eſpecially the more tender ones, two inches long. Petioles roundiſh, hirſute, longer than the leaves. Stipules rounded, large, toothed. Corymb terminating, almoſt ſimple, naked, pubeſcent. Bractes linear-ſubulate. Common calyx roundiſh, truncate; ſcales very many, linear, acute, with ſcattered hairs on the outſide, but very ſmooth within, upright, parallel, contiguous, with thin membranaceous edges, and a few ſmall ſubulate ſcales at the baſe. Corolla yellow] in ſhape like that of common Ragwort. [Florets of the ray obtuſe, emarginate, nerved, ſpreading. Germ obovate, compreſſed, rugged on the edge: ſtyle ſubulate. Pappus ſimple or very finely ſubplumoſe, ſeſſile, the length of the corolla[b].

Native of the Cape of Good Hope. Cultivated in 1759, by Mr. Miller here[c]: but in the Amſterdam garden in 1697, from ſeeds ſent from Africa[d].

2. Root a ſolid bulb. Stem herbaceous, ſimple, even. Lower leaves having the petioles ſtem-claſping at the baſe, lyrate; upper ſtem-leaves ſeſſile, claſping, cordate-lanceolate, ſcarcely toothed. Flowers peduncled, terminating, many. Ray of the corolla purple. There is a variety with ſimple trifid leaves, and the lobes trifid.—Native of the Cape of Good Hope[e].

3. Root perennial. Stem undivided, the height of a man. Stem-leaves with petioles dilated at the baſe and claſping. At the baſe of the calyx are two oblong bractes, the length of the calyx and withering[f].

Native of Siberia, the Levant, and perhaps the Pyrenees. Introduced in 1784, by Mr. John Bell[g].

4. The leaves are of a glaucous hue, like thoſe of *Crambe maritima*, and are rather fleſhy; the petioles are edged in a ſpatulate form. The ſtem is yet higher than that of the foregoing ſort, and the ray of the flower more copious. It is perennial, and a native of Siberia[h].

5. The lower leaves are ſinuate, the upper ſimple and quite entire. Flowers large and purple. Native of the Cape of Good Hope.

6. Root perennial fibroſe brown. Stem from one to two feet high, ſtraight, obſcurely angular, a little ſtriated at top, fiſtuloſe, ſimple, almoſt ſmooth and green. Peduncles ſtriated, ſlightly villoſe, varying in number, terminate the ſtem in a ſort of umbel, ſupported by narrow lanceolate ſeſſile leaves, and a few of them furniſhed with linear ſcales, eſpecially at the baſe of the calyx, which conſiſts of about twenty, ſublinear, acute, concave, erect, equal, ſmooth ſcales. Corollas yellow: florets of the ray about twenty, ſublinear, with two or three teeth at the end. Pappus, when viewed with a magnifier, toothletted.

But the difference between this, and *n.* 7, 8, 9, conſiſts principally in the leaves; which are broad-cordate, ſerrate-crenate, veined, ſhining, more or leſs villoſe on the back, petioled: the petioles of the root-leaves and lower ſtem-leaves are long, keeled, naked and not in the leaſt winged; the following ſtem-leaves are winged; the upper ones run into the petiole, and loſe their cordate form[i].

Gouan remarks, that although this varies, yet it is ſufficiently different from the other varieties of Linneus's *C. alpina*, in having all the leaves petioled cordate and doubly toothed, and commonly two ſtipules at the baſe of the petiole; the peduncles branched and many-flowered, with ligulate leaflets on them; the pedicels long and one-flowered[k].

The younger Linneus ſays, that it differs ſufficiently from the third ſort, in its panicled flowers not branching, in its petioled ſtem-leaves, and in its ſpreading calyx[l].

β. In the variety, as Murray obſerves, the petioles of the upper leaves are appendicled at the baſe, not in the middle; ſo that it does not ſeem to be the ſame with *Senecio alpinus* of the Supplement[m]. This obſervation however does not ſeem to be well founded.

Native of Auſtria and Switzerland. Introduced in 1775, by Doctors Pitcairn and Fothergill[n].

7. This is two feet high. The peduncle and calyx are more villoſe than in the foregoing. Root-leaves cordate, decurrent along the whole of the petiole, and laciniate-gaſhed. Upper ſtem-leaves oblong, acute, ſharply and unequally gaſh-ſerrate, ſeſſile; all curled and waved about the edge.—Native of Auſtria[o].

8. According to Linneus, this plant is extremely variable. Jacquin has examined all the ſuppoſed varieties in their native places of growth, and has figured them from t. 176 to t. 181. of his Auſtrian Flora—t. 176. is C. cordifolia, *n.* 6.—t. 177. is var. β. of the ſame—t. 178. is C. criſpa, *n.* 7.—t. 179. is probably the ſame with longifolia—t. 180. is our plant, only taller—t. 181. is C. longifolia, *n.* 9. according to Murray, in his edition of Lin. ſyſt.—De La Chenal (act. helv. 8. p. 137.) is of opinion that Jacquin's plants may be comprehended under two ſpecies; 1. with leaves cordate-oblong,

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[a] Juſſieu. [b] Bergius. [c] Hort. kew. [d] Commelin.

[e] Linn. amoen. [f] Linn. mant. [g] Hort. kew.
[h] Linn. ſpec. and ſyſt. [i] Jacquin. [k] Illuſtr.
[l] Suppl. [m] Murr. in ſyſt. [n] Hort. kew.
[o] Jacquin.

and naked petioles: 2. with the lower leaves ovate-oblong, on petioles not naked but membranaceous; the upper lanceolate elliptic or only ligulate, ſtem-claſping. The firſt containing t. 176 and 177. of Jacquin, and the Senecio of Haller helv. n. 63.—The ſecond, t. 179, 180, 181. of Jacquin, and the Seneciones of Haller, n. 67 and 68. C. alpina α. Lin. ſpec. is Senecio alpinus, *ſuppl.* and *n.* 63. of Haller.

The ſeveral varieties are found on the Alps and Pyrenees, in Switzerland, Auſtria, about Montpelier, in Siberia, *&c.*

The plant which grows in high paſtures or open chalky downs in ſome parts of England, as on Gogmagog-hills, Bartlow-hills, and Newmarket-heath, and near Baſingſtoke and Andover, has the radical leaves numerous, ſpreading on the ground, ovate, obovate or ſpatulate, obſcurely toothed but always ſo more or leſs, and turned back on the edge, generally lengthened out at the baſe, and clothed with looſe ſhaggy wool. Stem three to ſix inches high (ſometimes eight, nine, or twelve) upright, ſimple, woolly, angular, or furrowed. Stem-leaves lanceolate, woolly, half-ſtem-claſping, ſubappreſſed, very entire, alternate. Flowers one to four, ſeldom more, yellow. Bractes (forming a ſort of involucre) ligulate, tomentoſe, one at the baſe of each peduncle. Peduncles unequal. Florets of the ray ten to fifteen, nearly oval with a three-toothed top—of the diſk numerous, prominent. Calyx furrowed with ſcarioſe edges. Seeds hirſute [p].——Perennial; flowering in may and june.

9. All the leaves of this are oblong; the root-leaves are attenuated into the petiole, and very ſlightly toothed. It differs very little from *C. integrifolia alpina* figured by Jacquin in t. 179. except that in the latter the leaves are much more toothed. Native of Auſtria [q].

10. Leaves thick, tomentoſe and almoſt clammy, covering the ſtem quite up to the flowers; the lower cut, and ſcarcely ſemipinnatifid. Root perennial, large, fibroſe, running deep in muddy ditches. *Stem* one to three feet high, ſtout, hollow, with a thick clammy long wool: with a few ſmaller ones, all erect, unbranched, angular and ſtriated. *Leaves* varying extremely in form and manner of growth, with the ſame wool as the ſtem, ſeſſile or half-ſtem-claſping, waved, ſinuated, and ſometimes barely toothed; thoſe immediately beneath the ſpike of flowers entire. All the hairs pellucid, and finely jointed like a Conferva. *Peduncles* branching. *Bractes* ſubulate, one on each peduncle. *Calyx*, ſcales nearly equal, lanceolate, woolly, membranaceous at the edge. *Corolla* pale yellow: *florets* of the ray oval, veined, with two or three teeth at the end, or entire; four lines long, with a ſhort narrow tube: of the diſk ſomewhat ſhorter. *Seeds* ſmall: *pappus* as long as the tube of the corolla, with few rays [r]; or, according to Gærtner, capillary, white, ſoft, ſcarcely toothed, four times as long as the ſeed. He deſcribes the ſeeds as columnar, deeply marked with ſharp grooves, alternately deeper. Receptacle ſlightly convex, with diſtant pits on it, the interſtices fungoſe, dotted and naked.

Marſhes in many parts of Europe: with us in Lincolnſhire, about Marſh and Chattereſs in the iſle of Ely, near Norwich, Yarmouth, and Hadiſcoe in Norfolk, about Pillin-moſs in Lancaſhire, and Aberavon in Merionethſhire.

β. A variety, with leaves not jagged is mentioned by Ray to have been found by him in Norfolk *Hiſt.* 263. *n.* 10. He looks upon it to be *Conyza helenitis mellita incana* Lob. ic. 1. 347. 1. which figure is reprinted in Ger. emac. 484. 8. and copied in Park. 126. 4. Mor. hiſt. ſ. 7. t. 19. f. 23. and Petiv. t. 16. f. 5. It is probably C. alpina δ. Helenitis. Lin. ſpec. 1244 [s].

γ. A variety obſerved by Mr. Woodward near Ramſey in Huntingdonſhire. Leſs woolly than α. Stem ſlender, about eighteen inches high. Leaves ligulate-lanceolate, toothed; the lower about four inches long, the upper two and a half to one and a half, and not more than one-fourth wide; not ſo numerous as in α. Flowers ſmaller; but the fructification perfectly ſimilar [t].

11. Stature of *Senecio paludoſus*, but the flowers twice as large, yellow, with a large ray. Pedicels with ſome linear bractes. Leaves equally and diſtinctly ſerrate, tomentoſe underneath, obſcurely villoſe above. Stem villoſe [u].

Siberia. Perennial.]

12. Stems many, woody, two or three feet high, divided in many branches, which have a white downy bark. Leaves very woolly, ſix or eight inches long, deeply ſinuated, and jagged on their borders. The ſtems which ſupport the flowers are a foot or more in length, having two or three ſmall leaves on each, ſhaped like thoſe below, and terminated by many yellow flowers growing in panicles, (or rather corymbs) ſhaped like thoſe of common Ragwort; theſe appear from june to auguſt, and the ſeeds ripen the beginning of october.

[Gerard and Parkinſon ſpeak of this plant as a native of Britain. Johnſon (Ger. emac.) corrected the error, and informs us that it then grew in the garden of Mr. Ralph Tuggy. Ray ſays it is very common every where on the coaſt of the Mediterranean, but that you will look for it in vain in England or any of the northern countries of Europe. Yet Mr. Miller affirms that it grows naturally on the coaſts of England and Wales.]

β. The ſtems of this variety are more woody, riſe higher, and do not branch ſo much: the leaves are broader, not ſo much ſinuated, and of a very dark green on their upper ſide: the flowers are produced in ſmaller bunches, and rarely produce ſeeds in England; nor are the plants ſo hardy.

It is a native of the ſea coaſts of Dauphiné, Italy, and Sicily.

[13. The daughter of the foregoing; the leaves however not tomentoſe, but only ſubvilloſe, eſpecially underneath. The ray of the corolla ſpreading, but not revolute. Stem annual, not perennial. Scales of the calyx a little mortified at the end, which is not the caſe in that. Found in Canada, by Kalm [x].

14. This bears great reſemblance to *Othonna Tagetes*, but the leaves are deeply divided and more ſlender. Obſerved at the Cape by Thunberg [y].

15. This differs from *Senecio linifolius*, in having the flowers ſolitary. Stem compound, rough. Leaves very much crowded, linear, very narrow. Peduncles filiform, longer than the leaves. Flowers ſmall, yellow. Native of the Cape [z].

16. *Stem* ſimple, herbaceous, a foot high, tomentoſe, furrowed at bottom, ending at top in two very long petioles. *Leaves* alternate, at bottom crowded, petioled, having a few ſerratures and the edge bent down, obtuſe, pubeſcent above, tomentoſe underneath, the ſize of *Chryſanth. Leucanthemum. Peduncles* terminal, two, the length of the ſtem, filiform, tomentoſe, erect, one-flowered. *Flowers* the ſize of *Amellus*, with a purple ray. *Calyx*, leaflets lanceolate, ſubequal, few, ſhort, pubeſcent. *Pappus* plumoſe [a]. Native of the Cape of Good Hope.

17. It is very nearly allied to *Amellus Lychnitis*, but the receptacle of this has no chaffs. Many of the floſcules are abortive, but without any order, both in the diſk and in the ray. The latter is blue. the leaves are petioled, ovate-oblong, green and not aſh-coloured [b]. Calyx hemiſpherical, with linear leaflets ſpreading out horizontally when ripe. Receptacle moderately convex, alveolate, ſomewhat rugged. Seeds elliptic, compreſſed, pale, ſurrounded with a gently ſwelling whitiſh rim. Pappus capillary, very minutely toothletted, white, twice as long as the ſeed [c]. Stem purpliſh, rough, dividing into

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[p] Relh. Woodw. Mſſ. Engl. bot.

[q] Jacquin.

[r] Woodw. Mſſ. and Engl. bot.

[s] Withering.

[t] Woodw. Mſſ.

[u] Linn. ſpec.

[x] Ibid.

[y] Linn. ſuppl.

[z] Linn. ſpec. & amoen.

[a] Linn. mant.

[b] Linn.

[c] Gærtner.

many branches near the root, ſo as to form a low buſhy plant, ſeldom riſing more than two feet high; but the branches extending more than a foot on every ſide. Leaves about an inch long, and a third part of an inch broad, thick, ſucculent, rough, ſeſſile, generally two, but ſometimes three at a joint, or even four, two being larger and two ſmaller. Towards the upper part of the branches ariſe the peduncles, from four to ſix inches long, naked, each ſupporting one flower, the ray of which is of a fine ſky blue, and after it has been ſome time expanded, turns back towards the calyx. The whole plant is a little acrid to the taſte. It is never without flowers the whole year [d].

The ſeeds were ſent to Mr. Miller from the Cape in the year 1753, and vegetated the following ſpring in the Chelſea garden.

18. The whole plant is clothed with an epidermis of very fine wool, which may eaſily be rubbed off like a thin membrane; the branches, petioles, peduncles, and lower ſurface of the leaves are white with it. *Stems* woody. *Leaves* veined, the conſiſtence of evergreens. *Pedicels* of the flowers ſcaly with bractes, ſeldom two-flowered. *Calyx* equal, and appearing as if it were one-leafed; it has a few irregular ſcales at the baſe.——Obſerved in South America, by Mutis.

19. *Stem* erect, ſparingly branched, angular, even, two feet high; with a branch next the flowers farther progreſſive. *Leaves* quite entire, even, oleraceous, decurrent to the next, an inch in length. *Peduncles* on the top of the ſtem, leafleſs. *Calyx* ſix-parted, ovate, even. *Florets* about ſixteen, ſome of the marginal ones naked and female. It forms the link between the Cacalias and the Othonnas.

20. *Stem* erect, branched, a foot and half high, reddiſh, at the ramifications tomentoſe. *Leaves* petioled, diſtant, ſomewhat cut, unequally crenate, naked, bluntiſh, an inch in length. *Petioles* the length of the leaves, ſomewhat decurrent at the baſe. *Peduncles* terminal, one-flowered. *Calyx* entirely ſimple, divided into twelve or fourteen lanceolate leaves, the length of the flower. *Corolla* yellow, without any ray.

21. This very much reſembles the *Cacalias* in the fleſhyneſs of the herb.

22. Almoſt all the leaves are radical, and long; it has ſcarce any ſtem-leaves, except ſome ſmall ones at the ramifications.

23. The whole plant is ſomewhat fleſhy and glaucous.

24. *Stem* herbaceous, a foot high and more, erect, ſtriated, hoary. *Leaves* alternate, ſubſeſſile, marked with lines, three-nerved underneath. *Panicle* decompounded, ſtiff, many times longer than the leaves, hoary, ſubfaſtigiate. *Calyxes* ſmall. *Ray* of the corolla yellow. *Pappus* twice as long as the calyx.

25. *Stem* erect, more than a ſpan high. *Leaves* alternate, petioled, three-parted; the middle part lanceolate, with a toothlet ſometimes on each ſide in the middle: petioles filiform, broader at the baſe. *Peduncle* elongated, with ſubulate ſcales. *Calyx* with about ten leaves. *Flower* yellow.—The ſeven laſt are natives of the Cape, and were detected by Thunberg, except this which we owe to Sparrmann [e].

26. *Stem* round, ſimple, erect, tomentoſe, a ſpan high. *Leaves* alternate, acute, attenuated to both ends, erect; the lower a hand in length, the upper gradually ſhorter. *Flowers* ſolitary or tern, yellow. *Calyx* tomentoſe-woolly [f].

27, 28. Natives of New Zealand [g].

29. In the beauty of its bloſſoms, this ſpecies of *Cineraria*, lately introduced from Africa, by far eclipſes all the others cultivated in our gardens; its petals exteriorly are of a moſt vivid purple, interiorly they are white. It flowers early in the ſpring; and, by proper management, may be made to flower the whole year through [h].

Found in the Canary iſlands by Maſſon, and introduced 1780 [i].

30. This is allied to *C. cymbalarifolia*, but the flowers are yellow, and both they and the calyxes are villoſe and ſomewhat rugged; whereas in that the flowers are purple, and both they and the calyxes ſmooth [k].

31. Perhaps this may be nothing more than a variety of the foregoing [l].

They are both natives of the Cape of Good Hope, were found there by Maſſon, and were introduced in 1774 [m].

32. This is a ſhrub with an angular tomentoſe hoary ſtem. Leaves higher on long petioles (reſembling thoſe of white Poplar), not much emarginate at the petiole, nerved, veined, green and very ſmooth on the upper ſurface, but white on the under. Immediately below the leaf on the petiole are leaflets appendicled, or oppoſite in three pairs, very ſmall petioled ovate quite entire, gradually ſmaller as they approach the leaf. Panicles terminating. Pedicels bracted. Flowers yellow [n]. Found in the Canary iſlands by Maſſon. Introduced in 1780 [o].

33. Flowers purple. Leaves reſembling thoſe of the Poplar; and varying with larger and ſmaller earlets [p].

Native of Madeira; found there by Maſſon, and introduced in 1777 [q].

34. Native of the Canary iſlands, and S. Miguel one of the Azores. Found there by Maſſon, and introduced in 1777 [r].

35. Native of the Canary iſlands. Introduced in 1777, by Maſſon [s].

36. This has the herb of a *Cineraria*, but having a bracte or two under the calyx, like a calycle, it can ſcarcely be diſtinguiſhed from a *Senecio* [t].

Found at the Cape of Good Hope by Maſſon; and introduced in 1774 [u].

37. Stem ſuffruticoſe, erect, round, ſmooth, four feet high, branched. Leaves alternate. Flowers yellow, terminating. Calyx ſimple, oblong, equal. Corollets of the ray about eight, bifid. It is allied to *C. paluſtris* and *aurea*, from which however it differs in having the ſtem and leaves ſmooth, and the panicle diffuſed.

Native of China, near Canton [x].

38. Root annual. Stems often two, capillary, two inches high, at firſt woolly but afterwards almoſt ſmooth, one-flowered. Leaves alternate, ſeſſile, violet-coloured underneath. Flowers terminating, ſolitary. Leaflets of the calyx ten, villoſe, ſlightly keeled, converging, red at the tip, when fruiting thickened at bottom. Corolla yellow: corollets in the ray ten, trifid at the end. Seeds ovate-oblong, very ſmall, with a ſeſſile, plumoſe pappus. Native of Spain near Aranjuez; flowering in may [y].

39, 40. Native of Jamaica [z].

41. Stem round, ſimple, erect, tomentoſe, a ſhort ſpan in height. Leaves alternate, acute, attenuated to both ends, erect, the lower ones a hand in length, the higher ones gradually ſhorter. Flowers ſolitary, or elſe three together, yellow. Calyx tomentoſe-woolly. Native of Japan [a].]

PROPAGATION AND CULTURE.

All the ſorts may be increaſed by cuttings, planted in a ſhady border during the ſummer months, and duly watered. Theſe will put out roots in a month or five weeks, ſoon after which it will be proper to tranſplant them into pots, becauſe their roots are very apt to ſpread in the full ground. As moſt of theſe plants grow naturally at the Cape of Good Hope, they are too tender to live through the winters in England, in the open air, yet if they are nurſed tenderly, they are apt to draw up weak:

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[d] Miller's figures. [e] Linn. ſuppl. [f] Thunb. jap. [g] Forſter.

[h] Curtis. [i] Hort. kew. [k] L'Heritier. [l] Ibid. [m] Hort. kew. [n] Linn. ſuppl. [o] Hort. kew. [p] L'Heritier. [q] Hort. kew. [r] L'Herit. & hort. kew. [s] Hort. kew. [t] L'Heritier. [u] Hort. kew. [x] Loureiro. [y] Cavanilles. [z] Swartz. [a] Thunberg.

the ſureſt way therefore to preſerve them, is to make young plants annually from cuttings, and to place them in a common hot-bed frame in winter, where they may enjoy the full air in mild weather, but be ſcreened from the froſt; and in ſummer to place them abroad with other hardier ſorts of exotic plants.

12. The twelfth is hardier; and when the cuttings or ſlips are well rooted, they ſhould be planted in a dry rubbiſhy ſoil, where they will reſiſt the cold of our ordinary winters very well, and continue many years; but in rich moiſt ground, the plants are often ſo very luxuriant in ſummer, as to be killed in winter where there is much froſt.

17. This, and ſome of the others, may alſo be propagated by ſeeds, ſown on a bed of light earth the beginning of april; and when the plants are fit to remove, part of them ſhould be planted in pots to be ſheltered in winter under a hot-bed frame; and the remainder under a warm wall in poor ground; where, if the winter prove favourable, they will live.

[29. Is by ſome perſons kept in the ſtove, and may be made to flower earlier by that means; but it ſucceeds better in a common greenhouſe, with no more heat than is juſt neceſſary to keep out the froſt: it may indeed be kept in a common hot-bed frame, unleſs the weather prove very ſevere. What renders this plant a more valuable acquiſition to the greenhouſe, is its hardineſs, its readineſs to flower, and the facility with which it may be propagated by cuttings.—As this plant, with many others which are obliged to be confined, is liable to be infeſted with *aphides*; or, in vulgar phraſe, to become louſy: the beſt way to have handſome, healthy, ſtrong-flowering plants, is to procure a conſtant ſucceſſion by cuttings, which ſtrike very readily, if placed in a pot, and plunged into a bed of tan[b].

Cineraria abrotanifolia. See *Othonna abrotanifolia.*

Cineraria Othonnites. See *Othonna fruteſcens.*

CINNA.

Lin. gen. n. 15. *Reich. n.* 15. *Schreb.* 20.

Claſſ. 1. 2. Monandria Digynia.

Nat. order of *Graſſes.*

GENERIC CHARACTER.

Cal. *Glume* one-flowered, two-valved, compreſſed, linear, keeled, acuminate; one valve ſhorter, mucronated.

Cor. *Glume* bivalve, compreſſed, linear: *outer* valve within the ſmaller valve of the calyx, longer, with ſomewhat of an awn below the tip; *inner* ſlender, ſhorter.

Stam. *Filament* one, capillary. *Anther* oblong, forked at each end.

Pist. *Germ* turbinated. *Styles* two, capillary, very ſhort. *Stigmas* longer, plumous.

Per. none. *Glume* involving.

Seed one, cylindric.

ESSENTIAL CHARACTER.

Cal. Glume two-valve, one-flowered. *Cor.* Glume two-valve. *Seed* one.

SPECIES.

1. Cinna arundinacea.
Lin. ſpec. 7. *Reich.* 12. *Forſk. ægypt.* 3.
Agroſtis Cinna. *Retz. obſ.* 5. 18. *n.* 36.

DESCRIPTION, &c.

A graſs, the ſize of Oats. *Root* perennial. *Culms* many. *Leaves* broadiſh, ſmooth, many-nerved, rugged about the edge. *Panicle* glaucous, oblong, attenuated, ſomewhat compreſſed, compoſed of imbricate racemes. Keel of the *calyx* rough; one of the valves having an awn-like point. *Anther* purple. *Styles* hirſute[c].

Native of Canada; whence the ſeeds were ſent by Kalm.

Since this Graſs varies with one, two, and three ſtamens, it may very reaſonably be aſſociated with the *Agroſtides*[d]. Accordingly, it is now generally agreed to remove it into that genus: and Retzius aſſigns the following ſpecific character: *panicle contracted awnleſs, flowers acuminate with one, two or three ſtamens, leaves plane rugged.*

Cinnamomum and Cinnamon. See *Laurus.*

Cinquefoil. See *Potentilla.*

————, Baſtard. See *Sibbaldia.*

————, Marſh. See *Comarum.*]

CIRCÆA. (Circæa, *Plin.* Κιρκαια, *Dioſc.* *From the famous enchantreſs Circe.)*

Lin. gen. n. 24. *Reich. n.* 25. *Schreb.* 31. *Gærtn. t.* 24. *Juſſ.* 319. *Tournef. t.* 155. *Raii meth.* 93.

Claſſ. 2. 1. Diandria Monogynia.

Nat. order of *Aggregatæ.* *Onagræ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* two-leaved: *leaflets* ovate, concave, deflected, deciduous.

Cor. *Petals* two, obcordate, generally ſhorter than the calyx, ſpreading, equal.

Stam. *Filaments* two, capillary, erect, the length of the calyx. *Anthers* roundiſh.

Pist. *Germ* turbinate, inferior. *Style* filiform, the length of the ſtamens. *Stigma* obtuſe, emarginate.

Per. *Capſule* turbinate-ovate, hiſpid, two-celled, two-valved, opening from the baſe towards the top.

Seeds ſolitary, oblong, narrower at bottom.

Obs. *The number* two *prevails in this genus remarkably.*

ESSENTIAL CHARACTER.

Cor. two-petalled. *Cal.* two-leaved; ſuperior. *Seed* one, two-celled.

SPECIES.

1. Circæa lutetiana. *Common Enchanter's Nightſhade.*
Lin. ſpec. 12. *ſyſt.* 58. *Reich.* 23. *fl. ſuec. n.* 6. *hort. cliff.* 7. *Hudſ. angl.* 10. *With.* 23. *Curt. lond.* 3. *t.* 3. *Lightf.* 80. *Relh. cant. n.* 21. *Hall. helv. n.* 813. *Scop. carn. n.* 6. *Pollich pal. n.* 5. *Leers herborn. n.* 24. *Neck. gallob.* 5. *Krock. ſileſ. n.* 8. *Lob. ic.* 266. *Beſl. eyſt. æſtiv.* 3. *t.* 7. *f.* 1. *Ger.* 280. *emac.* 351. *Park.* 351. 1. *Fl. dan. t.* 210. *Berg. phyt.* 2. 155. *Bauh. hiſt.* 2. 977. 1. *Raii hiſt.* 401.
Stem erect; racemes many; leaves ovate.

2. Circæa alpina. *Mountain Enchanter's Nightſhade.*
Lin. ſpec. 12. *ſyſt.* 58. *Reich.* 23. *fl. ſuec. n.* 7. *lapp. n.* 3. *Hudſ. angl.* 10. *With.* 24. *Lightf.* 80. *Hall. helv. n.* 814. *Scop. carn. n.* 7. *Krock. ſileſ. n.* 9. *t.* 1. *Fl. dan. t.* 256. *Berg. phyt.* 2. *t.* 157.
C. minima. *Col. ecphr.* 2. 79. *t.* 80.
Stem proſtrate; raceme ſingle; leaves cordate.

DESCRIPTIONS, &c.

1. [*Root* perennial, creeping, toothed. The whole plant pubeſcent. *Stems* from twelve to eighteen inches in height and more, erect, round, villoſe, or ſmooth, ſeldom hairy; the joints ſwelled, and ſometimes purpliſh, branching. *Leaves* oppoſite, petioled, ſubcordate, pointed, even, veined, paler underneath, about two inches long, and an inch broad: or ovate, ſubſerrate, opake; as *Linneus*— or elliptic, ſubvilloſe, entire; as *Scopoli*; or cordate-ovate, acuminate, as Dr. Stokes deſcribes them; a little woolly, as Dr. Withering—ſlightly hairy on the margin, as *Lightfoot*; or ſmooth, as *Pollich* affirms; ſometimes reddiſh, and toothed on the edge: or betwixt toothed and ſerrate, the points being directed towards the end of the leaf, but the margin between the points hollowed out, according to Dr. Stokes; entire, waved or ſerrated, and ciliated, according to Haller: *Flowers* in ſimple racemes on the tops of the branches, both terminating and lateral; frequently ſolitary: ſometimes more than forty flowers in a raceme. *Peduncles* ſolitary, long, alternate; when fruit-bearing turned downwards. *Calyx* much thicker and coarſer than the corolla; green, greeniſh red, or green with red points, or purple; when magnified, appearing to be beſet with ſhort, cylindrical hairs, ending in heads, juſt ſenſibly thicker than the body of the hair. *Corolla* ſmall, whitiſh, reddiſh white, or fleſh-coloured: *petals* the length of the calyx, and alternate with the leaflets of it. *Filaments* longer than the calyx. *Anthers* rather large, whitiſh; pollen three-cornered.

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[b] Curtis. [c] Lin. ſpec. [d] Retz.

nered. *Germ* hiſpid and gray, ovate-compreſſed, at a ſmall diſtance below the calyx: *ſtyle* thickeſt upwards, with a double green gland at its baſe: *ſtigma* of a bright red, or fine pink colour. *Capſule* ſet with white hairs, hooked at the end. *Seeds* two, one of which is frequently abortive[a]. It may be preſumed, from the diſagreement of authors in their deſcription of this plant, that it is ſubject to variation. It is not uncommon in ſhady lanes and orchards, under moiſt hedges and walls, and in woods, flowering in july and auguſt.

The ſeeds ſtick by their little hooks to any thing that paſſes, and according to Boerhaave, this circumſtance gave occaſion to the name; the fruit laying hold on the cloaths of paſſengers, and drawing them to it, as Circe was fabled to do by her enchantments.

It is a weed frequently in gardens, and not very eaſily deſtroyed, the roots being creeping. Sheep, however, are ſaid to eat it; and though it has not found its way into the diſpenſatories, yet it is eſteemed very deterſive, and is recommended by Chomel againſt the piles, uſed both outwardly in a cataplaſm, and inwardly in an infuſion[b].

2. Linneus doubts whether this be a diſtinct ſpecies from the firſt. Scopoli and moſt others have no doubt of their being ſpecifically different; and Haller relates that it does not become like the foregoing, and that it is no variety. According to Scopoli, the ſpecific difference does not conſiſt in an aſcending ſtem, a ſingle raceme, or a coloured calyx, but in the form, ſmoothneſs, and toothed edge of the leaves. Grimm remarked ſeveral racemes on one plant.

Linneus remarks, that the *ſtem* is proſtrate, ſcarcely a finger's length. *Leaves* cordate, toothed, ſhining. *Calyx* coloured, as is the corolla. And Mr. Woodward, that the *raceme* is generally one, but that ſometimes there are two or three. *Leaves* of a yellower green: and the plant ſometimes ſix inches high. It differs from the foregoing, according to Haller and Krocker, in having a decumbent ſtem, more tender and ſmooth, leſs, and ſcarcely ever more than a ſpan in height; leaves gloſſy, more deeply cut, more evidently cordate, and notched at the petiole; the calyx redder; and the racemes ſimple. The whole plant ſeems to be ſmooth, ſmaller, and of a more delicate texture than the common ſpecies, ſeldom branching, the ſtem uſually reclining towards the bottom. Linneus allows it only a ſingle raceme, others give it two or three, and even five. Haller affirms that it has even more than the common ſort.

In rocky woods in Lapland, Sweden, Denmark, Switzerland, where I gathered it on mount Scheidegg in auguſt, Carniola, Sileſia, Piedmont, &c.—With us about Leeds and Hallifax in Yorkſhire, in Lancaſhire, Weſtmoreland, Cumberland and Scotland. Mr. Miller found it growing wild in the wood near the Hague.]

PROPAGATION AND CULTURE.

Theſe plants multiply exceedingly by their creeping roots, and are therefore ſeldom kept in gardens. If the roots be planted in any ſhady moiſt part of a garden, they will increaſe faſt enough without any care.

[CIRSION. See *Carduus*.

CIRSIUM. See *Arctium*, *Carduus*, *Cnicus*.]

CISSAMPELOS. (Κισσαμπελος, *Dioſc.* *Hederæ Vitis*, *Vine of Ivy*. *From* Κισσὸς *and* Ἄμπελος.)

Lin. gen. n. 1138. *Reich. n.* 1243. *Schreb.* 1555. *Juſſ.* 285. *Brown.* 357. *Swartz obſ. t.* 10. *f.* 5. Caapeba. *Plum. gen. t.* 29.

Claſſ. 22. 12. Dioecia Monadelphia.

Nat. order of *Sarmentaceæ*. *Meniſperma*. Juſſ.

GENERIC CHARACTER.

* *Male*.

CAL. none, unleſs the corolla be called ſo.

COR. *Petals* four, ovate, flat, expanded.

Nectary the membranaceous diſk of the flower, wheel-ſhaped.

STAM. *Filaments* four, very ſmall, coaleſcent. *Anthers* broad, flat.

* *Female*.

CAL. none, except the bracte.

COR. none.

Nectary the membranaceous lateral edge of the germ, dilated outwards.

PIST. *Germ* roundiſh. *Styles* three. Stigmas three, erect, acute.

PER. *Berry* globular, one-celled.

SEED ſolitary, wrinkled, ſomewhat compreſſed.

ESSENTIAL CHARACTER.

MALE. *Cal.* four-leaved. *Cor.* none. *Nect.* wheel-ſhaped. *Stam.* four, with connate filaments.

FEM. *Cal.* one-leafed, ligulate-roundiſh. *Cor.* none. *Styles* three. *Berry* one-ſeeded.

SPECIES.

1. Ciſſampelos Pareira.
Lin. ſpec. 1473. *ſyſt.* 895. *Reich.* 4. 281. *mat. med.* 218. *Swartz obſ.* 380.
Clematis baccifera, &c. *Plum. amer. t.* 93. *Sloan. jam.* 1. 200.
Convolvulus braſilianus, fl. octopet., monococcos. *Raii hiſt.* 1331.
Caapeba. *Marcgr. braſ.* 25. *fig.* 26. 1. *Piſ. braſ.* 94. *Plum. gen.* 33.
β. C. ſcandens. *Brown. jam.* 357.
Caapeba fol. orbiculari umbilicato & tomentoſo. *Plum. gen.* 33.
Leaves peltate, cordate, emarginate and entire.

2. Ciſſampelos Caapeba.
Lin. ſpec. 1473. *Reich.* 4. 281.
Caapeba fol. orb. non umbil. *Plum. gen.* 33. *ic.* 67. *f.* 2.
Leaves petioled at the baſe, entire.

[3. Ciſſampelos ſmilacina. *Smilax-leaved Ciſſampelos.*
Lin. ſpec. 1473. *Reich.* 4. 282.
Smilax lenis, fol. anguloſo hederaceo. *Cateſb. car.* 1. *t.* 51.
Leaves cordate, acute, angular.

4. Ciſſampelos fruticoſa.
Lin. ſyſt. 895. *ſuppl.* 432.
Stem erect, ſhrubby, leaves ovate, petioled, entire.

5. Ciſſampelos capenſis.
Lin. ſyſt. 895. *ſuppl.* 432.
Stem twining, leaves ovate, obtuſe, petioled, entire.

DESCRIPTIONS, *&c.*

1. Stem climbing and twining from ten to fifteen feet in height, lax, round, ſtriated, ſmooth or hirſute. Leaves ſubpeltate, cordate-roundiſh, tomentoſe: petioles round, reflex, of a middling length. Racemes compound, axillary, dioecous. Males ſubdivided, many-flowered; flowers numerous, heaped, duſky-yellow, minute. Calyx four-leaved: leaflets lanceolate, obtuſe, concave, ſpreading, coloured. Corolla none. Nectary the diſk of the flower, ſmaller than the calyx, entire, a little concave, coloured. Filament ſingle, very ſhort, in the middle of the nectary: anther roundiſh, capitate, the margin four-parted (but not four anthers), the inciſures polliniferous. Female racemes more ſimple; with five or ſix crowded peduncles, which are one-flowered; flowers extremely minute, yellow. Bractes petioled, roundiſh, thick, one under each pedicel. Calyx one-leafed; the lacinia lateral, ovate, attenuated at the baſe, faſtened to the germ at bottom. Corolla a ſingle petal, within the lacinia of the calyx, and only half the ſize of it, lateral, ovate, obtuſe, convex, attenuated at the baſe, deciduous. Germ obliquely faſtened to the pedicel, roundiſh, hirſute. Style ſubulate, erect. Stigma trifid, ſpreading. The fruit is a roundiſh, compreſſed, ſcarlet drupe; containing a ſingle nut, or very hard ſeed, compreſſed, triply echinate-wrinkled at the edge, two-celled. Cotyledons ovate.

In mountain coppices it is ſmooth, with cordate entire leaves, hoary underneath. In champaign calcareous ſituations it is hirſute, with cordate-roundiſh emarginate leaves, which are tomentoſe. Native of the Weſt-Indies[c].

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[a] Curtis, With. Linn. Scop. Hall. Lightf. Pollich, Relh.

[b] Haller, Necker, Krocker.

Linneus ſuggeſts that it is perhaps the female of the following ſpecies: but Swartz aſſerts that it is not; that having the leaves petioled (not peltate) and entire.

The leaf applied whole or bruiſed to a wound, cures it very effectually[d]. It is alſo a remedy againſt the bite of poiſonous animals. The root is excellent in the ſtone[e]. It is looked upon as an excellent diuretic, and is in frequent uſe among the negroes in all obſtructions of the urinary paſſages. The root, which is the part chiefly uſed, has a pleaſant bitteriſh taſte, and anſwers well in decoctions[f].]

2. The ſecond ſort has round heart-ſhaped leaves, which are extremely woolly and ſoft to the touch; theſe have their foot-ſtalks placed at the baſe between the two ears; the flowers of this come out in bunches from the ſide of the ſtalks, in the ſame manner as the firſt. The ſtalks and every part of the plant is covered with a ſoft woolly down.

The ſeeds of both theſe plants were ſent me from Jamaica, by the late Dr. Houſtoun, which ſucceeded in the Chelſea garden, where the plants produced their flowers for ſeveral years; and the fruit of the firſt ſort was produced, but would not grow, though it ſeemed to be perfectly ripened; but the plants growing at ſome diſtance from the male, were probably not impregnated.

[3. The ſtalks are ſlender, running up walls, and twining about poſts and trees. The leaves reſemble thoſe of common Ivy. The berries are red, about the bigneſs of ſmall peas, and grow in cluſters[g]. Linneus had not an opportunity of ſeeing the fructification complete. It is a native of Carolina.—Introduced about 1776, by John Hope, M. D.[h].

4, 5. Found at the Cape of Good Hope by Thunberg[i].]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, which ſhould be ſown upon a hot-bed in the ſpring; and the plants muſt afterward be treated in the ſame way as other tender exotics, keeping them conſtantly in the bark-ſtove, otherwiſe they will not live in this country.

[The firſt thrives beſt in a rich ſhady ſoil, grows well both in the high and low lands of Jamaica, and may be very eaſily propagated there[k].

CISSAMPELOS. See *Meniſpermum.*]

CISSUS. (Κισσος, *Dioſc. From* Κισσος, *Ivy.*)
Lin. gen. n. 147. *Reich. n.* 153. *Schreb.* 192. *Juſſ.* 267.
Claſſ. 4. 1. Tetrandria monogynia.
Nat. order of *Hederaceæ. Vites* Juſſ.

GENERIC CHARACTER.

CAL. *Involucre* many-leaved, very ſmall.
Perianth one-leafed, flat, ſhort, obſcurely four-cornered.
COR. *Petals* four, concave.—*Nectary* a rim ſurrounding the germ.
STAM. *Filaments* four, the length of the corolla, inſerted into the nectary. *Anthers* roundiſh.
PIST. *Germ* roundiſh, obtuſely four-cornered, retuſe. *Style* filiform, the length of the ſtamens. *Stigma* ſimple, acute.
PER. *Berry* round, ſhining, umbilicate.
SEED a roundiſh ſtone.
OBS. *This genus has a great affinity with* Hedera; *the fruit is a berry, and it has one-fifth leſs in the parts of the flower; alſo with* Vitis.

ESSENTIAL CHARACTER.

Berry one-ſeeded, ſurrounded by the calyx and four-parted corolla.

SPECIES.

[1. Ciſſus vitiginea. *Vine-leaved Ciſſus.*
Lin. ſpec. 170. *ſyſt.* 158. *Reich.* 328. *fl. zeyl. n.* 60. *amœn.* 1. 390. *Vahl ſymb.* 3. 18. *Lour. cochinch.* 83? *Pluk. mant. t.* 337. *f.* 2. *Raii dendr.* 37.
Leaves cordate, with about five lobes, tomentoſe.

2. Ciſſus repanda.
Vahl ſymb. 3. 18.
Leaves cordate, entire or ſublobed repand ſmooth on both ſides.

3. Ciſſus latifolia.
Vahl ſymb. 3. 18. *Lamarck encycl.*
Schunambu-valli. *Rheed. mal.* 7. 21. *t.* 11.
Funis crepitans major. *Rumph. amb.* 5. 446. *t.* 164. *f.* 1.
Leaves cordate-ovate villoſe acuminate ſetaceous-ſerrate, branches four-cornered.]

4. Ciſſus cordifolia.
Lin. ſpec. 170. *Reich.* 1. 328.
Vitis. *Plum. ſpec.* 18. *ic.* 259. *f.* 3.
Leaves cordate quite entire.

[5. Ciſſus rotundifolia.
Vahl ſymb. 3. 19.
Sælanthus rotundifolius. *Forſk. ægypt.* 35. *t.* 4.
Leaves cordate-roundiſh ſerrate.]

6. Ciſſus Sicyoides.
Lin. ſpec. 170. *ſyſt.* 158. *Reich.* 1. 329. *Jacqu. amer.* 22. *t.* 15. *pict.* 16. *t.* 20. *Swartz obſ.* 48.
Irſiola. *Brown. jam.* 147. *n.* 2. *t.* 4. *f.* 1, 2.
Bryonia. *Sloan. jam.* 1. 233. *t.* 144. *f.* 1. *Raii ſuppl.* 347.
Leaves ſubcordate naked, briſtly-ſerrate, branchlets round.

[7. Ciſſus quadrangularis.
Lin. ſyſt. 158. *Reich.* 329. *mant.* 39. *Lour. cochinch.* 84. *Pluk. phyt. t.* 310. *f.* 6.
Funis quadrang. *Rumph. amb.* 5. 83. *t.* 44. *f.* 2.
Sælanthus quadragonus. *Forſk. arab.* 33. *n.* 11. (ſec. Loureiro.)
Leaves cordate fleſhy ſerrate-toothed, ſtem four-cornered, ſomewhat ſwelling.]

8. Ciſſus acida. *Three-leaved Ciſſus.*
Lin. ſpec. 170. *Reich.* 329. *Jacqu. amer. pict.* 17. *Swartz obſ.* 49.
C. trifoliatus. *Jacqu. amer.* 23.
Sicyos trifoliata. *Lin. ſpec. edit.* 1. 1013.
Irſiola. *Brown. jam.* 147. *n.* 1.
Bryonia. *Sloan. jam.* 1. 233. *t.* 142. *f.* 6. *Raii ſuppl.* 347.
Bryonioides. *Pluk. alm. t.* 152. *f.* 2.
Vitis. *Plum. ſpec.* 18. *ic. t.* 259. *f.* 5.
Leaves ternate obovate ſmooth fleſhy gaſhed.

9. Ciſſus trifoliata.
Lin. ſpec. 170. *Reich.* 330. *Jacqu. amer.* 23. *t.* 182. *f.* 10. *ed.* 2. *p.* 17. *t.* 259. *f.* 8. *as to the leaf. Swartz obſ.* 50. *Lour. cochinch.* 83.
Irſiola. *Brown. jam.* 147. *n.* 3.
Bryonia. *Sloan. jam.* 1. 233. *t.* 144. *f.* 2.
Leaves ternate roundiſh hirſute, with a few teeth, branches angular and membranaceous.

[10. Ciſſus crenata.
Vahl ſymb. 3. 19.
Folium Cauſſonis. *Rumph. amb.* 5. 450. *t.* 166. *f.* 2.
Vitis trifolia. *Lin. ſyſt.* 244.
Leaves ternate, leaflets roundiſh crenate.

11. Ciſſus carnoſa.
Vahl ſymb. 3. 19. *Lamarck encycl.*
Tsjori-valli. *Rheed. mal.* 7. 17. *t.* 9.
Funis crepitans trifolium. *Rumph. amb.* 5. *t.* 165.
Leaves ternate ovate obtuſe ſerrate ſmooth, branches and petioles round.

12. Ciſſus obovata.
Vahl ſymb. 3. 19.
Leaves ternate, leaflets obovate quite entire ſmooth.

13. Ciſſus pedata.
Vahl ſymb. 3. 20. *Lamarck encycl.*
Belutta-Tsjori-valli. *Rheed. mal.* 7. 19. *t.* 10.
Sambucus canadenſis. *Burm. ind.* 75.
Leaves pedate, leaflets lanceolate ſerrate tomentoſe underneath.

14. Ciſſus heptaphylla.
Retz. obſ. 5. 22. *t.* 52.
Leaves in ſevens ſerrate hiſpid.

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[c] Swartz. [d] Sloane. [e] Marcgraaf. [f] Browne. [g] Cateſby. [h] Hort. kew. [i] Linn. ſuppl. [k] Browne.

15. Ciſſus umbellata.
Lour. cochinch. 84.
Leaves ovate quite entire, flowers umbelled.

DESCRIPTIONS, *&c.*

1. Linneus obſerves, that this ſpecies of Ciſſus has the appearance of a Vine; but differs in the calyx, corolla, number of ſtamens, and in having a ſtyle[a]. The ſtem is tomentoſe: the branches villoſe, hoary at top, and ſubquadrangular. Leaves alternate, two inches long, entire, ſometimes ſlightly angular towards the tip, three-lobed or obſcurely five-lobed (like thoſe of Mallow), nerved and veined, more villoſe beneath, bluntly and unequally toothed, the middle lobe larger than the others; the younger ones tomentoſe on both ſides: they are on unguicular petioles. Stipules ſmall, ovate, membranaceous, deciduous. Umbels peduncled, oppoſite to the leaves, three-rayed, compound or proliferous: peduncles the length of the leaves. Flowers hoary, moſt of them deciduous: fruitful pedicels commonly in pairs and divaricating. Berries pear-ſhaped, the ſize of peas, of a blueiſh glaucous colour[b]. Native of the Eaſt-Indies. Introduced here about the year 1772[c].

2. The branches of this are round, flexuoſe, jointed, tomentoſe, but becoming ſmooth by age. Leaves petioled, from two to three inches in length, and ſtill more in breadth, of a more firm texture than in the other ſpecies, nerved and veined, thoſe which are more advanced ſmooth on both ſides, but the younger ones villoſe; the notches finiſh in a minute dagger-point: they are very blunt, but ſometimes have a ſhort blunt point at the end. Stipules oval, membranaceous, acute, oppoſite, ſemi-unguicular, deciduous. Peduncles oppoſite to the leaves: rays of the umbel three, dichotomouſly branched. The laſt pedicels umbelled. Scales villoſe, very ſhort at the baſe of the pedicels. Berries pear-ſhaped, the ſize of peas, mucronate with the permanent ſtyle.

Native of the Eaſt-Indies[d].

3. Branches jointed, woody, as are alſo the petioles and peduncles, ferruginous-tomentoſe, eſpecially at top, by age becoming ſmooth at bottom. Leaves petioled, alternate, two or three inches long, cordate, but the upper ones uſually obliquely ſubtranſverſe without any ſinus; thoſe which are more adult ſmooth on the upper ſurface, but on the lower ſubtomentoſe with ferruginous villoſe hairs, as the younger ones are on both ſides; they are both veined and nerved, the nerves are oppoſite. Petioles half an inch in length. Stipules oblong, lateral. Umbels compound, peduncled, ſhorter than the leaf, five-rayed: the partial ones about eight. There is no involucre, except the ferruginous villoſe hairs at the baſe of the pedicels. Berries pear-ſhaped, ſmooth.

Native of the Eaſt-Indies[e].

4. Branches ſimple, knotty. Leaves flat, orbiculate, acuminate, ſinuoſe. Racemes extended, corymbed, ſubumbelled. Berries large, oblong. Tendrils large, bifid, retrograde[f].

Native of South-America.

5. Leaves ſmooth, ſetaceous-ſerrate. Umbels racemed, oppoſite, many-flowered, about four on each common peduncle, and ſimple. Peduncles nearly the length of the leaves[g].

Native of Arabia.

6. Stem fruteſcent, herbaceous at top, ſcandent, ſubdivided, divaricating, rooting, round, bloody-dotted, ſmooth. Leaves petioled, alternate, cordate, ovate, ſetaceous-ſerrate with the ſerratures diſtant and preſſed cloſe, nerved, ſmooth on both ſides, ſomewhat ſucculent. Flowers heaped in form of an umbellule; the branchlets ſpreading from a centre, equal, dichotomous; the pedicels one-flowered. At the diviſions of the peduncles are four ſmall ſcales. Petals inſerted within the rims of the calyx, broader at the baſe, ovate, reflex, deciduous, yellow. Nectary a yellow four-parted rim, ſurrounding the germ. Filaments inſerted between the diviſions of the nectary, and deciduous. Anthers orange. Style ſubulate. Berry oblong, black.

Native of Jamaica, in waſte places, by walls, and on rocks[h]. Jacquin ſays, in all the Caribbee iſlands, and the neighbouring continent, differing in habit according to the ſituation in which it grows.

Cultivated here before 1768, by Mr. Miller.

The berries of this and ſome other ſorts are ſometimes eaten by the natives and negroes, but they are chiefly food for birds.

7. Stem very long, climbing, ſmooth and even. Leaves alternate, petioled, ſubhaſtate, ſmooth on both ſides, ſharply and remotely ſerrate. Petioles round. Tendrils oppoſite to the leaves. The root is tuberous.

Native of Arabia and the Eaſt-Indies[i]. Found alſo near Mozambique in Africa, by Loureiro.

8. Stem ſcandent, flexuoſe, round, tinged with purple, ſucculent, jointed. Branches ſhort. Leaves petioled, alternate. Leaflets ſeſſile, cuneate-obovate, gaſhed at the end, thick, nerveleſs, deep green. Tendrils at the joints of the ſtem, long, filiform, ſtrict; others terminating, very long. Umbels five-cleft: umbellets five-flowered; the flowers pedicelled, and under the pedicels little bractes. Calyx ſurrounding the germ, pitcher-ſhaped, obtuſely four-toothed. Corolla four-parted; the parts reflex and deciduous. Germ truncate. Berry black, ſurrounded by the calyx.

Native of Jamaica, in woods near the coaſt. The whole of it is acid[k].

Cultivated, as we learn, from Plukenet, in 1692, at the royal garden, Hampton Court.

9. Stem ſuffruteſcent, ſcandent, having five or ſix angles, knotted, rooting, branched, green; the angles ſlightly winged: branches herbaceous, lax. Leaves on very long pentangular petioles: leaflets on ſhort petioles, ovate, acute, the lateral ones oblique, ſerrate, nerved, ſmooth on both ſides. Stipules at the baſe of the petioles, roundiſh. Flowers umbelled, blood-red. Common peduncle oppoſite to the petiole, ſhort. Umbel four-cleft; involucre formed of the fading ſcales of the baſe. Peduncles partial, two-parted; with the terminating umbellules and pedicels coloured. Calyx or rim of the germ entire and four-cornered. Petals minute, red, deciduous. Nectary yellow. Filaments inſerted into it, and ſubulate: anthers yellow. Germ depreſſed: ſtyle four-cornered: ſtigma yellow. Berry roundiſh, one-ſeeded.

Native of the Weſt-Indies, climbing high above the branches of the trees, in the hedges, upon the mountains[l].

10. The branches petioles younger leaves and peduncles villoſe. Tendrils oppoſite to the leaves compound. Leaves petioled: leaflets alſo petioled, an inch long; the lateral ones a little ſmaller, and narrower on one ſide; the notches remote and mucronate. Stipules ſmall, oblong, obtuſe. Cymes dichotomous. Peduncles oppoſite to and longer than the leaf. Calyx minute four-toothed. Petals arched. Filaments ſhorter than the corolla. Native of the Eaſt-Indies[m].

11. The whole plant ſmooth. Branches ſtriated, round. Leaves petioled: leaflets alſo petioled, fleſhy; the lateral ones ſmaller, an inch long: common petiole the length of the leaves. Univerſal umbel of three rays; partial, with dichotomous divaricating branches. General peduncle longer than the leaf. Native of the Eaſt-Indies.

C. trifoliata differs in having the branches and petioles membranaceous-winged. *C. acida* is known by the obovate gaſhed leaves[n].

12. Stem ſcandent, ſmooth. Tendrils oppoſite to the leaves, of the ſame length, and bifid. Leaves petioled, alternate: leaflets mucronate, membranaceous; the lateral ones ſmaller and ſeſſile, the middle one petioled, and three times the ſize of the others.

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[a] Amoen. acad.
[b] Vahl.
[c] Hort. kew.
[d] Vahl.
[e] Ibid.
[f] Plumier.
[g] Vahl.

[h] Swartz.
[i] Linn. mant.
[k] Swartz.
[l] Ibid.
[m] Vahl.
[n] Ibid.

Peduncles axillary, ſolitary, longer than the leaves, ſmooth, trichotomous; the branchlets three-flowered; the flowers pedicelled. Native of America[o].

13. Branches tomentoſe, hoary. Leaves petioled, five, ſix or ſeven: leaflets alſo petioled, three or four inches long, unequal, attenuated, unequally ſerrate, but with the point quite entire, on the upper ſurface ſlightly villoſe, beneath villoſe-tomentoſe, hoary, nerved. Petioles tomentoſe, hoary, bifid: the lateral partial ones branched, the middle one undivided and one-leafed. Cymes dichotomous, five or ſix times divided, hoary. Flowers ſmall. Calyx obſcurely four-toothed, minute. Native of the Eaſt-Indies[p].

14. This is a ſarmentoſe ſcandent ſhrub. Branches pubeſcent. Tendrils oppoſite to the leaves bifid. Leaves alternate, petioled, compoſed of a pair, a ternate, and a ſingle leaflet larger than the reſt, a ſecond time petioled: leaflets ovate-lanceolate, acuminate, unequally ſerrate, ſparſely hiſpid on the upper, but more ſo on the lower ſurface; the nerves towards the edges more hiſpid on both ſides. Panicles faſtigiate, brachiate, peduncled, oppoſite to the leaves. Flowers ſmall. Koenig ſent it from Calcutta[q].

15. Stem ſhrubby, twining, long, branched. Leaves oppoſite, ſmooth. Flowers white, in compound terminating umbels. Corolla bell-ſhaped, four-cleft, woolly within. Calyx truncate, ſurrounding the berry.

Native of China, about Canton[r].]

PROPAGATION AND CULTURE.

The plants are preſerved in ſome of the European gardens, more for the ſake of variety, than for uſe or beauty, as they rarely produce either fruit or flowers in moderate climates. They are propagated either by laying their flexible branches down in pots of earth, where they will put out roots in four or five months, or by planting cuttings in pots filled with light earth, which ſhould be plunged into a moderate hot-bed of tanners bark, covering the pots cloſely with hand-glaſſes to exclude the outer air: the cuttings muſt be frequently refreſhed with water, but not too much given at each time. When theſe or the layers are well rooted, they ſhould be carefully taken up, and each planted in a ſmall pot filled with light earth, and plunged into the hot-bed of tan, where they ſhould conſtantly remain, being too tender to thrive in England, but with this care. Therefore they ſhould be ſhifted into larger pots when it is neceſſary, and their branches muſt be ſupported with ſtakes, to prevent them from trailing over the neighbouring plants; and in warm weather the plants ſhould have free air admitted to them daily. With this treatment they will thrive very well.

Cistoides. See *Mahernia.*

CISTUS. (Κιστος, *Dioſc.* Derivation very uncertain: written κίστος, κίσθος & κίσσαρον, and ſaid to be named from the youth Ciſtus, the fable concerning whom may be ſeen in Caſſianus Baſſus. Others derive it from κὶς, κιὸς a worm or weevil. Mr. Miller ſays it is ſo called, becauſe the ſeed is incloſed in a *Ciſta* or capſule.) *Rock-roſe. Gum Ciſtus.*

Lin. gen. n. 673. *Reich. n.* 728. *Schreb.* 913. *Gærtn. t.* 76. *Juſſ.* 294. *Tournef. t.* 136. *Raii meth.* 109. Helianthemum *Tourn. t.* 128. *Juſſ.* 294. *Gærtn. t.* 76. *Raii meth.* 109.

Claſſ. 13. 1. Polyandria Monogynia.

Nat. order of *Rotaceæ. Ciſti* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved, permanent: *leaflets* roundiſh, concave; of which two alternate ones are lower and ſmaller.

Cor. *Petals* five, roundiſh, flat, ſpreading, very large.

Stam. *Filaments* numerous, capillary, ſhorter than the corolla. *Anthers* roundiſh, ſmall.

Pist. *Germ* roundiſh. *Style* ſimple, the length of the ſtamens. *Stigma* flat, orbiculate.

Per. *Capſule* roundiſh, covered with the calyx.

Seeds numerous, roundiſh, ſmall.

Obs. Helianthemum T. *has a one-celled, three-valved capſule.*—Ciſtus T. *has a five or ten-celled capſule.*

ESSENTIAL CHARACTER.

Cor. five-petalled. *Cal.* five-leaved: with two of the leaflets ſmaller. *Capſule.*

SPECIES.

* *Without ſtipules, ſhrubby.*

[1. Ciſtus capenſis. *Cape Ciſtus.*
Lin. ſpec. 736. *Reich.* 2. 590. *Vahl. ſymb.* 3. 68.
Leaves ovate-lanceolate petioled three-nerved toothletted naked on both ſides.]

2. Ciſtus villoſus. *Hairy Rock-roſe* or *ſhrubby Ciſtus.*
Lin. ſpec. 736. 2. *ſyſt.* 496. *Reich.* 2. 590.
C. mas. *Dalech. hiſt.* 222.—fol. rotundo hirſutiſſimo. *Bauh. pin.* 464. *Raii hiſt.* 1007.—major, fol. rotundiore. *Bauh. hiſt.* 2. 2. *Duham. arb.* 1. 167. *t.* 64.
Leaves ovate petioled rough with hairs.

3. Ciſtus populifolius. *Poplar-leaved Ciſtus,* or *Rock-roſe.*
Lin. ſpec. 736. *ſyſt.* 496. *Reich.* 2. 591. *hort. cliff.* 205. 1.
C. Ledon, fol. populi nigræ, major. *Bauh. pin.* 467. *Raii hiſt.* 1009. *Park.* 663. 2. 664. *f.* 2. *Bauh. hiſt.* 2. 9. *f.* 1.
Ledum latifolium 2. majus. *Cluſ. hiſt.* 1. 78. *Ger.* 1103. 2. *emac.* 1286. 2.
β. C. L., fol. populi nigræ, minor. *Bauh. pin.* 467. *Raii hiſt.* 1009. *Bauh. hiſt.* 2. 9. *f.* 2.
L. latif. 2. minus. *Cluſ. hiſt.* 1. 78.
L. populnea fronde minor. *Park.* 663. 3. 664. *f.* 4.
L. populea fronde. *Ger.* 1103. 3. *emac.* 1286. 3.
Leaves cordate even acuminate petioled.

4. Ciſtus laurifolius. *Bay-leaved Gum-Ciſtus.*
Lin. ſpec. 736. *ſyſt.* 496. *Reich.* 2. 591.
Ciſtus Ledon, fol. laurinis. *Bauh. pin.* 467. *Raii hiſt.* 1009.
Ledon 1. latifolium. *Cluſ. hiſt.* 1. 77.
C. L. latifolium. *Park.* 662. 1.
Leaves oblong-ovate petioled three-nerved the upper ſurface ſmooth; petioles connate at the baſe.

5. Ciſtus ladaniferus. *Spaniſh Gum-Ciſtus.*
Lin. ſpec. 737. *ſyſt.* 497. *Reich.* 2. 591. *hort. cliff.* 205. 2. *Curt. magaz. t.* 112.
C. ladanifera hiſpanica incana. *Bauh. pin.* 467. *Raii hiſt.* 1009.
C. L. 1. anguſtifolium. *Cluſ. hiſt.* 1. 77. *Ger.* 1103. 1. *emac.* 1286. 1. *Park. theat.* 663. *f.* 1. *parad.* 422.
β. C. flore macula nigricante notato. *Bauh. hiſt.* 2. 8. *Comm. hort.* 1. 39. *t.* 20.
C. ſalicifolius. *Mill. dict. n.* 14.
Leaves lanceolate even on the upper ſurface, petioles united at the baſe and ſheathing.

6. Ciſtus monſpelienſis. *Montpelier Gum-Ciſtus.*
Lin. ſpec. 737. *ſyſt.* 497. *Reich.* 2. 592. *hort. cliff.* 205. 3. *Gærtn. fruct.* 1. 371. *Villars dauph.* 3. 692.
C. ladanifera monſpelienſium. *Bauh. pin.* 467. *Raii hiſt.* 1010. *Bauh. hiſt.* 10. *f.* 2.
Ledum. *Dalech. hiſt.* 230.
β. C. L. fol. oleæ, ſed anguſtioribus. *Bauh. pin.* 467.
C. oleæfolius. *Mill. dict. n.* 10.
Ledon 5. *Cluſ. hiſt.* 1. 79. *Ger.* 1104. 5. *emac.* 1287. 5. *Park.* 665. *f.* 7.
Leaves linear-lanceolate ſeſſile villoſe on both ſides three-nerved.

7. Ciſtus ſalvifolius. *Sage-leaved Ciſtus.*
Lin. ſpec. 738. *ſyſt.* 497. *Reich.* 2. 592. *hort. cliff.* 205. 5. *Scop. carn. n.* 643. *Hall. helv. n.* 1031. *Allion. pedem. n.* 1655. *Villars dauph.* 3. 692.
C. femina. *Cluſ. hiſt.* 1. 70.—fol. ſalviæ. *Bauh. pin.* 464. *Raii hiſt.* 1008.—monſpeliaca fl. albo, & hiſpanica luteo. *Bauh. hiſt.* 2. 4. *f.* 2.
Leaves ovate petioled hirſute on both ſides.

8. Ciſtus incanus. *Hoary Rock-roſe,* or *Roſe-Ciſtus.*
Lin. ſpec. 737. *ſyſt.* 497. *Reich.* 2. 592. *hort. cliff.* 205. 4. *Curt. mag. t.* 43.
C. mas anguſtifolius. *Bauh. pin.* 464. *Raii hiſt.* 1007. *Ger.* 1093. 1. *emac.* 1275. 1. *Park.* 658. *f.* 1.

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[o] Vahl.
[p] Ibid.
[q] Retz.
[r] Loureiro.

C. mas 2. *Cluſ. hiſt.* 1. 69.—fol. longiore. *Bauh. hiſt.* 2. 2. *f.* 2.

Leaves ſpatulate tomentoſe wrinkled; the lower connate at the baſe and ſheathing.

9. Ciſtus creticus. *Cretan ladaniferous Ciſtus.*

Lin. ſpec. 738. *ſyſt.* 497. *Reich.* 2. 593. *mat. med.* 137. *Jacqu. collect.* 1. 80. *Woodv. med. bot.* 249. *t.* 91.

C. ladanifera cretica. *Tourn. cor.* 19. *itin.* 1. 30. *Buxb. cent.* 3. 34. *t.* 64. *f.* 1. *Park.*

C. Ledon cretenſe. *Bauh. pin.* 467. *Raii hiſt.* 1010.

Ladanum creticum. *Alp. exot.* 89. *t.* 88.

Leaves ſpatulate-ovate petioled nerveleſs rugged, calyxes lanceolate.

10. Ciſtus albidus. *White-leaved Ciſtus.*

Lin. ſpec. 737. *ſyſt.* 497. *Reich.* 2. 593. *mant.* 403. *Gouan. monſp.* 225. *Villars dauph.* 3. 692.

C. mas. 1. *Cluſ. hiſt.* 1. 68.—fol. oblongo incano. *Bauh. pin.* 464. *Raii hiſt.* 1007.—4. fol. obl. albido. *Bauh. hiſt.* 2. *p.* 3.—cum hypociſtide. *Ger.* 1093. *f.* 2. *emac.* 1275. *f.* 2.—vulgaris. *Park.* 658.

Leaves ovate-lanceolate tomentoſe hoary ſeſſile moſtly three-nerved.

11. Ciſtus criſpus. *Curled-leaved Ciſtus.*

Lin. ſpec. 738. *Reich.* 2. 593. *hort. cliff.* 206. *n.* 7.

C. mas. 5. *Cluſ. hiſt.* 1. 69.—fol. chamædryos. *Bauh. pin.* 464. *Kaii hiſt.* 1008.—fol. criſpis. *Bauh. hiſt.* 2. 3. *f.* 1. *p.* 4.

C. ladanifera. *Blackw. t.* 197.

Leaves lanceolate pubeſcent three-nerved waved.

12. Ciſtus halimifolius. *Sea Purſlane-leaved Ciſtus.*

Lin. ſpec. 738. *ſyſt.* 497. *Reich.* 2. 594. *hort. cliff.* 205. 6. *Vahl ſymb.* 1. 38. *Cluſ. hiſt.* 1. 71. 1. *Barrel. ic.* 287.

C. femina, portulacæ marinæ fol. latiore obtuſo. *Bauh. pin.* 465.—fol. halimi, major. *Park.* 660. *Raii hiſt.* 1011.—fol. halimi. *Ger.* 1095. *f.* 7. *emac.* 1276. *f.* 7.—fl. luteo. *Bauh. hiſt.* 2. 5. *f.* 2.

β. C. fem. port. mar., fol. anguſtiore mucronato. *Bauh. pin.* 465.—fol. halimi minor. *Park.* 661. *Raii hiſt.* 1012.—fol. hal. 2. *Cluſ. hiſt.* 1. 71.—fol. lavandulæ. *Ger.* 1095. 8. *emac.* 1277. 8.—halimi longiore incano. *Bauh. hiſt.* 2. 5. *f.* 3. C. longifolius. *Mill. dict. n.* 18.

γ. C. fruticoſus erectus, fol. oppoſitis ſeſſilibus utrinque incanis. *Mill. fig. t.* 290.

Leaves lanceolate hoary, peduncles wand-like.

[13. Ciſtus libanotis. *Roſemary-leaved Ciſtus.*

Lin. ſpec. 739. *ſyſt.* 497. *Reich.* 2. 594. *Barr. ic.* 294.

C. Ledon anguſtis fol. *Bauh. pin.* 467. *Raii hiſt.* 1010.

C. L. 6. minoribus anguſtioribuſque fol. *Cluſ. hiſt.* 1. 79. *Bauh. hiſt.* 2. 11. *f.* 1.

Leaves linear revolute, flowers umbelled, yellow.]

** *Without ſtipules, underſhrubby.*

14. Ciſtus umbellatus. *Umbelled Ciſtus.*

Lin. ſpec. 739. *Reich.* 2. 595.

Helianthemum umbellatum. *Mill. dict. n.* 5.

C. Ledon fol. thymi. *Bauh. pin.* 467. *Raii hiſt.* 1011. *Bauh. hiſt.* 2. 12. *f.* 3.

Ledon 10. *Cluſ. hiſt.* 1. 81. *Ger.* 1105. *t.* 9. *emac.* 1288. *t.* 9.

Procumbent; leaves oppoſite; flowers umbelled.

[15. Ciſtus lævipes. *Cluſter-leaved Ciſtus.*

Lin. ſpec. 739. *ſyſt.* 497. *Reich.* 2. 595. *amœn.* 4. 275. *Jacqu. hort.* 2. *t.* 158. *Ger. prov.* 394. *t.* 14. *Pluk. alm.* 107. *t.* 84. *f.* 6. *Barr. ic.* 290. *Raii hiſt.* 1016. (Chamæciſtus maſſil.)

Aſcending; leaves alternate faſcicled filiform ſmooth; peduncles racemed.

16. Ciſtus calycinus.

Lin. ſyſt. 498. *Reich.* 2. 595. *mant.* 565.

Chamæciſtus ericæ fol. luteus. *Bauh. pin.* 466. *Pluk. alm. t.* 83. *f.* 6. *Raii hiſt.* 1015. 10.

Erect; leaves linear; peduncles one-flowered; calyxes three-leaved.

17. Ciſtus ſyriacus. *Syrian Ciſtus.*

Lin. ſyſt. 498. *Jacqu. collect.* 1. 98.

Erect; leaves lanceolate, revolute; flowers racemed.]

18. Ciſtus Fumana. *Heath-leaved Ciſtus.*

Lin. ſpec. 740. *ſyſt.* 498. *Reich.* 2. 595. *fl. ſuec. n.* 474. *mant.* 403. *Jacqu. auſtr.* 3. *t.* 252. *Scop. carn. n.* 644. *Hall. helv. n.* 1032. *Villars dauph.* 3. 698.

Chamæciſtus 6. *Cluſ. hiſt.* 1. 75.

β. Ch. ericæ fol. luteus humilior. *Bauh. pin.* 466. *n.* 12.

Helianthemum. *Bauh. hiſt.* 2. 18. *f.* 3.—H. Fumana. *Mill. dict. n.* 6.

Procumbent; leaves alternate linear rugged about the edge; peduncles one-flowered.

[19. Ciſtus canus. *Myrtle-leaved dwarf Ciſtus.*

Lin. ſpec. 740. *ſyſt.* 498. *Reich.* 2. 596. *mant.* 403. *Jacqu. auſtr.* 3. *t.* 277. *Scop. carn. n.* 647. *ann.* 2. 53. *Crantz. auſtr.* 103. *Allion. pedem. t.* 45. *f.* 3.

Chamæciſtus fol. myrti minoris incanis. *Bauh. pin.* 466. *Bauh. hiſt.* 2. 18. *f.* 2. *Raii hiſt.* 1015.

Ch. 3. *Cluſ. hiſt.* 1. 74.

C. humilis latifolius. *Ger.* 1095. *f.* 10. *emac.* 1278. *f.* 10.

β. Helianthemum alpinum ſerpilli fol. nigricante & hirſuto. *Segu. ver.* 3. 195. *t.* 6. *f.* 2.

Procumbent; leaves oppoſite obovate villoſe tomentoſe underneath; flowers ſubumbelled.

20. Ciſtus italicus. *Italian Ciſtus.*

Lin. ſpec. 740. *ſyſt.* 498. *Reich.* 2. 597. *Allion. pedem. n.* 1665. *Barr. ic. t.* 366.

Leaves oppoſite hiſpid; lower ovate, upper lanceolate; branches ſpreading.]

21. Ciſtus marifolius. *Marum-leaved Ciſtus.*

Lin. ſpec. 741. *Reich.* 2. 597. *Hall. helv. n.* 1035. *Villars dauph.* 3. 696.

C. tomentoſus. *Scop. carn. n.* 646. *t.* 24?

Chamæciſtus. *Barr. ic. t.* 441.

H. luſitanicum. *Mill. dict. n.* 16?

Leaves oppoſite oblong petioled flat hoary underneath.

22. Ciſtus roſeus. *Roſe-flowered Ciſtus.*

Lin. ſyſt. 498. *Jacqu. hort.* 3. *t.* 65. *Allion. pedem. n.* 1675. *t.* 45. *f.* 4.

H. roſeum. *Mill. dict. n.* 17.

Procumbent; leaves oppoſite oblong, rolled back at the edge, ſomewhat hoary on both ſides.

23. Ciſtus anglicus. *Engliſh Ciſtus.*

Lin. ſyſt. 498. *Reich.* 2. 597. *mant.* 245. *With. arr.* 557.

C. hirſutus. *Hudſ. angl.* 232.

C. helianthemus argenteus, fol. latiore, fl. luteo. *Pluk. phyt. t.* 23. *f.* 5.

Helianthemum. *Bauh. hiſt.* 2. 18. & 19. *f.* 1. *Raii hiſt.* 1015. 7. *ſyn.* 342. 3. *Segu. ver.* 3. 196. *Dill. elth. t.* 145. *f.* 173.

H. marifolium. *Mill. dict. n.* 24.

Procumbent; leaves oppoſite oblong revolute hairy, flowers racemed.

[24. Ciſtus oelandicus.

Lin. ſpec. 741. *ſyſt.* 498. *Reich.* 2. 598. *fl. ſuec. n.* 473. *Jacqu. auſtr.* 4. *t.* 399. *Ger. prov.* 396. *n.* 10. *Hall. helv. n.* 1034. *Gouan. monſp.* 263. *illuſtr.* 32. *Villars dauph.* 3. 697.

C. alpeſtris. *Jacqu. vind.* 248. *Scop. carn. n.* 645. *t.* 23. *Crantz. auſtr.* 103. *t.* 6. *f.* 1. *Allion. pedem. n.* 1663.

C. helianthemos, fl. parvo luteo. *Bauh. hiſt.* 2. 17.

Procumbent; leaves oppoſite oblong ſmooth on both ſides; petioles ciliate; petals emarginate.]

*** *Without ſtipules, herbaceous.*

25. Ciſtus Tuberaria. *Plantain-leaved Ciſtus.*

Lin. ſpec. 741. *Reich.* 2. 598. *Cavan. hiſp.* 65. *n.* 106. *t.* 97.

C. fol. plantaginis. *Bauh. pin.* 465. *Raii hiſt.* 1012.

Helianthemum Tuberaria. *Mill. dict. n.* 10.

H. plant. fol. perenne. *Tourn. inſt.* 250. *Buxb. cent.* 3. 33. *t.* 63.

Tuberaria noſtras & major. *Bauh. hiſt.* 2. 12.

Perennial; root-leaves ovate three-nerved tomentoſe; ſtem-leaves ſmooth lanceolate; the upper alternate.

26. Ciſtus guttatus. *Annual ſpotted-flowered Ciſtus.*
Lin. ſpec. 741. *Reich.* 2. 599. *mant.* 403. *Hudſ. angl.* 232. *With.* 558. *Villars dauph.* 3. 699.
C. fl. pullido, punicante macula inſignito. *Bauh. pin.* 465. *Raii hiſt.* 1012. *ſyn.* 342.
C. annuus fl. maculato. *Ger. emac.* 1281. 19.
C. ann. fl. guttato. *Bauh. hiſt.* 2. 14. *f.* 1. *Park.* 661.
Helianthemum guttatum. *Mill. dict. n.* 18.
H. fl. maculoſo. *Col. ecphr.* 2. 78. *t.* 77.
Leaves oppoſite lanceolate three-nerved, racemes without bractes.

[27. Ciſtus canadenſis. *Canadian Ciſtus.*
Lin. ſpec. 742. *Reich.* 2. 599.
All the leaves alternate lanceolate, ſtem aſcending.]

* * * * *With ſtipules, herbaceous.*

28. Ciſtus ledifolius. *Ledum-leaved Ciſtus.*
Lin. ſpec. 742. *ſyſt.* 499. *Reich.* 2. 599. *Bauh. pin.* 465. 12. *Lob. ic.* 2. 118. 2. *Raii hiſt.* 1013. *Park.* 662. 8.
C. annuus longifolius Lobelii. *Ger.* 1098. 18. *emac.* 1280. 18.
C. ann., fol. Ledi, fl. luteo. *Bauh. hiſt.* 2. 14. *f.* 2.
Helianthemum ledifolium. *Mill. dict. n.* 20.
Erect ſmooth; flowers ſolitary ſubſeſſile oppoſite to a ternate leaf.

29. Ciſtus ſalicifolius. *Willow-leaved annual Ciſtus.*
Lin. ſpec. 742. *ſyſt.* 499. *Reich.* 2. 600. *Hudſ. angl.* 233. *With.* 558. *Bauh. pin.* 465. 10.
C. annuus. *Ger.* 1098. 17. *emac.* 1280. 17. *Raii hiſt.* 1013.—fol. ſalicis. *Park.* 661. 7.
C. annuus 1. *Cluſ. hiſt.* 1. 76. 2.—fol. rotundiore. *Bauh. hiſt.* 2. 13. *f.* 3. *Lob. obſ.* 552. 1. *ic.* 2. 118. 1.
Helianthemum ſalicifolium & fugacium. *Mill. dict. n.* 21. & 19.
Spreading, villoſe; flowers racemed, erect; pedicels horizontal.

[30. Ciſtus niloticus.
Lin. ſyſt. 499. *Reich.* 2. 600. *mant.* 246.
Erect, ſubtomentoſe; flowers racemed ſolitary ſeſſile oppoſite-leaved.]

31. Ciſtus ægyptiacus. *Egyptian Ciſtus.*
Lin. ſyſt. 499. *Reich.* 2. 600. *mant.* 404. *Jacqu. obſ.* 3. 17. *t.* 68.
Helianthemum ægyptiacum. *Mill. dict. n.* 23.
Erect; leaves linear-lanceolate petioled; calyxes inflated, larger than the corolla.

* * * * * *With ſtipules, underſhrubby.*

[32. Ciſtus ſquamatus.
Lin. ſpec. 743. *Reich.* 2. 601. *Barr. ic.* 327. *Bocc. muſ.* 2. 76. *t.* 64. *f.* 3.
Leaves covered with orbiculate ſcales.

33. Ciſtus Lippii.
Lin. ſyſt. 499. *Reich.* 2. 601. *mant.* 245. *Vahl ſymb.* 1. 39. *Forſk. ægypt.* 100.
Erect; leaves alternate and oppoſite lanceolate, rugged; ſpikes directed one way.]

34. Ciſtus ſurreianus. *Small-flowered Ciſtus.*
Lin. ſpec. 743. *Reich.* 2. 601. *With.* 558.
C. Helianthemum δ. *Hudſ. angl.* 233.
Helianthemum ſurreianum. *Mill. dict. n.* 15.
H. vulg. petalis florum peranguſtis. *Raii ſyn.* 341. *Dill. elth. t.* 145. *f.* 174.
Procumbent; leaves ovate-oblong, ſomewhat hairy; petals lanceolate.

35. Ciſtus nummularius.
Lin. ſpec. 743. *Reich.* 2. 601. *Magn. monſp.* 293. *ult.*
Helianthemum nummularium. *Mill. dict. n.* 12. *Bauh. hiſt.* 2. 20. *f.* 3.
Lower leaves orbiculate, upper ovate.

[36. Ciſtus canarienſis. *Canary Ciſtus.*
Lin. ſyſt. 499. *Jacqu. miſc.* 2. 339. *icon. rar. t.* 97.
Procumbent; leaves ſubovate, alternate and oppoſite; racemes erect.

37. Ciſtus foetidus.
Lin. ſyſt. 499. *Jacqu. miſc.* 2. 341. *icon. rar. t.* 98.
Procumbent; ſtipules lanceolate; leaves oblong, rugged.]

38. Ciſtus ſerpyllifolius. *Wild Thyme-leaved Ciſtus.*
Lin. ſpec. 743. *Reich.* 2. 602. *Sauv. monſp.* 148.
—an alpeſtris. *Allion. pedem. n.* 1663. *Scop. carn. n.* 645. *t.* 23. *ſee n.* 24.
Helianth. ſerpillifol. *Mill. dict. n.* 8?
Chamæciſtus. *Bauh. pin.* 466. 11. *Bauh. hiſt.* 2. 17. *f.* 2. *Raii hiſt.* 1014. 4.
Chamæciſtus. *Cluſ. hiſt.* 1. 73. 2?
Leaves oblong; calyxes even.

[39. Ciſtus glutinoſus. *Glammy Ciſtus.*
Lin. ſyſt. 500. *Reich.* 2. 602. *mant.* 246. *Ger. prov.* 394. *n.* 7.
Chamæciſtus. *Barr. ic. t.* 415.
Helianthemum. *Bauh. hiſt.* 2. 19. *f.* 4.
Leaves linear oppoſite, and alternate; peduncles villoſe, glutinoſe.

40. Ciſtus thymifolius. *Thyme-leaved Ciſtus.*
Lin. ſpec. 743. *Reich.* 2. 602. *Sauv. monſp.* 148. *Villars dauph.* 3. 695.
Chamæciſtus. *Barr. ic.* 444.
Procumbent; leaves oval-linear, oppoſite, very ſhort, heaped.]

41. Ciſtus piloſus. *Hairy Ciſtus.*
Lin. ſpec. 744. *ſyſt.* 500. *Reich.* 2. 602. *Sauv. monſp.* 147. *Ger. prov.* 395. *Allion. pedem. n.* 1672. *t.* 45. *f.* 1, 2.
C. hirſutus. *Villars dauph.* 3. 694?
Chamæciſtus. *Bauh. pin.* 466. 5. *Cluſ. hiſt.* 1. 74. 4.
β. C. ſtipulis quaternis, fol. lineari-ovalibus incanis, calycibus tomentoſis. *Sauv. monſ.* 148.
Hel. fl. albo, fol. anguſto hirſuto. *Bauh. hiſt.* 2. 17. *f.* 1.
γ. C. fol. villoſis lanceolatis, ſtip. ſubulatis. *Sauv. monſp.* 148.
H. ſampſuchifolium. *Mill. dict. n.* 7.
H. ſ. C. humilis, fol. ſampſuci, capitulis valde hirſutis. *Bauh. hiſt.* 2. 20. *f.* 2.
δ. Ch. fol. minoribus & incanis. *Bauh. pin.* 466.
C. omnino candicans, fl. nunc albo nunc pallido. *Bauh. hiſt.* 2. 16. *f.* 2.
Almoſt upright; leaves linear, with two grooves underneath, hoary; calyxes even.

[42. Ciſtus racemoſus.
Lin. ſyſt. 500. *Reich.* 2. 603. *mant.* 76. *Vahl ſymb.* 1. 39. *Barr. rar. ic.* 293.
Leaves linear, calyxes racemed, pointing one way, nerved-angular, ſmooth.

43. Ciſtus anguſtifolius.
Lin. ſyſt. 500. *Jacqu. hort.* 3. 29. *t.* 53.
Diffuſed; leaves lanceolate; calyxes hirſute.]

44. Ciſtus Helianthemum. *Dwarf Ciſtus,* or *little Sunflower.*
Lin. ſpec. 744. *Reich.* 2. 603. *hort. cliff.* 206. *fl. ſuec. n.* 472. *Hudſ. angl.* 233. *With.* 559. *Curt. lond.* 5. *t.* 36. *Relh. cantab. n.* 389. *Hall. helv. n.* 1033. *Scop. carn. n.* 649. *Pollich pal. n.* 511. *Crantz. auſtr.* 100. *Fl. dan. t.* 101. *Villars dauph.* 3. 693.
Chamæciſtus vulgaris fl. luteo. *Bauh. pin.* 465. *Loeſ. pruſſ.* 43. *t.* 8. *Raii hiſt.* 1013.
Helianthemum Chamæciſtus. *Mill. dict. n.* 1.
H. vulgare. *Gærtn. fruct.* 1. 371.
H. anglicum album & luteum germanicum. *Ger.* 1100. 2, 3.
H. luteum & album germanicum. *Ger. emac.* 1282. 3. & 1283. 4.
H. vulgare. *Park.* 656. 1.—fl. luteo. *Bauh. hiſt.* 2. 15. 2.
Panax Chironium, ſ. flos ſolis. *Camer. epit.* 501.
Procumbent; ſtipules lanceolate; leaves oblong, revolute, ſomewhat hairy.

[45. Ciſtus mutabilis. *Changeable Ciſtus.*
Lin. ſyſt. 500. *Jacqu. miſc.* 2. 340. *icon. rar. t.* 99.
Procumbent; ſtipules lanceolate; leaves oblong, ſmooth, flat.]

46. Ciſtus hirtus. *Roſemary-leaved Ciſtus.*
Lin. ſpec. 744. *Reich.* 2. 604. *Gron. orient.* 169. *Sauv. monſ.* 148.
C. roſmarinifolius. *Allion. pedem. n.* 1676.
C. Ledon fol. roriſmarini ſubtus incanis. *Bauh. pin.* 467. *Raii hiſt.* 1010. 10. *Bauh. hiſt.* 2. 11. & 12. *f.* 1.

Ledon 8. *Cluſ. hiſt.* 1. 8.
Helianthemum hirtum. *Mill. dict. n.* 14.
Leaves ovate; calyxes hiſpid.

47. Ciſtus apenninus. *Apennine Ciſtus.*
Lin. ſpec. 744. *ſyſt.* 500. *Reich.* 2. 604.
Helianthemum germanicum & apenninum. *Mill. dict. n.* 2 & 4.
H. album germanicum. *Tabern. ic.* 1062.
H. ſaxatile, fol. & caul. incanis oblongis, flor. albis. *Mentz. pug.* 8. *f.* 3. *Dill. elth.* 176.
Spreading; leaves lanceolate, rough with hairs.

48. Ciſtus polifolius. *Mountain Ciſtus.*
Lin. ſpec. 745. *Reich.* 2. 604. *mant.* 404. *Hudſ. angl.* 234. *With.* 560. *Hall. helv. n.* 1036. *Villars dauph.* 3. 695. *Pluk. alm. t.* 23. *f.* 6.
Chamæciſtus montanus Polii folio. *Raii ſyn.* 342.
Helianthemum polifolium. *Mill. dict. n.* 11.
H. montanum, polii folio incano, fl. candido. *Dill. elth.* 175. *t.* 145. *f.* 172.
Procumbent; leaves oblong-ovate, hoary; calyxes even; petals ſerrate.

[49. Ciſtus arabicus. *Arabian Ciſtus.*
Lin. ſyſt. 500. *Reich.* 2. 605. *amœn.* 4. 275. *cent.* 39. *Vahl ſymb.* 2. 62. *t.* 35.
Procumbent; leaves linear, thoſe on the peduncles alternate, thoſe on the branchlets crowded.

Species not in Syſtema Vegetabilium.

50. Ciſtus medius.
Allion. pedem. n. 1657.
C. foemina, fol. ſalviæ, fl. ochræ colore. *Tourn. inſt.* 260.
Leaves ovate-lanceolate, wrinkled, petioled, toothletted.

51. Ciſtus grandiflorus. *Great-flowered Ciſtus.*
Scop. carn. n. 648. *t.* 25. *Allion. pedem. n.* 4.
C. Helianthemum C. *Villars dauph.* 3. 693.
Helianthemum alpinum vulgari ſimile, fol. latioribus. *Segu. veron. ſuppl.* 193. *t.* 6. *f.* 1.
Stipuled, ſuffruticoſe; leaves lanceolate, villoſe on both ſides, acuminate; ſtipules longer than the calyx.]

52. Ciſtus breviorifolius. *Short-leaved Ciſtus.*
Mill. dict. n. 3.
C. mas fol. breviore. *Bauh. pin.* 464. *Park.* 659. *Ger. emac.* 1276. 3. *Raii hiſt.* 1007.
C. mas 3. *Cluſ. hiſt.* 69. *Bauh. hiſt.* 2. 3.
Shrubby, without ſtipules; leaves ovate-lanceolate, connate, hirſute, wrinkled; peduncles longer.

53. Ciſtus luſitanicus.
Mill. dict. n. 4.
C. mas luſit., fol. ampliſſimo incano. *Tourn. inſt.* 259.
Shrubby, without ſtipules; leaves ovate, obtuſe, villoſe, nerved and wrinkled underneath; flowers larger.

54. Ciſtus hiſpanicus.
Mill. dict. n. 5.
Shrubby, without ſtipules; villoſe; leaves lanceolate, green connate; flowers ſeſſile; calyxes acute.

55. Ciſtus cordifolius.
Mill. dict. n. 12.
Shrubby, without ſtipules; leaves oblong-cordate, ſmooth; petioles longer.

56. Ciſtus faſciculatus.
H. faſcic. *Mill. dict. n.* 22.
Leaves in bundles.

[57. Ciſtus vaginatus. *Oblong-leaved Ciſtus.*
Ait. hort. kew. 2. 232.
Arboreſcent; without ſtipules; leaves oblong, hairy underneath, netted-wrinkled; petioles united at the baſe, ſheathing, furrowed.

58. Ciſtus laxus. *Broad waved-leaved Ciſtus.*
Ait. hort. kew. 2. 233.
Ledon 4. *Cluſ. hiſt.* 1. 78. *fig.*
Arboreſcent; without ſtipules; leaves ovate-lanceolate, waved, toothletted, ſmooth, the upper rough with hairs; calycine leaflets roundiſh-cordate.

59. Ciſtus ſcabroſus. *Rough Ciſtus.*
Ait. hort. kew. 2. 236.
Underſhrubby; without ſtipules; leaves oppoſite, ovate, hairy and rugged, three-nerved; calyxes three-leaved.

60. Ciſtus ſericeus.
Vahl ſymb. 1. 37. *Barrel. ic.* 1315.
Arboreſcent, without ſtipules, leaves ovate, tomentoſe, three-nerved, the lower petioled, the uppermoſt ſeſſile, peduncles rough with hairs.

61. Ciſtus hybridus.
Vahl ſymb. 1. 37.
Arboreſcent; without ſtipules; leaves ovate, petioled, hoary, branches ſcaly, peduncles elongated; rough with hairs.

62. Ciſtus elongatus.
Vahl ſymb. 1. 38.
Arboreſcent, without ſtipules; leaves lanceolate, hoary; peduncle elongated, two-leaved; that and the racemed calyxes hirſute.

63. Ciſtus alternifolius.
Vahl ſymb. 1. 38.
Suffruticoſe, without ſtipules, leaves alternate; peduncles lateral and terminating; ſolitary, one-flowered.]

64. Ciſtus lavandulifolius. *Lavender-leaved Ciſtus.*
Vahl ſymb. 1. 39. *Cluſ. hiſt.* 1. 72. *Bauh. hiſt.* 2. 5. *Barrel. ic.* 288.
C. folio ſpicæ. *Bauh. pin.* 465.
Helianthemum lavendulæfolium. *Mill. dict. n.* 13.
Suffruticoſe, ſtipuled, leaves lanceolate-linear; tomentoſe, calyxes racemed tomentoſe, pointing one way, pendulous.

[65. Ciſtus lanceolatus.
Vahl ſymb. 2. 62.
Suffruticoſe, without ſtipules, leaves lanceolate; three-nerved, hairy.

66. Ciſtus ocymoides.
Vahl ſymb. 3. 68. *Lamarck encycl.*
C. ſampſucifolius. *Cavan. hiſp.* 65. *n.* 165. *t.* 96.
C. folio ſampſuci. *Cluſ. hiſt.* 1. 72. *Bauh. hiſt.* 2. 6.
Shrubby, without ſtipules; leaves obovate, three-nerved; thoſe of the branchlets hoary on both ſides; reflex at the tip, calyxes racemed; both they and the peduncles quite ſmooth.

DESCRIPTIONS, *&c.*

The hiſtory of this genus is extremely obſcure, on account of the abundance of varieties which occur in it. The ſpecies may be much elucidated, ſays Linneus, if botaniſts will attend to the following circumſtances, in their native places of growth. 1. Whether the trunk be ſhrubby, underſhrubby, annual or perennial. 2. Whether the ſtem be erect or decumbent. 3. Whether the leaves be oppoſite or alternate, and what is their form. 4. Whether there be two ſtipules or none. 5. Whether the peduncle be one-flowered or many-flowered; naked, or with a bracte. 6. What is the form of the petals. 7. Whether the capſules have five or three valves. 8. Whether the calyx be equal or unequal.

The following ſpecies are ſhrubby; from 1 to 13, 50, 52 to 55, 56, 57, 58, 60, 61, 62: theſe are underſhrubs; from 14 to 24, 32 to 49, 51, 59, 63 to 66: a few others are herbaceous, from 25 to 31.

The following grow erect; from 2 to 13, 16, 17, 20, 21, 26, 28, 31, 32, 33, 41, 46, 62, 63, 66: and theſe are decumbent; 14, 15, 18, 22, 23, 24, 34 to 37, 44, 45, 47, 48, 49, 59.

Moſt of the ſpecies have the leaves oppoſite; in ſome they are alternate, as in 15, 17, 18, 27, 39; but ſome ſpecies have the lower leaves oppoſite, and the upper ones alternate.

The following ſpecies have ſtipules; 28 to 49, 51, 64, 65: the others have none; 1 to 27, 50, 52 to 55, 57 to 63, 66.

Species 3, 4, 6, 26, 42, 64, 65 have naked peduncles: in 23, 30, 36, 41, 43, 48, 49, 62, 63, 66, they are bracted.

The corolla is White in the following ſpecies; 3 to 7, 35, 37, 41, 46 to 48, 55, 66. Purple in theſe; 2, 8 to 11, 22, 45, 52 to 54, 60, 61. Yellow in the reſt; 1, 12 to 21, 23 to 34, 36 to 40, 42 to 45, 50, 51, 56, 59, 62, 63, 64, 65. But ſome of theſe vary with white and even roſe-coloured corollas, as 44 and 45.

They are natives of Europe, particularly the ſouthern kingdoms, except 1, 9, 27, 30, 31, 49, 56, 57, 63 and 65.

The form of the leaves in the greater part is ovate or lanceolate, or ſome modification of theſe two forms. They are cordate in the 3d. Elliptic in the 30th. Faſcicled in the 56th. Filiform in the 15th. Lanceolate in 5, 11, 17, 19, 26, 27, 33, 43, 47, 49, 51, 54, 62, 65. Lanceolate-linear in 42 and 64. Linear in 13, 14, 16, 18, 39, 41. Linear-lanceolate in 6 and 31. Oblong in 21 to 24, 37, 38, 45, 57, 63. Oblong-cordate in 55. Oblong-ovate in 4, 44, 48. Obovate in 19 and 66. Oval-lanceolate in 32. Oval-linear in 40. Ovate in 2, 7, 12, 20, 25, 35, 46, 53, 59, 60, 61. Subovate in 36. Ovate-lanceolate in 1, 10, 50, 52, 58. Ovate-oblong in 34. Spatulate in 8. Spatulate-ovate in 9. And ternate in 28.

But the principal difference in theſe plants is in the Capſule, which in ſome is five or ten-celled, with as many valves; in others one-celled and three-valved. Hence this great genus might very commodiouſly be divided into two, as Tournefort, Miller, Juſſieu, Gærtner and others have done, at leaſt in the artificial arrangement, for undoubtedly they all conſtitute one natural genus. They may be diſtinguiſhed thus. *Ciſtus* or Rock-roſe, has a five or ten-celled capſule, with as many valves. Seeds fixed to the axis. Embryo ſpiral. Theſe are ſhrubs or underſhrubs; the leaves oppoſite and naked; the flowers in umbels, with unequal calycine leaflets, and the corolla either purple or white, commonly large and ſpecious.

Helianthemum, or Dwarf Sunflower, has a one-celled three-valved capſule, with the ſeeds fixed to the valves. Embryo uncinate-inflected. Theſe are ſuffruticoſe or herbaceous; the leaves oppoſite, or ſometimes alternate, ſtipuled or naked; the flowers in ſpikes or racemes, with two of the calycine leaflets minute, and a corolla commonly yellow, ſeldom purple or white, ſmaller than that of the Ciſtus, very deciduous in both.

1. Branches round, purpliſh, having hairs thinly ſcattered over them. Leaves three inches long, remote, the upper ones ſeſſile, but not connate, the lower attenuated into a very ſhort petiole; they are acute, imperfectly three-nerved, the nerves towards the middle evaneſcent, ſmooth on both ſides, toothletted and ciliate, with long hairs, eſpecially the uppermoſt. Petioles diſtinct. Peduncles terminating, trifid; the partial ones three-flowered. Leaflets of the calyx cordate, acuminate, hirſute, toothletted, ciliate, the younger ones extremely hirſute. Corolla yellow [c].

Linneus remarks, that this differs from the other ſpecies in the toothlets of the leaves. It is a native of the Cape of Good Hope.]

2. This has a ſtrong woody ſtem, covered with a rough bark, and three or four feet high, dividing into many branches, ſo as to form a large buſhy head. Leaves oppoſite, ſeſſile, with ſeveral ſmaller leaves of the ſame form from the ſame joint. The flowers are produced at the ends of the branches, four or five together, almoſt in form of an umbel, but it rarely happens that more than one is open at the ſame time. The petals are large, purple, and ſpread open like a roſe; they are but of ſhort duration, generally falling off the ſame day they expand; but there is a ſucceſſion of freſh flowers every day for a conſiderable time, in may and june; generally again in ſeptember and october, if the autumn be favourable, and even in the winter if the plants be protected from froſt.

[According to the obſervation of Linneus, the leaves are wrinkled, green on both ſides, and pubeſcent. The peduncles one-flowered, with a bent joint [d].

Native of Italy and Spain.

In Linneus's ſpecies and Miller's dictionary it is named *piloſus*.]

3. This has a ſtiff ſlender woody ſtem, ſix or ſeven feet high, ſending out many branches the whole length. [Theſe branches and the leaves are hairy; the calyxes alſo are very hairy: but the branches and leaves, when farther advanced, become naked.] The leaves are large, of a light green colour, ſeſſile, with many nerves. The flowers are produced at the ends of the branches, on naked peduncles. The corolla is white, and ſoon drops off. [Linneus adds, that the petals are tinged with purple on their edges; that the ſtamens are yellow; and that the calyxes, before they unfold, appear three-cornered [e].

Native of Portugal. Cultivated in 1656, by John Tradeſcant, junior. It flowers in june and july [f].]

4. This riſes with a ſtrong woody ſtem to the height of five or ſix feet, ſending out many erect hairy branches. Leaves lanceolate, acute, thick, dark green above, and white beneath, very glutinous in warm weather. [According to Linneus, they are wrinkled, green on both ſides, and ſcarce viſibly hairy: the petioles become purple at the baſe [g].] The flowers are produced at the ends of the branches upon long naked peduncles, branching on their ſides into ſmaller ones, each ſuſtaining one large white flower, with a hairy calyx. It flowers in june and july.

[Native of Spain. Cultivated in 1752, by Miller [h].]

5. Height five or ſix feet, with a ſtrong woody ſtem, ſending out many hairy branches. Leaves ſmooth on their upper ſide, but veined on their under, on ſhort foot-ſtalks which join at their baſe, where they form a ſort of ſheath to the branch. [Corolla white, the ſize of the officinal Poppy. The germ has ten ſwellings: ſtigma ſeſſile, without any ſtyle. [i] Native of the hills of Spain and Portugal.

Cultivated in 1656, by John Tradeſcant, junr. [k]

Mr. Curtis obſerves, that the name *ladaniferus* is not ſtrictly proper, ſince this is not the plant whence *Ladanum* is produced, although in a warmer climate it affords a ſimilar gum. See n. 9.

β. This, which Miller makes a diſtinct ſpecies, has ſmooth branches, covered with a reddiſh-brown bark. The leaves are narrow-lanceolate, whitiſh on their under ſide, of a dark green above, having three longitudinal veins. The petals are very large, roundiſh, white, with a large purple ſpot at their baſe. The whole plant exſudes a ſweet glutinous ſubſtance in warm weather, which has a very ſtrong balſamic ſcent, and perfumes the air to a great diſtance.

It flowers from june to auguſt.

There is a variety with white flowers, having no purple ſpots, which is in all other reſpects the ſame with this.

6. Stem ſlender, from three to four feet high, ſending out many hairy branches from the bottom upwards. Leaves very dark green, in warm weather covered with a glutinous ſweet-ſcented ſubſtance. The peduncles, which come out at the ends of the branches, are long, naked, and ſuſtain many white flowers, riſing above each other; their calyxes are bordered, and end in ſharp points. It flowers from june to auguſt.

[According to Linneus, the upper leaves are broader at the baſe, but the reſt are linear; they are netted and three-nerved underneath. Raceme on long peduncles, often bifid. Capſule, as Gærtner ſays, five-celled, five-valved; with four ſmooth blackiſh ſeeds in each cell.

Native of Narbonne, and the kingdom of Valencia.

It was cultivated in 1656, by John Tradeſcant, junr. [l]]

β. The variety, or olive-leaved Rock-roſe of Miller, has, according to him, the ſtem about four feet high, with very hairy, glutinous, erect branches; and long, narrow hairy leaves, ending in points, deep green on both ſides, having a deep furrow on their upper ſide made by the midrib. The flowers are on long peduncles at the ends of the branches, are of a pale ſulphur colour, and have an acute bordered calyx. It flowers at the ſame time with the other.

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[c] Vahl.

[d] Syſt. veget.

[e] Spec. & ſyſt.

[f] Hort. kew.

[g] Syſt. veg.

[h] Hort. kew.

[i] Linn. ſyſt.

[k] Hort. kew.

[l] Ibid.

7. Stem ſlender, ſmooth, covered with a brown bark, never riſing more than three feet high, and ſending out many weak branches ſpreading horizontally. [Leaves obtuſe, without veins, not ſo ſoft as in many other ſpecies. Peduncles lateral, ſolitary, one-flowered, longer than the leaves[k].] Corolla white, and ſomewhat ſmaller than that of the other Rock-roſes. It flowers from june to auguſt.

[Native of Italy, Sicily, Narbonne, Switzerland and Carniola.

Cultivated before 1551, in Sion garden[l].

8. Branches villoſe. Leaves not at all nerved, ending in a point, a little flexuoſe in the diſk, ending at the baſe in coaleſcent ſheathing petioles; or rather they are obovate-ſpatulate: the lower more connate, and in a manner ſheathing. Calyxes hairy, with ſubcordate leaflets. Petals purple, emarginate or obcordate, quite entire, concave. Native of Spain and Narbonne[m]. Cultivated in 1596, by Gerarde[n].

9. Branching, diffuſed, a foot and half high and more. Stem and branches round, and ſomewhat villoſe. Leaves from broad ſtem-claſping, petioled, firſt ſpatulate, then ovate or lanceolate, ſomewhat acute, wrinkled, ſometimes waved, roughiſh, thickiſh, quite entire, viſcid, cloſely ſet on both ſides and round the edge with white hairs of different lengths, ſome ſimple, others branched or headed, ſcarcely viſible to the naked eye. Peduncles one-flowered, terminating the laſt leafy twigs, erect and villoſe. Calyx villoſe, with ovate-acuminate leaflets, nearly equal. Petals roſe-purple, without ſmell, very obſcurely crenate, forming a corolla an inch and half in diameter. The whole of the ſtamens is yellow. Germ hirſute, green. Capſule ovate, obtuſe, brown, hirſute with aſh-coloured hairs, five-celled and five-valved. Seeds ſmooth, rufous, angular. It flowers copiouſly in june and july, and the ſeeds ripen in ſeptember[o]. Native of the Levant.

Cultivated in 1731, by Mr. Miller[p].

The Ciſtus Creticus, or Cretan Ciſtus, is the ſpecies from which the drug called Ladanum is procured. This is a reſin, which is ſecreted from the leaves and other parts of the ſhrub, and is ſcraped off by means of a kind of rake, to which numerous leathern thongs are appended inſtead of teeth. This inſtrument being drawn backwards and forwards over the plant from time to time, collects the reſin. Ladanum is ſeen in different degrees of purity. The beſt is in dark-coloured maſſes of the conſiſtence of a ſoft plaiſter, growing ſtill ſofter on being handled. It is indeed ſubject to many ſophiſtications from the more or leſs careful manner in which it is at firſt collected, and from the fraudulent practices of thoſe through whoſe hands it afterwards paſſes. The chief uſe of Ladanum in modern practice is in fumigations, its fragrant ſmell having made it a conſtant ingredient in ſuch preparations. Sometimes it is uſed in Troches, and in the Paris pharmacopœia there is a pectoral troche in which there is a good quantity of Ladanum, with muſk and amber. In the old German ſhops is kept a tincture of Ladanum which is uſed in female weakneſſes, &c. but is not known with us. It ſhould be obſerved that Ladanum gives out its active matter to ſpirit of wine, and little or nothing to water, from its being entirely reſinous, and conſequently not ſoluble in water.

10. This differs from *C. incanus*, which it very much reſembles, in the branches being tomentoſe, not hairy; the leaves paler, ſoft, horizontal, ſeſſile, by no means either petioled or ſheathing, broad-lanceolate, moſtly three-nerved. Calyx not rough with hairs, the outer leaflets longer, the ſides reflex. Peduncles from the tops of the branches, many, ſcarcely longer than the leaves. Petals purple, not emarginate, ſomewhat crenate, flattiſh.

Native of Narbonne and Spain[q].

Cultivated in 1656, by John Tradeſcant, junr.[r]]

11. Branches weak, ſlender, woody, ſpreading horizontally. This ſhrub is ſeldom more than two or three feet in height. [The peduncles and calyxes are covered with a thin wool. The calyxes are lanceolate. The corollas are purple[s];] Mr. Miller ſays white, coming out upon naked peduncles from the wings of the leaves, in june and july; and ſucceeded by ripe ſeeds in auguſt and ſeptember.

[It is a native of Portugal, and was cultivated in 1731, by Mr. Miller[t].

12. This is an upright ſhrub, three or four feet high. Branches round, aſh-coloured, angular at top, the younger ones dotted with yellow. Leaves petioled, oppoſite, lanceolate, very white, ſcarcely ſoft, without veins, obtuſe, flat, about an inch in length. Peduncle terminating, compound, white: partial peduncles below oppoſite, above alternate. There is a ſeſſile leaflet, narrower than thoſe on the ſtem, at the baſe of the peduncles and pedicels. Calyxes erect, ovate, acute, ſomewhat rugged: having two outer leaflets minute and linear, at the baſe of the larger ones.

It differs from ſeveral others to which it otherwiſe bears ſome reſemblance, in having the peduncles in panicles not at all hairy; the calyxes erect, ſmaller, acute, ſomewhat rugged, not ovate, acuminate, hirſute; and the ſmaller leaflets inſerted into the calyx itſelf, not below the baſe of it into the pedicel. In the habit of the leaves to *C. hybridus*, but in that they are broader[u].]

According to Miller, it riſes four or five feet high, and branches from the ground ſo as to form a large buſh. The leaves on the lower part of the branches have foot-ſtalks, but thoſe at the top coaleſce at their baſe and ſurround the ſtalk. The peduncles are a foot in length, naked, hairy; and put out two or four ſhorter peduncles on the ſide, each ſupporting three or four flowers. Theſe are large, of a bright yellow colour, but of ſhort duration. They appear in june and july.

[It is a native of Portugal. Vahl made his deſcription from numerous ſpecimens collected in Barbary.

It was cultivated in 1656, by John Tradeſcant, junior[x].

Sometimes the petals have a duſky ſpot at the baſe[y].]

β. Stem ſlender, woody, three or four feet high, with many ſlender branches. Leaves narrow, lanceolate, hoary, waved; flowering-branches axillary, ſlender, having two or three pairs of ſmall leaves, terminated by looſe bunches of flowers, each on a ſlender peduncle; they are of a dirty ſulphur-colour, and appear in june and july.

γ. Height three feet. Branches brachiate, forming a pyramid. Leaves lanceolate, an inch long, one-third of an inch broad in the middle, hoary white on both ſides, oppoſite. Peduncles naked. Flowers ſolitary, on naked oppoſite pedicels; corolla bright yellow, with a purple ſpot near the baſe. Native of Spain and Portugal; flowering here in june and july. Cultivated by Mr. Miller before the year 1760.

[13. A ſhrub reſembling Roſemary. Stem naked, purpliſh. Leaves oppoſite, ſeſſile, ſmooth and even, hirſute at the edges of the baſe, longer than the internodes, at the ends of the branches approximating. Floral or upper leaves ſhorter, ovate, flat. Peduncles terminal, longer than the leaves; with a few yellow flowers. Calyxes ovate, viſcid. Found in Spain by Loefling[z].——Introduced 1783, by P. M. A. Brouſſonet, M. D.[a]]

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[k] Linn. ſyſt.
[l] Hort. kew. from Turner.
[m] Linn. ſpec.
[n] Hort. kew.
[o] Jacquin.
[p] Hort. kew.
[q] Linn. ſpec. & ſyſt.
[r] Hort. kew.
[s] Linn. ſpec.
[t] Hort. kew.
[u] Vahl.
[x] Hort. kew.
[y] Vahl.
[z] Linn. ſpec.
[a] Hort. kew.

14. Stems low, trailing woody, ſeldom branching, and not more than four or five inches long. Leaves narrow and hoary. Flowers white, in ſmall cluſters at the ends of the ſtalks. It ſeldom continues longer than two years.

[Linneus obſerves, that the umbels are peduncled. Native of the South of France and Spain.]

Mr. Miller ſays, he received the ſeeds from Iſtria. [He cultivated it in 1731[b].

15. Root woody, creeping very much. Stems many, round, becoming woody; when young herbaceous, glaucous, branched, diffuſed, ſpreading horizontally or aſcending, very few erect. Leaves glaucous, linear, narrow, acute; with each leaf come out two others one-third ſhorter, between theſe from the axil other leaves, come out ſucceſſively in the ſame manner, ſo as to form a bunch, ſitting cloſe to the branch. The flowers are in thin villoſe racemes at the ends of the branches, on long ſmooth pedicels, and are without ſcent. Calyx hirſute, the two outer leaflets linear, the three inner broad-ovate, acute, wrinkled longitudinally, variegated with white, green, and purple. Petals yellow, ovate, obſcurely crenulate at the end, a little longer than the calyx. The outer ſtamens are barren. Capſule obtuſely three-cornered, obſcurely grooved, ſmooth, three-celled and three-valved, having in each cell two ovate ſeeds, convex on one ſide, angular on the other[c].

Native of the South of France about Montpellier. Cultivated 1690, in the Royal garden at Hampton Court[d].

16. *Stem* a foot high, erect; branches oppoſite, reddiſh. *Leaves* oppoſite, even, underneath obtuſely keeled; crowded leaflets from the axils. *Peduncles* terminating, ſolitary, ſcarcely longer than the leaves. *Calyx* three-leaved, even, equal. *Corolla* yellow, with ſcarcely the edge red. *Stamens* ſixteen, very ſhort, yellow, all fertile. *Piſtil* white. *Style* very ſhort. *Stigma* warted. It reſembles C. Fumana.—Native of the South of Europe[e].

17. *Stem* erect; the younger branches ſomewhat villoſe. *Leaves* acute, quite entire, ſubſeſſile, alternate, ſomewhat villoſe, pale green. *Racemes* terminating and axillary from the upper leaves, many-flowered and directed one way. Calyx ſomewhat villoſe, pale green. Petals yellow.—Spielmann ſent it to Jacquin in 1771[f].

Native of the Levant. Introduced 1788, by Monſ. Thouin[g].

18. Stamens about ſixteen fertile, and as many on the outſide without anthers. Leaves ſmooth, the edge rugged with a few very minute ſpines[h]. Stems ſeldom longer than a foot. Peduncle near the top of the ſtem. Calyxes ſomewhat villoſe. Petals yellow, longer than the calyx, and four ſeeds in each cell. *Scopoli* does not obſerve any ſtamens without anthers, nor a ſix-celled capſule, which Crantz attributes to it.—Moſt of the ſtamens, ſays Jacquin, have anthers, but ſome of the outer ones, which are ſhorter, have none. Capſule three-valved, and four or fewer black ſeeds in each cell. Leaves thick, keeled, dry, often thrown all to one ſide, and crooked, minutely dotted. Flowers drooping, on ſhort peduncles. Calyx conical, ſmooth, or ſlightly hairy, acceſſory leaves long and lanceolate; frequently variegated with purple veins. Petals ſulphur-coloured, ſmall, ſeldom expanded, but longer than the calyx, (Linneus ſays not longer, Jacquin ſcarcely longer: he adds that the flower cloſes before ten o'clock). Fruit three-celled.—In the autumn this ſpecies is often covered with tufts of leaves in ſhape of roſes, ſo as to reſemble a Sedum more than a Ciſtus[i].

Native of Gotland, France, Switzerland, Auſtria, Carniola. Cultivated 1739, by Mr. Miller[k].

19. The old ſtems are procumbent and naked, but thoſe which bear leaves and flowers are erect. Leaves lanceolate, tomentoſe on both ſides, with a few white proſtrate hairs on the upper ſurface. Peduncles from the upper axils, and thoſe almoſt naked. Branches (one to three) umbelled, ſeldom exceeding four lines in length. Calyxes tomentoſe. Petals deep yellow. Capſule ovate, ſomewhat acute, three-cornered, ſcarce apparently hirſute, three-celled and three-valved, covered with the calyx. Seeds two or three in each cell, ovate, acute, angular[l].

C. marifolius ſent by Schreber, has the leaves of this, only more tomentoſe and oblong, but it has the corolla of *C. alpeſtris*. Perhaps then theſe three may be all one ſpecies[m].

β. Leaves lanceolate, obtuſe, marked with three lines, green on both ſides: two leaflets of the calyx briſtle-ſhaped[n].

The Portugueſe variety is larger. The leaves oval or obovate, obtuſe, pale aſh-coloured above, tomentoſe-hoary underneath. Umbel terminating, four-flowered[o].

Native of the South of France, Spain, Portugal, Auſtria, Carniola, Piedmont. Introduced in 1772, by Monſ. Richard[p].

20. Stem erect, a ſpan high: branches oppoſite, longer, ſpreading, ſomewhat deflected, rufous. Leaves with a few, ſtrigoſe hairs, moſtly twin, and ſubciliate: the lower petioled and ovate; the upper ſubſeſſile. Raceme terminal. Calyxes hiſpid. Corolla pale, with the petals ſcarcely emarginate. Perhaps a variety of the foregoing[q].

Allioni is of opinion that *C. incanus*, *marifolius*, and *italicus* of Linneus make one ſpecies with his *alpeſtris*; in different ſituations having ſmooth or ciliate leaves; green on both ſides and hairy; aſh-hoary or even hoary. Different ſpecimens of *C. canus* are hoary on both ſides, or only underneath, or ſcarcely hoary, and furniſhed with hairs, ſo as to approach to *C. alpeſtris*. This ſometimes ſmooth, ſometimes hairy; inhabits mountainous and alpine places. *C. italicus*, mountains near the ſea, and ſituations leſs expoſed to the ſun. *C. canus*, barren rocky places expoſed to the ſun.]

21. Stems upright, ſhrubby, a foot and half high, ſending out branches the whole length. Leaves ſmall, ſilvery, oppoſite, ſmooth. The flower-ſtalks branch; and the flowers, which are white, are produced in ſhort ſpikes at the ends of the branches.

[According to Linneus, it varies with lanceolate leaves ſmooth above, and oval leaves ſomewhat hairy above, but they are always denſely tomentoſe underneath and hoary white[r].

Scopoli deſcribes his *C. tomentoſus* to be erect, with ſimple ſtems ſix inches high. Bottom leaves elliptic, upper lanceolate acuminate; all villoſe above and tomentoſe underneath. On the top of the ſtem four or five large yellow flowers. He found it in the alps both of Carniola and the Tyrol.

Haller's deſcription does not agree in all points with this. The ſtems of his are procumbent and branehing; and the flowers ſmall.

Native of the South of Europe. Cultivated in 1731, by Mr. Miller[s].

22. Jacquin thus deſcribes it.—Stem branched, diffuſed, ſhrubby at the baſe, as are alſo the branches, woody, perennial, round. Younger branches, racemes, leaves, and calyxes roughiſh, ſomewhat villoſe and hoary. Leaves on ſhort petioles, and quite entire. Racemes terminating, many-flowered, erect. Fruit-pedicels reflex. Three leaflets of the calyx ovate, obtuſe, concave; the two others ſhorter and very narrow. Petals fleſh-coloured with a yellow baſe, very entire and ſpreading. Filaments as well as anthers yellow. Piſtil green. Capſule roundiſh, one-celled, three-valved, at length becoming very ſmooth. Seeds few, brown.

Allioni ſuſpects this to be nothing more than a variety of *C. Helianthemum*, though the ſtem of this be more branching and ſhrubby; the leaves more firm and ſomewhat hoary underneath. For it is not unuſual to ſee C. Helianthemum of a roſe colour in maritime ſituations; and ſtems that in cold places are annual and periſhable, often become in warm climates perennial and ſhrubby.

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[b] Hort. kew.
[c] Jacquin.
[d] Hort. kew.
[e] Linn. mant.
[f] Jacquin.
[g] Hort. kew.
[h] Linn. ſyſt.
[i] Haller.
[k] Hort. kew.

[l] Jacquin.
[m] Scopoli.
[n] Linn. mant.
[o] Ibid.
[p] Hort. kew.
[q] Linn. mant.
[r] Spec. plant.
[s] Hort. kew.

Native of the county of Nice and Unelia.] Mr. Miller ſays, it was found growing near Smyrna by Dr. William Sherard, who firſt ſent the ſeeds to England. [It was cultivated in the botanic garden at Chelſea in 1723[t].

23. *Stem* ſcarcely ſix inches high, oblique, all rugged. *Leaves* lanceolate, like thoſe of Hyſſop, roughiſh, not even, green on both ſides. *Flowers* white, nodding; but when in bloom erect[u]. *Stems* many, ſlender. *Leaves* reſembling thoſe of wild Thyme, but thicker, more hirſute and hoary; dark green above, paler underneath, but hoary on both ſides; without any younger ones ariſing from the axils. On the tops of the branchlets grow three or four ſmall yellow *flowers*, ſometimes more; the *petals* minutely notched at the end, but ſometimes entire[x].——Flowering branches aſcending, hairy. *Leaves* ovate, blunt, ſeſſile, green on both ſides, but covered with white hairs. *Racemes* terminating, conſiſting of three or four flowers, with ſmall lanceolate bractes. *Calyx*, on the outſide green and hairy; on the inſide yellowiſh, with green lines. *Petals* yellow, finely ſcolloped[y].—*Leaves* hoary underneath, except in one ſpecimen, where thoſe of the ſtem were green on each ſide, and thoſe of the ſide branches hoary[z].

Ray ſuppoſed our plant to be the ſame with John Bauhin's *Helianthemum alpinum folio Piloſellæ minoris.* Linneus, Miller, and Hudſon have continued the ſynonym; though the accurate Dillenius had obſerved, that Bauhin's plant gathered by Sherard on Mont Saleve, has broader and longer leaves, much more hairy than in ours; and that the whole plant is much ſtouter. Our plant certainly bears no reſemblance to the *C. tomentoſus*, which Scopoli has figured (carn. t. 24.), and to which he has affixed John Bauhin's ſynonym, and that of Haller, n. 1035. which ſeems to be the ſame with *C. marifolius* of Linneus.

This ſpecies was firſt obſerved by Mr. Newton on ſome rocks near Kendal in Weſtmorland. It has been ſince found by Mr. Fitz Roberts at Buck Barrow Bank Scar between Brigſteer and Conſwick, and about Cartmel-wells in Lancaſhire. At Betram-Beuke, about a mile to the weſt of Kendal, by Mr. Richardſon. In Caernarvonſhire by Mr. Pennant; and in Angleſea, by Mr. Davies. It flowers in may.

I know not how it happens that Linneus makes the corolla to be white. Miller does the ſame. His ſpecific character is—*ſtem herbaceous procumbent, leaves ovate tomentoſe and ſeſſile.*

24. According to Linneus, in flora ſuecica, this differs from *C. Helianthemum* in having ſmaller, narrower leaves; ſtems ſmaller, more erect, ſmoother, more woody and redder; more flowers at the tops of the branches, and they leſs, without a ſpot in the middle; the petals ſmaller, not touching each other on the ſides, emarginate, and of the ſame form with thoſe in the flower of *Potentilla verna.* It is no variety, but ſufficiently diſtinct in its appearance, the calyxes not being reflected, the corollas uſually cloſed, the germ ſmooth, the ſtyle bent in, the ſtigma hiſpid uſually four-cleft, and in the leaves having the edge not in the leaſt reflected. The whole plant is perfectly ſmooth, ſo that it cannot be referred to *C. ſerpyllifolius*, though the figures of John Bauhin and Cluſius repreſent the plant. To this it is added in the *ſyſtema*, that the calyx is marked with lines and pubeſcent.

It does not however appear to Haller that this is very different from the common *C. Helianthemum.* See n. 19. and 20. There is little doubt but that the ſpecies have been too much multiplied. It is thus deſcribed by Jacquin—*Stems* many, procumbent, round, woody, brown, branched, at top dark purple or bay-coloured, about half a foot high, aſcending towards the end, ſcarred by the fallen leaves, in other reſpects ſmooth; the younger branches only leafy. *Leaves* petioled, obtuſe, quite entire, having white hairs on both ſides and about the edge; ſometimes however few or none on the under ſurface. *Racemes* terminating, few-flowered, villoſe, erect. *Flowers* ſweet-ſcented; leaflets of the calyx very hairy, the two outmoſt linear, the three inner ones ovate: petals yellow, from roundiſh obovate, entire or ſlightly crenulate, ſcarce emarginate. Stamens and piſtil all yellow. Stigma large, ſubquadrifid, muricate. Capſule hirſute, nodding. Seeds ovate, minute.

25. Root hard, perennial, gradually narrower as it deſcends. Stem a foot high, ſimple, villoſe at bottom. Root-leaves ſpreading on the ground, narrowed towards the baſe, white underneath: ſtem-leaves ſeſſile, diſtant, oppoſite except the uppermoſt which are alternate. Flowers on the top of the ſtem in a ſort of corymb. The two outer leaflets of the calyx ſhorter and lanceolate; the three inner ovate-acuminate, concave. Corolla yellow. Capſule globular, three-valved. Seeds ovate-compreſſed, blackiſh, fixed to partitions, oppoſite to the valves.

Native of Spain, in Catalonia and near Benicaſi in the kingdom of Valencia[a]: alſo in the South of France, and about Piſa. Cultivated in 1748, by Mr. Miller[b].

26. Root annual. Stem upright, five or ſix inches high: that and the reſt of the plant covered with ſpreading hairs. Leaves ſeſſile, three or four pairs. Raceme filiform, terminating; peduncles longer, ſlender, often without bractes. Flowers erect, but when juſt out of bloom pendant. Two leaflets of the calyx ſpreading. Petals yellow, with a very dark purple ſpot approaching to black at the baſe. Fruits erect[c].

Native of the South of Europe, in ſandy ſoils. Obſerved by Brewer, in ſandy paſtures on Llech ddue near Holyhead, Angleſea, flowering in june; and by Dr. William Sherard on the weſt ſide of the iſle of Jerſey, near Groſnez-caſtle.

Columna and Ray remarked it at the foot of mount Veſuvius, without any ſpots in the corolla.

27. This is a perennial plant, and has the appearance of *C. Helianthemum;* but the leaves are alternate. It was found in Canada by Kalm[d].

28. This riſes higher with greater ſtems than the next ſpecies, but is not leſs hairy; having two or three leaves ſet at the ſeveral joints, longer and narrower than in *ſalicifolius*, and ſmaller pointed, ſomewhat rough, and of a deeper green colour; the flowers grow ſingly towards the top, and are of a pale yellow[e]. The calyx is longer than the corolla, three of the leaflets erect, and two ſpreading. Capſules the length of the calyx[f]: like thoſe of *C. Helianthemum*, but more rigid, and half as large again. Seeds much ſmaller, of a ferruginous-red colour, angular, not mucilaginous[g].]

This plant puts on different appearances, according to the ſoil and ſituation. In a good ſoil, if the plants ſtand ſingle, and are not injured by weeds, they will riſe near a foot and half high, the leaves will be two inches and a half long, and near half an inch broad in the middle; but in a poor ſoil they do not riſe more than half that height: the leaves are much narrower, and the ſeed-veſſels not half ſo large. When they are cultivated in a garden they are found not to differ. It is an annual plant.

Native of the South of France and Italy; found alſo by Dr. William Sherard near Smyrna. [Cultivated in 1731, by Mr. Miller[h].

29. Capſules longer than the calyx. Petals yellow, ſmaller than the calyx and extremely fugacious. It varies with apetalous flowers[i].

Native of Spain and Portugal, monte Baldo, near

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[t] Philoſ. tranſ. vol. 33. [u] Linn. mant. [x] Dillenius. [y] Woodw. Mſſ. [z] Stokes in Withering.

[a] Cavanilles. [b] Hort. kew. [c] Linn. mant. and Villars. [d] Linn. ſpec. [e] Parkinſon. [f] Linn. [g] Gærtner. [h] Hort. kew. [i] Linn. ſyſt. and Hudſon.

Verona, and in the county of Nice. Sandy paſtures near Bream-downs in Somerſetſhire. Annual; flowering in june and july.—Mr. Miller has made two ſpecies of it.

30. Reſembles very much *C. ledifolius*, but is many times larger, and not gloſſy.—*Stem* ſomewhat woody, a foot high, round. *Branches* next the root aſcending, ſhorter; on the ſtem, towards the top, alternate, erect, few. *Leaves* oppoſite, petioled, elliptic, ſpreading, ſubtomentoſe, veined, longer than the joints. *Stipules* in fours, enſiform, half the length of the leaves, permanent. *Raceme* terminating, erect, ſtiff and ſtraight. *Flowers* alternate, accompanied with a leaf and two ſtipules, like the ſtem-leaves. *Petals* yellow. *Calyx* erect; the three inner leaflets three-nerved and acuminate; the two outer linear, ſhorter, ſpreading.—Native of Egypt. Annual[k].

31. Root annual, putting out one ſtem only, which is erect, but not able to ſupport the weight of the fruits. Leaves ſhining, thickiſh, furrowed on the upper ſurface where the nerve is below, ſublinear drawing to a point at each end. On each ſide the petiole is a ſubulate ſtipule. Peduncles ſolitary. Flowers drooping and without ſcent[l]. The two outer leaflets of the calyx ſmall; the three inner converging into an ovate inflated bladder, not opening till the fruit is ripe. Petals lanceolate, yellow, very ſhort, included. Stamens ten, ſmall, (five or ſeven, according to Jacquin). The larger leaflets of the calyx marked with four raiſed ciliate nerves[m]. Capſule as in *ledifolius* and *Helianthemum*. Seeds the ſame ſize as in the latter, ovate-acuminate, angular, obſcurely ferruginous, very mucilaginous[n]. Native of Egypt.

It was firſt cultivated by Juſſieu[o]; and by Miller in 1768[p]. The latter affirms that the petals are white, contrary to the authority of Linneus and Jacquin, and therefore probably a miſtake.

32. Branches rather erect, at bottom four-cornered. Leaves oval-lanceolate, thickiſh, petioled, oppoſite or elſe three on each ſide. Stipules very minute, racemoſe, marceſcent, ſeſſile. Peduncles round, crowded. The whole plant is covered with orbiculate ſcales, depreſſed in the centre. It was obſerved in Spain by Loefling[q].

33. *Stem* round, pubeſcent, whitiſh, bifid or ſparingly branched. *Branches* below the forking of the ſtem, lateral, ſimple, white. *Leaves* petioled, bluntiſh, ſpreading, hoary underneath. *Stipules* narrow-lanceolate, erect, the length of the petioles. *Racemes* oppoſite-leaved, erect or inclined. *Flowers* ſeſſile, crowded. *Calyx* ovate, leaflets alternate, linear. *Petals* obovate, yellow, ſcarcely larger than the calyx. *Stamens* uſually ten, ſhorter than the petals. *Germ* pubeſcent. *Fruits* obtuſe, covered with the calyx, ſeſſile, roundiſh[r].

The wild plant has the branches and leaves hoary on both ſides. The younger leaves of the axils are revolute. Stipules briſtle-ſhaped. Calyxes hairy, ſilky[s].

Native of Egypt, near Alexandria, &c.[t]

34. This reſembles *C. Helianthemum* very much in all its parts, except in the flower, which has the petals oblong and narrow, ſpreading out like the points of a ſtar, as it is commonly painted. The ſeed-veſſels are alſo ſmaller.

It was diſcovered by Edward Du-Bois, near Croydon in Surry[u].

Mr. Hudſon and others conſider this as a mere variety of the common ſort; the only material difference being in the ſhape of the petals. Dillenius on the contrary, who cultivated it at Eltham, and obſerved it in many other gardens; and Miller who cultivated it above thirty years, and never found it to vary from ſeed, do not heſitate to pronounce it a diſtinct ſpecies.]

35. Stems long, trailing, and dividing into many branches. Leaves veined, of a light green on their upper ſide, but of a grayiſh colour beneath, with three narrow, erect ſtipules at their baſe. The flowers are pretty large, white, and grow in cluſters at the ends of the branches.

[Found by Magnol, on mount Capouladon near Montpellier. John Bauhin had it from Baſil by Richner.

36. Root perennial. Stems ſhrubby, erect or aſcending, round, ſcabrous, a ſpan high, branched. Leaves quite entire, glaucous, thickiſh, villoſe and ſomewhat ſcabrous, flat, obtuſe, petioled. Stipules linear or lanceolate, erect. Racemes oppoſite to the leaves and terminating, with many flowers pointing one way. Bractes linear. Calyx ſomewhat villoſe, the outer leaflets linear, the inner ovate, ſharpiſh, pale, with hairy ſtreaks, green or purple. Petals roundiſh, yellow, obtuſe, ſpreading very much, a little longer than the calyx. Stamens entirely yellow. Capſule the length of the calyx, triangularly-roundiſh, obtuſe, villoſe, one-celled, three-valved. Seeds brown, ſomewhat compreſſed. It flowers from june to auguſt; the bloſſoms expand only in the morning.

Native of Fuertaventura, one of the Canary iſlands; from whence it was ſent to Jacquin by Fr. Maſſon.

37. Root perennial. Stems ſomewhat ſhrubby at bottom, but the branches annual. Branches, leaves, racemes, and calyxes beſet with ſcabrous villoſe hairs. Leaves oblong-lanceolate, petioled, oppoſite, quite entire, a little revolute. Racemes long, terminating. Outer leaflets of the calyx linear; three inner ovate, acute, pale, with greeniſh and hairy ſtreaks. Petals rounded, white or ſometimes very pale yellow, with a yellow baſe. Stamens yellow. It has a ſtrong ſmell like Bryony; and approaches to C. mutabilis, in habit, time of flowering and fruiting, and in the form of the capſule[x].]

38. Stems ſhrubby and crooked, covered with a purpliſh brown bark like common Heath. Branches ſlender. Leaves narrow and ſtiff, like thoſe of Thyme: they are oppoſite, and have no ſtipule at their baſe. [If ſo, it does not belong to this ſection.] The flowers are produced on naked peduncles, terminating the branches in a ſort of umbel; they are of a pale yellow colour, and a little ſmaller than thoſe of *C. Helianthemum*.

[Gouan refers Cluſius's plant to *C. oelandicus*, *n.* 24. which ſee.

Native of the Alps of Auſtria. Cultivated in 1759, by Mr. Miller. It flowers from may to ſeptember[y].

39. Root woody, ſmall, creeping much. Stems many, a long ſpan in height, ſtraightiſh, at bottom woody and branched, but at length ſolitary, more ſlender, round, green, naked at top, villoſe and glutinoſe with very ſhort ſpreading hairs. Leaves ſubhirſute, even above, nerved beneath, three, four, or five together, unequal; the upper ones fewer, always alternate, more villoſe; the uppermoſt ternate or ſolitary. From the upper internodes there are rudiments of branches. Racemes few-flowered. Peduncles longer than the flower, glutinoſe, villoſe. Three leaflets of the calyx ovate, obtuſe, marked with green lines and red at the end; the other two linear, green, ſhorter. Corolla yellow, a little longer than the calyx[z]. Native of the South of Europe.

40. Linneus has given no deſcription of this ſpecies. Villars ſays, that it is a ſmaller plant than his *hirſutus*, but he doubts whether that be the ſame with the *piloſus* of Linneus. The leaves are narrower and diſpoſed in bundles. The flowers are yellow, but ſmaller and fewer. It is villoſe, but the tiſſue is cloſer, which renders it whitiſh. The hairs do not iſſue from a gland, nor does it ſeem to be glutinous. The leaves much reſemble thoſe of Thyme, but they are not ſo hard, and they are a little whiter. Villars thinks it may poſſibly be the ſame with the *glutinoſus* of Linneus; and whether

[k] Linn. mant.
[l] Jacquin.
[m] Linn. mant.
[n] Gærtnet.
[o] Linn. mant.
[p] Hort. kew.
[q] Linn. ſpec.
[r] Linn. mant.
[s] Vahl.
[t] Forſk.
[u] Dillenius.
[x] Jacquin.
[y] Hort. kew.
[z] Ger. prov.

it be the ſame with the *piloſus* of that author is difficult to ſay.

Native of the South of France and of Spain. Cultivated in 1714, by the Dutcheſs of Beaufort[a].

41. Stems ſomewhat erect. Bractes ſolitary, at the ſides of the pedicels[b].—Gerarde refers to this all the ſmall ſpecies with white flowers, even *C. apenninus*[c]. And in this Allioni agrees with him. It varies with broader, ovate leaves, ſcarcely revolute; and narrower leaves, revolute on both ſides, uſually whitiſh. The white colour of the corolla varies exceedingly, and in the garden, the ſame plant will have white, ſulphureous and roſe-coloured flowers. It is alſo not uncommon on the maritime hills of the county of Nice, with roſe-coloured flowers[d]. Calyxes not hairy, in which it differs from *C. thymifolius*[e].

Villars deſcribes his *hirſutus* as having the ſize and figure of *C. Helianthemum*, but as differing in the habit, tiſſue, and colour; its woody ſtems, branched at firſt near the baſe, then riſe perpendicularly to ſix or even ten inches in height; the leaves are elliptic, villoſe, dark-coloured, revolute, with two ſtipules at the baſe; they are narrower than thoſe of *C. Helianthemum.*

Native of the South of France, Spain, and Piedmont. Cultivated by Mr. Miller, in 1759.

42. This is a weak ſhrub, half a foot in height, (according to Linneus, the ſtature of Roſemary[f]): the branches remotely muricated from the fallen leaves, tomentoſe and hoary at top. Leaves oppoſite, on very ſhort petioles, linear (or narrow lanceolate, revolute, underneath) moſt ſmoothly tomentoſe. Stipules briſtle-ſhaped, (linear, *Lin.*) purpliſh, a pair on each ſide, the length of the petiole. Flowers in a terminating, ſolitary (very long) pendulous raceme, all directed one way; without any bractes. Calyxes ſmooth, ovate, acute, angular: the two outer leaflets briſtle-ſhaped, ſhorter than the inner ones, which are ovate, nerved and furrowed.

It differs from *C. lavandulifolius* in having narrower ſhorter leaves, leſs tomentoſe and without a point at the tip, no bundle of leaves in the axils, the calyxes ſmaller and ſmooth, angular with the elevated nerves[g]. Native of Spain.

43. Root perennial, branched. Stem round, branched from the baſe, woody; the younger branches, with the leaves, ſtipules and racemes ſlightly villoſe and hoary. Stipules four, ſubulate, ſharp. Leaves oppoſite, lanceolate-oblong, ſharpiſh, quite entire, on ſhort petioles, rough on both ſides. Racemes terminating, many-flowered, upright; the pedicels bent back in fruiting-time. Bractes like the ſtipules, deciduous. The two outer leaflets of the calyx linear, the reſt ovate, acute and nerved. Petals yellow, with an orange-coloured baſe, either quite entire or crenulate about the edge. Capſule hirſute, ovate[h].

44. According to Linneus, the petals are ſuborbiculate, quite entire, yellow, generally with a tawny ring ſurrounding the receptacle. The racemes nod before they flower. The leaves have a few hairs ſcattered over them.—Branches ſubhirſute. Leaves hairy on their upper ſurface, and tomentoſe on their lower, ovate; the upper linear. Stipules four, hairy on their edges. Raceme terminal, three or five-flowered. Calyx membranaceous, hirſute, with brown or purpliſh nerves. Petals crenate or emarginate, very obtuſe, almoſt truncate, rather cordate than orbiculate, wrinkled. Germ hirſute, ovate[i].

Mr. Curtis has obſerved that the hairs on the leaves are forked. Stems numerous, round, ſmooth at bottom, at top ſlightly hairy, commonly reddiſh. Leaves oppoſite, on very ſhort petioles. The three upper leaflets of the calyx ovate, bluntiſh, ſomewhat tranſparent, equal, three-ribbed, the ribs coloured and hairy; the two lower very ſmall, lateral and hairy. Capſule one-celled, three-valved: ovate, three-cornered, ſmooth, the valves clothed on the inſide with a thin membrane. Seeds about ten to each valve, angular, ſmooth, teſtaceous-ruſeſcent, mucilaginous[k].

Scopoli diſtinguiſhes this from his *grandiflorus*, by having the ſtipules ſhorter than the calyx; whereas in that they are longer. Pollich ſays that he has reckoned as far as ninety ſtamens in a flower.

The uſual colour of the corolla is a full yellow, but it varies to lemon-colour, white and even roſe-colour; it is alſo ſaid to be found with a double corolla. It varies likewiſe ſomething in the leaves.

Allioni ſuſpects that the *ſerpyllifolius* of authors is the ſame with his *alpeſtris*; and that his *ſerpyllifolius* may be a variety of this ſpecies. He obſerves farther, that *C. Helianthemum* varies ſo much from ſituation, as to give him reaſon to ſuſpect that *C. anguſtifolius* and *hiſpanicus* of Juſſieu; *C. grandiflorus, helianthemoides*, and *ſerpyllifolius* of Crantz, and *roſeus* which he has figured, are but one ſpecies with this.

Found in dry paſtures in many parts of Europe. With us generally in calcareous ſoils. Perennial; flowering from june to auguſt.

45. Stems ſeveral, branching very much, woody at bottom, and the ſize of a common quill, procumbent and brown: from theſe ſpring annually numerous, ſmooth, aſcending branches, about a foot in length. Leaves oppoſite, petioled, lanceolate-oblong, bluntiſh, quite entire, green, flat not revolute. Stipules in pairs on each ſide, lanceolate-acuminate, upright. Racemes terminating, long, upright, appearing ſlightly villoſe when viewed with a magnifier. Two leaflets of the calyx linear; three ovate, concave, pale with green ſtreaks, obſcurely villoſe. Petals obovate, ſharp at the baſe, pale yellow or roſe-coloured. Stamens entirely yellow. Capſule triangular-roundiſh, ſomewhat villoſe, one-celled, three-valved. Seeds few, brown. It flowers in may and june; and the ſeeds ripen in july[l].]

46. Stem erect, ſending out many ſide branches, with the joints pretty cloſe. Leaves very narrow, oppoſite, revolute, the upper ſurface of a lucid green, and the under hoary. Flowers large, white, in ſmall cluſters at the ends of the branches.

[Allioni obſerves that the calyx is whitiſh, that it has nothing rough or hairy about it, and that it is a very diſtinct ſpecies.

Native of the South of France, Spain and Villafranca. Cultivated by Mr. Miller in 1759.

47. This is a foot in height, branching and ſpreading. Leaves green and rough with hairs on the upper ſurface, on the lower hoary[m].

Miller makes two ſpecies of this, and thus deſcribes them:] 2. The ſtalks are much larger, and extend farther than thoſe of *C. Helianthemum*; the leaves are longer and hoary; there are three acuminate erect ſtipules at each of the lower joints. The racemes are much longer; the calyx is hairy and whitiſh; the corollas are white and larger.

4. The ſtems are more erect, the leaves not ſo long, the ſtipules very ſmall, and the whole plant very hoary. The flowers are white, the ſpikes ſhorter and more compact.

[Native of Italy, on the Apennines. Cultivated in 1731, by Mr. Miller[n].

48. Branches many ſpreading on the ground, hoary towards the end, towards the baſe browniſh, with frequent joints and naked, moſt of them a hand in length, but the inner and younger branches much ſhorter. Leaves thickiſh, ſomewhat ſtiff, revolute, having a prominent rib underneath, hoary, frequent; with others much ſmaller growing from the axils. Flowers few terminal, of the ſame form and ſize with thoſe of the common ſort (n. 44.), but white; petals ſlightly crenate, generally cordate.

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[a] Hort. kew. [b] Gouan. [c] Linn. ſyſt. [d] Allioni. [e] Sauvages. [f] Linn. mant. [g] Vahl. [h] Jacquin. [i] Relham.

[k] Gærtner. [l] Jacqu. miſc. [m] Linn. [n] Hort. kew.

Capſules obtuſely three-cornered, roundiſh, one-celled, three-valved. Seeds many, three-cornered, dark brown. In a garden, the leaves become larger, loſe their hoarineſs, and become green and hairy[o]. Flowering branches aſcending, white. Leaves oppoſite. Racemes terminating. Peduncles ſhort, with ſmall lanceolate bractes. Calyx purpliſh, ſlightly hairy, the three inner leaflets broad oval, the two outer ones lanceolate, minute[p].

Remarked firſt by Plukenet on Brent-down, in Somerſetſhire, near the Severn Sea; and found in the ſame place, on the middle of the hill, by Dillenius, in july 1726. Native alſo of the South of Europe.

49. This plant is a foot high, ſuffruticoſe and diffuſed. Leaves lanceolate, flat, ſmooth, acute, but the younger ones ſubpubeſcent. Stipules in pairs, very ſmall. Peduncles from the axils of the upper leaves, ſolitary, one-flowered. Three leaflets of the calyx ovate-cordate, acute, large; the two lower ones linear, acute, ſpreading. The capſule nods and is thick[q].

According to the deſcription of Vahl, the branches are leafleſs, procumbent at bottom, then aſcending, often a foot high, round, ſmooth, ſlender: branchlets from the very baſe, copious, alternate, diſtant, ſpreading very much; the lower ones barren, the uppermoſt flowering, quite ſimple, elongated, cinereous-pubeſcent. Leaves on the barren branches crowded, marked with two lines, declining, linear, ſtiffiſh, veinleſs, bluntiſh, the laſt tomentoſe-aſh-coloured. Stipules minute, ovate. Leaves on the flowering-branches broader and longer, pubeſcent. Stipules lanceolate. Raceme terminating, compoſed of three or four flowers, bracted. Pedicels diſtant, hairy and ſomewhat viſcid towards the top, a little thicker below the flower. Calyx hairy, ſlightly viſcid: inner leaflets three-nerved, with the interſtices membranaceous; outer lanceolate. Native of Spain.

50. Stems reddiſh, viſcid; leaves green; peduncles ſolitary, axillary and terminal; corolla pale yellow. No ſtipules. Shrubby.—In the county of Nice[r].

51. Stem villoſe, about ſix inches high. Leaves an inch long. Flowers in racemes. Peduncles and calyxes villoſe. The ſmaller leaflets of the calyx linear; the others twice as long. Petals yellow, rounded, almoſt half an inch in length. It differs from *C. Helianthemum* in the whole appearance, in the flower, length of the ſpicules, and hardneſs of the leaves. The ſpicules in Seguier's figure are too ſmall[s].

Allioni doubts whether this be a diſtinct ſpecies from *C. Helianthemum*.—Carniola and Piedmont.]

52. This differs from *villoſus* and *incanus* (n. 2. and 8.) in having ſhorter and greener leaves, which are joined at the baſe and hairy. The peduncles are much longer, and the flowers are ſmaller, but of a deeper purple. It flowers and ſeeds at the ſame time with them; and the ſhrubs grow as large as the ſecond ſort. It is a native of Portugal.

53. This has much larger and rounder leaves, they are hairy, but even on their upper ſide, rough and full of veins on their under; the branches are white and hairy; the flowers very large, and of a light purple colour.

54. This does not riſe ſo high as either of the former, but ſends out branches near the root, which are hairy and erect. At each joint comes out a very ſlender branch, having three pairs of ſmall leaves of the ſame ſhape with the others, and terminated by a ſingle flower; the ends of the branches have three or four flowers ſitting cloſe without peduncles. The flowers are of a deep purple colour, and like thoſe of the ſecond. Theſe flower at the ſame time with the others.

55. This ſort riſes with a ſmooth ſhrubby ſtalk four or five feet high, ſending out many ſlender woody branches, covered with a ſmooth brown bark; with oblong heart-ſhaped leaves, which are ſmooth, and have long foot-ſtalks. The flowers are produced at the ends of the branches, ſtanding upon pretty long peduncles; they are white, and appear in june, july, and auguſt, but rarely produce any ſeeds in England.

56. Stem ſhrubby, about nine inches high. Leaves very narrow and fine, growing in cluſters. The flowers come out from the ſide, and at the ends of the branches, on ſlender peduncles; they are of a pale ſtraw-colour, and it is ſeldom longer than two hours before the petals fall off. This plant ſeldom continues more than two years.—Native of the Cape of Good Hope, and ſent to Mr. Miller from Holland by Dr. Adrian van Royen.

Mr. Miller has another ſpecies, (n. 9.) which he calls *Helianthemum ciſtifolium*, and thus characteriſes—*ſtems procumbent underſhrubby ſmooth, leaves ovate-lanceolate oppoſite, peduncles longer.* He gives the following ſynonym of Boerhaave, *Hel. germanicum luteum Ciſti folio.* Perhaps it may be a variety of *C. Helianthemum*, n. 44.

[57. Found in the iſland of Teneriffe by Maſſon, and introduced in 1779. It flowers from april to june[t]. The place of this is between the fourth and fifth ſpecies.

58. Native of Spain and Portugal. Cultivated in 1656, by Mr. John Tradeſcant, jun. It flowers in june and july[u]. This ſhould come in between the ſixth and ſeventh.

59. Stems decumbent, round, cloſely beſet with ſhort ſtellated hairs, and rugged. Branches ſhort. Leaves ſubpetioled, an inch in length. Flowers terminating, ſubpanicled. Calycine leaflets ovate-lanceolate, acuminate, pubeſcent on the outſide with ſtellated hairs and a long pile; they are equal and four lines in length. Petals obovate, ſubretuſe, about twice the length of the calyx, deep yellow, paler at the baſe.

Native of Italy and Portugal. It flowers in june and july. Introduced in 1775, by Meſſ. Kennedy and Lee[x]. It comes in between the eighteenth and nineteenth ſpecies.

60. Stem two or three feet high. Branches round, denſely tomentoſe, hoary-white. Leaves oppoſite, hoary, very ſoft, flat, bluntiſh, about an inch in length; the four uppermoſt ſeſſile, ſubcordate at the baſe, the reſt ending in a ſhort petiole. Peduncle from the top of the branches, ſolitary, erect, a ſhort ſpan in length, hoary, wholly beſet, as are alſo the pedicels, with long purpliſh hairs. Pedicels towards the top, ſpreading, the lower ones three-flowered, the upper one-flowered. Calyx extremely hirſute with ſoft ſilky hairs before the flower opens ovate, acuminate. Inner leaflets three, ovate, very ſmooth on the inſide; the outer ones lanceolate, at the baſe of the calyx. Petals purple, with a yellow ſpot at the baſe. Filaments purple. Anthers yellow.

C. albidus differs from this in having narrower, lanceolate leaves, all ſeſſile, wrinkled, with the hairs more diſtinct: more peduncles, ſhorter than the leaves, and without the purpliſh hairs: the calycine leaflets broader, ſhorter, with a raiſed line along the back, tomentoſe not hirſute and hoary on both ſides: flowers larger.

Native of Spain and Portugal.

61. This is a ſhrub, the ſame height with *C. halimifolius*. Branches round, angular at the top, hoary, covered with yellowiſh ſcales nearly in the ſame manner as in *C. ſquamatus* and *halimifolius*. All the leaves petioled, flat, the younger ones waved, hoary on both ſides, appearing very minutely dotted when viewed with a magnifier, nerved, brittle, half an inch in length. Raceme terminating. Peduncles round, erect, three inches long, hoary, with very ſoft purpliſh hairs: pedicels ſimple of the ſame ſtructure with the peduncle, and jointed. Calyxes ovate, acuminate: outer leaflets caducous; inner ovate, acuminate, very ſmooth within, hairy with-

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[o] Dillenius. [p] Woodw. Mſſ. [q] Linn. amoen.
[r] Allioni. [s] Scopoli.

[t] Hort. kew. [u] Ibid. [x] Ibid.

out: the hairs ſhorter than in the foregoing. Corolla purple. Germ villoſe. It has the branches and leaves of *C. halimifolius*, with the peduncle and calyx of *C. ſericeus*; from which it may be diſtinguiſhed by having all the leaves petioled, and whiter, with the branches covered with yellow ſcales. Native of Spain.

The proper place of this and the foregoing is between the tenth and eleventh ſpecies.

62. This is an upright and very branching ſhrub, a foot or more in height: branches ſhort, the younger ones tomentoſe, hoary, with yellowiſh ſcales ſcattered over them. Leaves oppoſite, veinleſs, hoary on both ſides, flat; the younger ones doubled together, patulous at the tip: petiole very ſhort, with a few long hairs on it. Flowers racemed. Peduncle terminating, half a foot long, erect, by no means hoary, hairy, eſpecially at bottom. Towards the middle of the peduncle there is a pair of ſeſſile leaves; thoſe on the branches are larger and more acute, the upper ones are ſmooth. Pedicels towards the top of the peduncle, remote, filiform, quite ſimple, commonly five, with a bent joint at top; the lower ones in pairs, the reſt alternate. Flowers nodding before they open. Calyx oblong, acuminate, hirſute, ſmooth within; two leaflets caducous. Petals yellow with a duſky ſpot at the baſe, a little longer than the calyx.

It is diſtinguiſhed by its two-leaved, elongated peduncles, not tomentoſe but only hairy; from *C. halimifolius* by its alternate floral leaves. The leaves alſo are ſmaller than in the other ſpecies that approach neareſt to it. Native of Spain, where this and the preceding ſort were found by Vahl.

The proper place for this is between the twelfth and thirteenth ſpecies.

63. This is an erect little ſhrub, with ſlender villoſe branches, and a brown bark. Leaves ſeſſile, oblong, erect, flat, quite entire, villoſe on both ſides, becoming black in drying. Peduncles towards the top, ſolitary, ſometimes two or three together, in the axils of the leaves on the lower branches, ſpreading, double the length of the leaf, villoſe, a little thicker at the end, having two linear caducous leaves at the top. Calyxes ovate, acute, hirſute. It has the calyx and infloreſcence of *C. ſalicifolius*, but it is ſhrubby. Native of Braſil.

The true place of this is between the twenty-fourth and twenty-fifth ſpecies.

64. This is a ſhrub a palm, and ſometimes a foot in height, branched at bottom. Branches round, upright, tomentoſe, hoary. Leaves oppoſite, hoary, veinleſs, revolute ſometimes flat, rigid, mucronate, an inch long, with a bundle of ſmaller leaves in each axil. Petiole very ſhort. Stipules a pair on each ſide, ſubulate, with ſoft hairs, purpliſh, patulous and reflex at the tip. Racemes terminating, ſolitary, or often in pairs, revolute at the end before the flowers open. Flowers copious, without bractes. The two outer leaflets of the calyx lanceolate, hairy-ciliate; the inner ovate, larger, acuminate tomentoſe, hoary, very ſmooth within. Corolla yellow.

Native of Spain, South of France and Barbary. Cluſius obſerved it in the kingdom of Valencia; and Vahl about Marſeilles, and on the dry hills of Tunis.

Its proper place is between the forty-firſt and forty-ſecond ſpecies.

65. Stem ſuffruticoſe; branched at the baſe. Branches quite ſimple, a ſhort ſpan in length, aſcending, leafy, ſmooth at bottom, tomentoſe at top, hoary as they are alſo at the baſe. Leaves ſeſſile, two inches long, gradually ſmaller towards the top, oppoſite, except the laſt, which are alternate, hairy, but ſometimes though very ſeldom quite ſmooth. Stipules only to the laſt leaves. Raceme terminating, without bractes. Pedicels filiform, nodding, remote. Leaflets of the calyx ovate, tomentoſe; the two outer ſmaller, towards the baſe of the inner ones ovate, hairy, only one-third of the ſize of the others.

C. Tuberaria differs from this, in having the leaves oblong, tomentoſe underneath, wrinkled, mucronate, the ſtem almoſt leafleſs, ſmooth at top, and the capſule twice as large.

This ſpecies differs from *C. guttatus*, in having the ſtem at bottom perennial, and the outer calycine leaflets ovate, not briſtle-ſhaped.

Native of Barbary, and found there on the heaths near Bizerta, by Vahl.

The proper place of this is immediately before *C. Tuberaria*, n. 25.

66. This is a ſmall upright ſhrub, a ſpan high. Branches oppoſite, purple at bottom, clothed at the baſe, as are alſo the branchlets with long thinly ſcattered hairs; the younger ones are hoary, ſomewhat angular, and when examined with a magnifier have ferruginous dots ſcattered over them. Leaves petioled, oppoſite, thoſe on the branches, and the lower ones on the flowering-twigs lanceolate wedge-form, often an inch long, three-nerved, green on both ſides, almoſt naked above, ſlightly hairy beneath; the younger ones and thoſe of the barren twigs obovate, doubled, without apparent veins or nerves. Stipules none. Peduncles lateral, oppoſite, higher than the branches, about a ſpan in length, ſmooth, round, ſtiff, with two pairs of leaves at bottom. Partial peduncles oppoſite, two inches long, remote, ſmooth, the lower ones commonly two-flowered: flowers pedicelled, one of the pedicels with a bent joint. Calyx before it opens ovate, acuminate, three-leaved; the leaflets quite ſmooth. Petals white, with a purple ſpot at the baſe[y].

According to Cavanilles, the ſtem is two feet high, with a brown bark. Leaves ſubconnate, ovate-oblong, white on the lower ſurface, with a prominent dorſal nerve: thoſe on the older branches ſhort, narrowed at the baſe, with a ſort of petiole, reſembling thoſe of *Thymus maſtichina*; on the flowering-branches they are many times longer, but ſtill ſeſſile and connate. Peduncles ſometimes a foot long, almoſt leafleſs, branched; branches oppoſite (ſometimes alternate) hairy, many-flowered. Anthers ovate, twin. Germ tomentoſe; ſtyle ſhort, red, ſtigma thickened, fringed. Capſule ovate, obſcurely three-cornered, three-valved.

Native of Spain.]

PROPAGATION AND CULTURE.

All the various kinds of Ciſtus are very great ornaments to a garden; their flowers, though but of a ſhort duration, are ſucceeded by freſh ones almoſt every day for above two months ſucceſſively; theſe flowers are many of them about the bigneſs of a middling Roſe, but ſingle, and of different colours; the plants continue their leaves all the year.

[The moſt deſirable ſorts for their beauty are the 3d, 4th, 5th, 8th and 12th. The 6th, 9th and 10th are alſo very handſome.]

Theſe plants are moſt of them hardy enough to live in the open air in England, unleſs in very ſevere winters, which often deſtroy many of them, ſo that a plant or two of each ſort may be kept in pots, and ſheltered in winter, to preſerve the kinds; the reſt may be intermixed with other ſhrubs, where they will make a pretty diverſity; and in ſuch places where they are ſheltered by other plants, they will endure the cold much better than where they are ſcattered ſingly in the borders.

[The 1ſt, 17th, 30th, 31ſt, 36th, 49th and 56th require the protection of a ſtove. The 12th is the moſt tender of the European ſpecies, and will hardly live abroad in the winter. The 2d, 3d and 9th are the next in tenderneſs; and after them the 4th, 8th and 12th.]

Many of theſe plants will grow to the height of five or ſix feet, and will have large ſpreading heads, provided they are permitted to grow uncut; but if they are ever trimmed, it ſhould be only ſo much as to prevent their heads from growing too large for their ſtems; for whenever this happens, they are apt to fall on the ground, and appear unſightly.

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[y] Vahl.

Theſe ſhrubs are propagated by ſeeds, and alſo from cuttings; but the latter method is ſeldom practiſed, unleſs for thoſe ſorts which do not produce ſeeds in England; theſe are the twelfth and the fifty-fifth ſorts; all the others generally produce plenty of ſeeds, eſpecially thoſe plants which came from ſeeds; for thoſe which are propagated by cuttings, are very ſubject to become barren, which is alſo common to many other plants.

The ſeeds of theſe plants may be ſown in the ſpring upon a common border of light earth, where the plants will come up in ſix or ſeven weeks, and, if they are kept clear from weeds, and thinned where they are too cloſe, they will grow eight or ten inches high the ſame year; but as theſe plants, when young, are liable to injury from hard froſt, therefore they ſhould be tranſplanted when they are about an inch high, ſome into ſmall pots filled with light earth, that they may be removed into ſhelter in winter, and the others into a warm border, at about ſix inches diſtance each way; thoſe which are potted, muſt be ſet in a ſhady ſituation till they have taken new root; and thoſe planted in the border muſt be ſhaded every day with mats till they are rooted, after which the latter will require no other care but to keep them clean from weeds till autumn, when they ſhould have hoops placed over them, that they may be covered in froſty weather; thoſe in the pots may be removed into an open ſituation, ſo ſoon as they have taken new root, where they may remain till the end of october, but during the ſummer they muſt be ſhifted into larger pots, and be frequently watered; the end of october they ſhould be placed under a hot-bed frame to ſcreen them from the cold in winter, but, at all times, when the weather is mild, they ſhould be fully expoſed to the open air, and only covered in froſts: with this management, the plants will thrive much better than when they are more tenderly treated.

The above method is what the gardeners generally practiſe: but thoſe who are deſirous to have their plants come forward, ſhould ſow the ſeeds on a moderate hot-bed in the ſpring, which will bring up the plants very ſoon: but theſe muſt have plenty of air when they appear, otherwiſe they will draw up very weak; when the plants are fit to remove, they ſhould be each planted into a ſeparate ſmall pot, and plunged into a very moderate hot-bed, obſerving to ſhade them till they have taken freſh root; then they muſt have plenty of air admitted to them every day in good weather, to prevent their drawing up weak; and by degrees they muſt be hardened, ſo as to be removed into the open air the beginning of june, and then they may be treated in the ſame manner as is before directed for the other ſeedling plants. By bringing the plants forward in the ſpring in this method, they will grow to the height of two feet, or more, the firſt ſummer, and have many lateral branches, ſo that they will be ſtrong enough to plant abroad the following ſpring, and moſt of them will flower the ſame ſummer; whereas thoſe which are ſown in the full ground, rarely flower till the year after; nor will they be ſo ſtrong, or capable to reſiſt the cold of the ſecond winter, as thoſe which have been brought forward.

In the ſpring following, theſe plants may be turned out of the pots, with all the earth preſerved to their roots, and planted in the places where they are to remain (for they are bad plants to remove when grown old,) obſerving to give them now and then a little water, until they have taken freſh root; after which time, they will require no farther care than to train them upright in the manner you would have them grow; but thoſe plants which were at firſt planted into a border in the open ground, ſhould be arched over, and covered with mats in froſty weather, during the firſt winter, but may be tranſplanted abroad the ſucceeding ſpring. In removing theſe plants, you ſhould be careful to preſerve as much earth about the roots as you can; and if the ſeaſon ſhould prove hot and dry, you muſt water and ſhade them until they have taken freſh root, after which they will require no other culture than was before directed.

Theſe plants may alſo be propagated by cuttings, which ſhould be planted in may or june, upon a bed of light earth, keeping them ſhaded with mats, and frequently refreſhed with water, until they have taken root; which will be in about two months time, when you may tranſplant them into pots filled with good freſh light earth, and they ſhould be ſet in a ſhady place until they have taken root, then they may be expoſed to the open ſun until october, when you ſhould remove them into ſhelter the firſt winter; but the ſucceeding ſpring you may plant them abroad, as was before directed for the ſeedling plants.

Moſt of the perennial ſorts of Dwarf Ciſtus or Sunflower (Helianthemum) will thrive in the open air in England: they are propagated by ſeeds, which may be ſown in places where they are to remain, and will require no other care but to keep them clean from weeds, and to thin them where they are too cloſe, always obſerving to leave thoſe ſorts at a greater diſtance, whoſe ſtalks trail on the ground to the greateſt length.

Theſe plants will continue ſeveral years in a poor dry ſoil; but in rich ground or moiſt ſituations they ſeldom laſt long: but as they ripen ſeeds in plenty, they may be eaſily renewed.

For the annual ſorts, the ſeeds may be ſown in april upon a bed of common earth: the plants will come up in may, and flower in july.

[Mr. Curtis adds, that though our common Dwarf Ciſtus (n. 44.) cannot vie with thoſe which are the produce of warmer climates, yet it is one of the moſt ornamental of our native plants, and admirably well calculated to decorate a rock or dry bank, eſpecially if its ſeveral varieties, with white, roſe and lemon-coloured flowers be intermixed. It is hardy, eaſily propagated either by ſeeds or cuttings, and continues for the greateſt part of the ſummer to put forth daily a multitude of new bloſſoms. If the variety with double flowers, mentioned by Haller, could be obtained, it would be a valuable acquiſition to our gardens.

Cistus. See *Andromeda*, *Dioſma*, *Kalmia*, *Ledum*, *Rhododendron*, *Telephium*, *Turnera*.

Cistus indicus & virginicus. See *Azalea*.]

CITHAREXYLUM. (*From* κιθάρα *a harp, and* ξύλον, *wood.*)

Engl. *Fiddle-wood.*
Fr. *Guittarin* or Bois de *Guittarre.*
Lin. gen. n. 760. *Reich.* 818. *Schreb.* 1019. *Gærtn. t.* 56. *Juſſ.* 108. *Jacqu.* 117.
Claſſ. 14. 2. Didynamia Angioſpermia.
Natural order of *Perſonatæ*. *Vitices* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bell-form, five-toothed, acute, permanent.

Cor. one-petalled, funnel-wheel-form: *tube* twice as long as the perianth, thicker at the top: *border* five-parted, two-lipped; *ſegments* above villoſe, oblong, truncate, flat, very ſpreading.

Stam. *Filaments* four, with the rudiment of a fifth from the middle of the tube, filiform, two of them ſomewhat longer. *Anthers* oblong, twin, erect.

Pist. *Germ* roundiſh. *Style* filiform, the length of the ſtamens. *Stigma* obtuſe-headed.

Per. *Berry* roundiſh, ſomewhat compreſſed, one-celled.

Seeds two, ovate, two-celled, convex on one ſide, concave on the other, emarginate at the end.

ESSENTIAL CHARACTER.

Cal. five-toothed, bell-form. *Cor.* funnel-wheel-form; ſegments above villoſe, equal. *Berry* two-ſeeded. *Seeds* two-celled.

SPECIES.

[1. Citharexylum cinereum. *Aſh-coloured Fiddle-wood.* *Lin. ſpec.* 872. *Reich.* 3. 160. *Jacqu. amer.* 185. *t.* 118. *ed.* 2. *pict.* 92. *t.* 178. (teres.) *Brown. jam.* 264. *n.* 1. *Pluk. alm. t.* 162. *f.* 1.

Jaſminum. *Plum. ic.* 157. *f.* 1.
Branches round; calyxes toothed.

2. Citharexylum caudatum. *Oval-leaved* or *long-ſpiked Fiddle-wood.*
Lin. ſpec. 872. *Reich.* 3. 160. *Brown. jam.* 265. *n.* 5. *t.* 28. *f.* 2.
C. erectum. *Swartz prodr.* 91.
Branches round, calyxes truncate.]

3. Citharexylum quadrangulare. *Square-ſtalked Fiddle-wood.*
Lin. ſyſt. 564. *Reich.* 3. 161. *Jacqu. hort.* 1. *t.* 22. *amer. pict.* 92. *Mill. dict. n.* 1. cinereum.—forte *caudatum*, Swartz.
Branches quadrangular.

[4. Citharexylum villoſum. *Hairy-leaved Fiddle-wood.*
Jacqu. collect. 1. 72. *Ait. hort. kew.* 2. 349.
C. ſubſerratum. *Swartz prodr.* 91.
Leaves villoſe.]

5. Citharexylum melanocardium. *Black-heart Fiddle-wood.*
Swartz prodr. 91. *Brown. jam.* 265. *n.* 2.
C. paniculatum. *Gærtn. fruct.* 1. 270.
C. album. *Mill. dict. n.* 2.
Branches quadrangular, racemes terminating compound, flowers four-ſtamened.

DESCRIPTIONS, *&c.*

1. [This is a tree riſing with a round upright trunk not more than a foot in diameter to the height of fifteen or twenty feet, with a handſome branching head. Leaves oblong-oval, acuminate at both ends, entire, ſhining, commonly oppoſite, but ſometimes alternate, and frequently three together, of different ſizes, but moſtly above half a foot in length. The petioles have often a few glandular holes on each ſide above, exuding honey-drops in the younger ones. Racemes terminating, denſe, quite ſimple, pendulous, nine or ten inches long. Flowers ſmall, numerous, odoriferous, on ſhort pedicels. Corolla white. Berries ſucculent, ſhining, ſoft, roundiſh, firſt green, next red, and finally black[a].

Browne ſays, that it riſes above eight or nine feet in height; that the veins of the leaves, and all the tender buds, are of a brown colour; the bark of the trunk and lower branches of a whitiſh aſh-colour. It is very common in all the Savannas of Jamaica; and is called *Old-woman's bitter*. Alſo in the woods of Martinique, where the French call it *Bois cotelet*[b].

2. The leaves are obovate. Both they and the racemes are erect. It is but a ſhrub, ſays Browne, which ſeldom grows above ten or twelve feet in height; and bears a great number of ſmall berries, diſpoſed on divided ſpikes at the extremities of the branches. It is pretty common about *Sixteen-mile-walk* in Jamaica. Introduced in 1763, by Mr. John Buſh[c].

3. This differs from the firſt ſpecies in having the berries red when ripe, and all the branches, round indeed, but made unequal by four ribs running down them. The bark is aſh-coloured, and it agrees with the *cinereum* in all other circumſtances. It is perhaps only a variety. The French call it *Bois cotelet carré*[d].

Native of the Weſt Indies, Jamaica, Martinique, *&c.* Mr. Miller thus deſcribes it :] It has an upright trunk fifty or ſixty feet high, ſending out branches on every ſide, which have ſeveral angles, or ribs, running longitudinally, garniſhed by three oval ſpear-ſhaped leaves at every joint, ſtanding in a triangle, upon ſhort foot-ſtalks. The leaves are about four inches long, and one or two broad, of a lively green colour, pretty much notched on their edges, having ſeveral deep veins running from the midrib to the edges; they are of a white colour on their upper ſide, and very prominent on their under. The flowers come out from the ſides, and alſo at the end of the branches, in looſe bunches, which are ſucceeded by ſmall pulpy berries, incloſing two ſeeds in each.

[4. This is a ſmall tree about ten feet in height. The trunk and older branches are round and aſh-coloured, the younger ones four-cornered and green; the young ſhoots are villoſe. Leaves oppoſite, on ſhort petioles, lanceolate or obovate, acute, firm, ſerrate with a few ſharp diſtant teeth towards the tip, very ſeldom quite entire, ſomewhat rugged on the upper ſurface, extremely ſoft and villoſe on the lower, three inches long, with an oblong, deep-green glandular hole on each ſide of the petiole at top. Racemes half a foot long, hanging down at the ends of the branchlets. Flowers numerous, on ſhort pedicels, villoſe all over, and ſmelling extremely ſweet. Calyx truncate. Corolla white.

Native of St. Domingo[e]. Introduced in 1784, by Mr. John Græfer[f].

5. This tree frequently riſes to the height of forty or fifty feet, and is generally looked upon as one of the hardeſt and beſt timber trees. The body grows to a conſiderable thickneſs, and is covered with a thick whitiſh bark, which, like the grain of the wood, winds in a looſe ſpiral form. The leaves are pretty long, rugged and ſlightly ſerrate. The flowers are diſpoſed in bunches at the extremities of the branches. The berries are ſmall and yellow; and are ſometimes eaten by the negroes: they contain each two hemiſpheric ſhells, with two kernels; the nuts may be eaſily parted into two lobes or ſegments[g].

Gærtner deſcribes the berry as ovate, black, ſmooth, one-celled, containing two ovate, hard, plano-convex ſhells, marked with an obſcure groove on the back, and two-celled. In each cell is a ſingle, oblong, ſubtrigonal, rufeſcent ſeed.

Native of Jamaica, chiefly in the low lands and ſavannas.

If this be the *C. album* of Miller :] the ſeeds were ſent him by William Williams, Eſq. from Jamaica.

Mr. Miller affirms, that the French call this tree *Fidelle*, from its faithfulneſs or durability in building; and that the Engliſh have corrupted the name to *Fiddle-wood*, as if it were uſed for making muſical inſtruments, which is a miſtake.

PROPAGATION AND CULTURE.

The third ſort has been long preſerved in ſome of the curious gardens in England, for the ſake of variety. The leaves continuing through the year, and being of a fine green colour, make a pretty variety in the ſtove during the winter ſeaſon; this may be propagated either by ſeeds, or cuttings; the latter is the uſual method in England, where the ſeeds are not produced; but when ſeeds can be obtained from abroad, the plants which riſe from them are much better than thoſe raiſed from cuttings.

The ſeeds of this ſort ſhould be ſown in ſmall pots early in the ſpring, and plunged into a freſh hot-bed of tanners bark, and treated in the ſame manner as other exotic ſeeds, which are brought from hot countries. If the ſeeds are freſh, the plants will appear in ſix or ſeven weeks, and in about one month more will be fit to tranſplant; when this is done, the plants ſhould be carefully ſeparated, ſo as not to tear, or break off their roots, and each planted in a ſmall pot filled with light freſh earth, and plunged into the hot-bed again, obſerving to ſhade them till they have taken freſh root; after which they ſhould have a large ſhare of air admitted to them in warm weather, and muſt be frequently watered; in autumn the plants ſhould be removed into the bark-ſtove, where it will be proper to keep them the firſt winter, till they have obtained ſtrength; then they may be afterward kept in a dry ſtove in winter, and in the middle of ſummer they may be expoſed in the open air for two or three months, in a warm ſituation, with which management the plants will make better progreſs than when they are more tenderly treated.

If the cuttings of theſe plants are planted in ſmall pots during the ſummer months, and plunged into a moderate hot-bed, they will take root, and may afterward be treated in the ſame manner as the ſeedling plants.

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[a] Jacquin.
[b] Ibid.
[c] Hort. kew.
[d] Jacquin.
[e] Jacquin.
[f] Hort. kew.
[g] Browne.

Citrul and Citrullus. See *Cucurbita.*

CITRUS. (*Derivation uncertain. Some ſay, it is from the name of a place in Aſia. Voſſius affirms that it is a Latin word, which the Romans had, not from Greece, but from Africa. Others ſay from the Arabic.*)
Lin. gen. n. 901. *Reich.* 974. *Schreb.* 1218. *Gærtn. t.* 121. *Juſſ.* 261. Aurantium. *Tournef.* 393, 394. Citreum 395, 396. Limon 399.
Claſſ. 18. 3. Polyadelphia Icoſandria.
Nat. order of *Bicornes. Aurantia* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cleft, flat at the baſe, very ſmall, withering.
Cor. *Petals* five, oblong, flat, ſpreading.
Stam. *Filaments* uſually twenty, ſubulate, compreſſed, erect, placed in a ring or cylinder, united generally into fewer or more bunches. *Anthers* oblong.
Pist. *Germ* ſuperior, roundiſh. *Style* cylindric, the length of the ſtamens. *Stigma* globular, nine-celled within.
Per. *Berry* with a fleſhy rind, the pulp bladdery, nine-celled, (ſeven to eleven, *G.* nine to eighteen, *J.*)
Seeds in couples, (one to four, *G.* one or two, *J.*) ſubovate, callous.
Obs. Orange *has a cordate petiole.*
Citron, Lemon, and Lime *have a naked and ſimple petiole.*

ESSENTIAL CHARACTER.

Cal. five-cleft. *Pet.* five, oblong. *Anthers* twenty, filaments united into various bodies. *Berry* nine-celled.

SPECIES.

1. Citrus Medica.
Lin. ſpec. 1100. *Reich.* 3. 584. *hort. cliff.* 379. *upſ.* 236. *mat. med.* 366. *Woodv. med. bot.* 500. *t.* 184. *Gærtn. fruct.* 2. 189. *Lour. cochinch.* 465. *Raii hiſt.* 1654. *Ger.* 1278. *f.* 1. *emac.* 1462. *Park. theat.* 1505, 1506. *f.* 1. *Mart. Virg. georg. p.* 135. *fig. Blackw. herb. t.* 361. *Rumph. amb.* 2. 99. *t.* 25.
α. C. Medica. *Mill. dict. n.* 1. *Sweet Citron.*
Fruit with a thick rough rind.
β. C. tuberoſa. *Mill. dict. n.* 2. *Common Citron.*
Brown. jam. 309. *n.* 6. *Sloan. jam.* 2. 177. *Ferr. heſp.* 59, &c.
Fruit with a rough knobbed rind.
γ. C. Limon. *Common Lemon.*
Brown. jam. 308. *n.* 3, 4. *Sloan. jam.* 2. 178.
Limon vulgaris. *Mill. dict. Ferr. heſp.* 189, &c. *Blackw.* 362.
Malus medica. *Bauh. pin.* 435.
M. Limonia. *Raii hiſt.* 1656. *Ger.* 1278. *f.* 2. *emac.* 1462. *Park. theat.* 1507. *f.*
Leaves ovate-lanceolate, acuminate, ſubſerrate.
δ. C. acris. *Sour Lemon* or *Lime.*
C. Limon. *Brown. jam.* 308. *n.* 1, 2. *Lour. cochinch.* 465. & madurenſis 467. & margarita 467.
Limon ſpinoſum. *Mill. dict. n.* 2.
Malus Limonia acida. *Bauh. pin.* 436.
M. Arantia, fr. Limonis puſillo acidiſſimo. *Sloan. jam.* 2. 182.
Lima acris. *Ferr. heſp.* 331. *f.* 333.
Limonellus. *Rumph. amb.* 2. 107. *t.* 29. & 110. *t.* 31.
Leaves ovate entire; branches ſomewhat thorny.
ε. C. racemoſa. *Cluſtered Lemon.*
Limon racemoſum. *Mill. dict. n.* 3.
L. fructu racemoſo. *Tourn. inſt.* 621.
Leaves ovate-lanceolate, ſubſerrate; fruit in cluſters.
Petioles linear, in all the varieties.

2. Citrus Aurantium. *Orange.*
Lin. ſpec. 1100. *Reich.* 3. 585. *hort. cliff.* 379. *upſ.* 236. *fl. zeyl. n.* 304. *mat. med.* 177. *Woodv. med. bot.* 496. *t.* 183. *Lour. cochinch.* 466. *Mill. illuſtr. ic. Raii hiſt.* 1658. *Ferr. heſp.* 369.
α. Citrus 5. *Brown. jam.* 308. Aurantium acre. *Mill. dict.—Seville Orange.*
Conf. C. fuſcam. *Lour. cochinch.* 467. *Rumph. amb.* 2. *t.* 33.
Malus Arantia major. *Bauh. pin.* 436. *Ger.* 1279. *f.* 3. *emac.* 1463. *Park. par.* 584. *f.* 1. *theat.* 1508. *f. Sloan. jam.* 2. 179.
Aurantium acri medulla vulgare. *Ferr. heſp. t.* 377.
β. Citrus 7. *Brown. jam.* 309. Aurantium Sinenſe. *Mill. dict. Ferr. heſp. t.* 427, 433, &c. *China Orange.*
C. nobilis. *Lour. cochinch.* 466. *Rumph. amb.* 2. *t.* 35.
M. A. cortice dulci eduli. *Bauh. pin.* 436.
M. A. ſinenſis. *Sloan. jam.* 2. 181.
γ. Aurantium orientale. *Mill. dict. Turkey Orange.*
A. anguſto ſalicis folio. *Boerh. lugdb.* 2. 238.
δ. Aurantium humile. *Mill. dict. Dwarf* or *Nutmeg Orange.*
A pumilum ſubacri medulla. *Bartol.*
Malus Arantia pumilio. *Park. theat.* 1508. *n.* 5.
Petioles winged; leaves acuminate.

3. Citrus decumana. *Shaddock.*
Lin. ſyſt. 697. *Reich.* 3. 585. *Lour. cochinch.* 467. *Thunb. jap.* 293. *Brown. jam.* 309. *n.* 8, 9. *Lin. ſpec.* 1101. γ.
Limo decumanus. *Rumph. amb.* 2. 96. *t.* 24. *f.* 2.
Aurantium decumanum. *Mill. dict. Sloan. jam.* 1. 41. *t.* 12. *f.* 2, 3, 4. *Raii dendr.* 80.
Pumpelmus. *Meiſt. itin.* 84. *Burm. zeyl.* 39.
Petioles winged, leaves obtuſe emarginate.

[4. Citrus japonica.
Lin. ſyſt. 697. *Thunb. jap.* 292. *Kæmpf. amoen.* 5. 801.
Petioles winged, leaves acute, ſtem ſhrubby.

5. Citrus trifoliata.
Lin. ſpec. 1101. *Reich.* 3. 585. *Thunb. jap.* 294. *Kæmpf. amæn.* 5. 801. *t.* 802.
Leaves ternate.

DESCRIPTIONS, &c.

All the ſpecies of *Citrus* are either trees of ſmall growth or ſhrubs. Leaves evergreen, ovate or ovate-lanceolate, entire or ſerrate, pellucid-dotted, the petiole frequently margined. On the natural trees there are often ſolitary, axillary ſpines. Peduncles axillary or terminating, one-flowered or many-flowered.

The ſpecies ſeem beſt diſtinguiſhed by the petiole, which in the Orange and Shaddock is winged: in the Citron, Lemon and Lime naked. The form of the fruit, although not quite conſtant, may alſo ſerve for a diſtinction. In the Orange and Shaddock it is ſpherical or rather an oblate ſpheroid; with a red or orange-coloured rind: in the Lime, ſpherical with a pale rind: in the Lemon, oblong with a nipple-like protuberance at the end: in the Citron, oblong, with a very thick rind.]

Mr. Miller diſtinguiſhes the Citron from the the Orange, becauſe in all the varieties of Citron which he has examined, he found but ten ſtamens in the flowers, whereas thoſe of the Orange always have more. He treats of Citron, Lemon and Orange ſeparately; under the titles of *Citrus, Limon,* and *Aurantium.*

Rumphius has figured the Citron, Lemon, Lime, and Orange, with ſeveral varieties, in the ſecond volume of his *Herbarium Amboinenſe* from t. 24. to 35. incluſive.——t. 24. f. 2. is the Shaddock: t. 25. and t. 26. f. 2. are the Citron: t. 27. and 28. ſeem to be ſome ſorts of the Orange: t. 29. has the appearance of the Lime, but the petioles are ſlightly winged: in t. 30. alſo the fruit is that of a Lime, but the petioles are winged as in the Orange. If theſe figures be exact, the diſtinction of the winged and naked petiole muſt be given up, in the wild trees. t. 31. and 32. are Limes: t. 33. is the ſour Orange: t. 34. is ſaid to be the China Orange: it has the fruit of an Orange, but the leaves of the Citron or Lemon: t. 35. ſeems to be a variety of the China Orange.

It is very difficult to determine what is a variety and what a ſpecies in this genus. The trees in the Eaſtern countries, their natural place of growth, vary not only in the ſize and ſhape of the fruit, but alſo in the leaves, as appears abundantly from the figures in Rumphius. Many of thoſe which are eſteemed to be varieties only in Europe, and are given here as ſuch, in their native woods preſerve their differences, ſuch as they are; and there engrafting and inoculating theſe trees is unknown, but they are left in a ſtate of nature [a].

1. In its wild ſtate this tree grows to the height of about eight feet, erect and prickly, with long reclining branches. Leaves ovate-oblong, alternate, ſubſerrate, ſmooth, pale green. Flowers white, odoriferous, on many-flowered, terminating peduncles. Fruit a berry, half a foot in length, ovate, with a protuberance at the tip, nine-celled or thereabouts; the pulp white, commonly acid; the rind yellow, thick, hardiſh, odoriferous, irregular. Fruit eſculent both raw and preſerved [b]. Properly there are two rinds, the outer thin, with innumerable miliary glands full of a moſt fragrant oil; the inner thick, white, and fungous: the partitions conſiſt of two very thin diaphanous membranaceous plates, connected at the axis, and inſerted into the rind at the periphery; the cells are filled with a bladdery pulp. In each cell are a few ſeeds, commonly one or two, ſometimes three or four [c].]

α, β. The Engliſh gardens are ſupplied with ſeveral varieties of the Citron from Genoa, which is the great nurſery for the ſeveral parts of Europe of this, as well as Lemons and Oranges. The gardeners who cultivate them there are as fond of introducing a new variety into their collection, as nurſery-men in England are of obtaining a new Pear, Apple, or Peach.

The fruit of the Citron is ſeldom eaten raw, but is generally preſerved, and made into ſweet-meats; which being kept till winter and ſpring, when there is a ſcarcity of fruit to furniſh out the deſert, is the more valuable: but unleſs the ſeaſon be warm, and the trees well managed, the fruit rarely ripens in England.

The faireſt fruit growing here was in the garden of his grace the Duke of Argyle at Whitton, where the trees were trained againſt a ſouth wall, through which there were flues for warming the air in winter, and glaſs covers to put over them, when the weather began to be cold. Thus the fruit was as large and as perfectly ripe, as it is in Italy or Spain.

[The Citron is a native of all the warm regions of Aſia. Being introduced into Europe from Media, it had the name of *Malus Medica*. It ſeems to have come into Italy after the age of Virgil and Pliny, but before that of Palladius [d]; who appears firſt to have cultivated it with any ſucceſs there [e]. According to Haller, the Median Apple deſcribed by Theophraſtus, is certainly a ſort of Orange [f]: which fruit, according to Athenæus, firſt travelled into Greece from Perſia [g].

If the Median Apple be the Orange, the *triſtes ſucci* of Virgil, and the *acres medullæ* of Palladius muſt have been much corrected by culture; the latter author, Theophraſtus and Pliny all ſpeak of it as not eatable, though they celebrate its medical qualities far above its deſert.

γ. *The Lemon tree.*

The Lemon differs from the Orange materially, both in the naked footſtalks of the leaves, and in the ſhape and colour of the fruit, but there is ſcarce any diſtinction between this and the Citron. The rind of the fruit indeed is generally thicker and more knobbed in the Citron than in the Lemon, it is alſo longer and more irregular.] Mr. Miller adds, that the bark of the Citron tree is ſmoother, and the wood leſs knotty.

Many varieties of the Lemon are preſerved in ſome of the Italian gardens, and in both the Indies there are ſeveral which have not yet been introduced to the European gardens; but theſe may be multiplied without end from ſeeds.

The moſt remarkable varieties in the Engliſh gardens are

1. The ſweet Lemon, plain and variegated.
2. The pear-ſhaped Lemon.
3. The imperial Lemon.
4. The Lemon called Adam's Apple.
5. The furrowed Lemon.
6. The childing Lemon.
7. The Lemon with double flowers.

[8. Browne mentions the St. Helena Lemon, as having been then lately introduced to Jamaica, and much cultivated there, on account of its large fruit, which frequently yields above half a pint of juice.

9. In China and other parts of the Eaſt they have a remarkable variety of Lemon or Citron, which has a ſolid fruit, without any cells or pulp, and divided above the middle into five or more long round parts, a little crooked, and having the appearance of the human hand with the fingers a little bent; whence the Chineſe call it *Phat ſhu*, or fingered Lemon [h]. It is a monſtrous fruit, a mere curioſity without any uſe.]

The common and ſweet Lemon are brought to England from Spain and Portugal in great plenty; but the latter is not much eſteemed.

The pear-ſhaped Lemon is a ſmall fruit, with very little juice.

The fruit of the imperial Lemon is ſometimes imported from Italy, but not from Spain or Portugal; probably therefore it is not propagated in either of thoſe countries. The Portugueze had many of the moſt curious ſorts of Orange, Lemon and Citron Trees brought from the Indies formerly, which ſeemed to thrive almoſt as well there as in their native ſoil, and yet they have not been increaſed. There are a few trees ſtill remaining in ſome neglected gardens near Liſbon, almoſt unnoticed by the inhabitants.

[The Lemon was cultivated in the Botanic Garden at Oxford, in 1648 [i].

δ. The Sour Lemon or Lime, grows in its native country to the height of about eight feet, with a crooked trunk, and many diffuſed branches, which have prickles on them. Leaves ovate-lanceolate, almoſt quite entire; the petioles uſually linear. Flowers few together, on terminating peduncles: corolla oblong, white, with a purpliſh ſpot. Stamens twenty in ſeveral parcels. Berry an inch and half in diameter, almoſt globular, with a protuberance at the tip; the ſurface regular, ſhining, greeniſh-yellow, with a very odorous rind; within nine-celled or thereabouts, abounding in a very acid juice, but having very few ſubovate ſeeds [k].

It is a native of Aſia, but has long been common and much eſteemed in the Weſt Indies. Browne ſays, that in Jamaica it is a buſhy ſhrub, much raiſed there for the ſake of its fruit, and not unfrequently planted for fences; that when it grows luxuriantly, it is ſeldom under twelve or fourteen feet in height, and ſpreads gently about the top, but that it is often ſtunted, and of a ſmaller ſtature. They have alſo a ſweet Lime, which is generally a more upright tree, and bears a fruit, which in ſize as well as form, ſeems to hold a mean, between the Lime and the Lemon. The juice is very inſipid, but the bark and fibres of the root have much of that bitter peculiar to the Lime.

I have no doubt but that any one who would be at the pains of purſuing the ſubject in the native abode of theſe fruits, would detect varieties connecting all that are here delivered as ſpecies; not only the Citron with the Lemon and Lime, which

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[a] See Loureiro and Rumphius. [b] Loureiro. [c] Gærtner. [d] Linn. [e] Martyn's Virg. 136. qu. edit. [f] Bibl. bot. 1. 32. [g] Evelyn.

[h] Loureiro. [i] Hort. kew. [k] Loureiro.

are certainly no more than varieties, but theſe alſo with the Shaddock and the Orange, which are hardly to be conſidered as ſpecifically diſtinct.]

Mr. Miller affirms, that he has never known the common Lemon vary to the Lime, when raiſed from ſeeds, nor the Lime vary to the Lemon; but that he has always found them continue their difference in leaf and branch; he therefore ſuppoſes them to be ſpecifically different.

The Lime is not often brought to England, nor is it much cultivated in Europe; but in the Weſt Indies the fruit is preferred to the Lemon, the juice being reckoned more wholeſome, and the acid being more agreeable to the palate.

2. [The Orange is a middle-ſized evergreen tree, with a greeniſh-brown bark; in its native country the branches are prickly. Leaves broad-lanceolate, almoſt quite entire, ſmooth, with the petioles commonly winged. Peduncles many-flowered, terminating. Corolla white. Stamens twenty, connected in ſeveral parcels. Berry ſubglobular, flatted (an oblate ſpheroid), of a golden colour, ſhining, odorous, three inches in diameter, divided within into about nine cells, filled with a bladdery pulp, having a ſweet-acid juice in it; rind fleſhy, of a middling thickneſs, covered with a pellicle which is ſomewhat biting and bitter to the taſte.

The above deſcription, ſays Loureiro the author of it, agrees particularly with that ſort of Orange which is moſt common all over the world, and is known in Europe by the name of Portugal or China Orange, becauſe it was brought from China by the Portugueze, and by them diſperſed over Europe.

It is a native of India, China, &c. and was obſerved by our circumnavigators in the iſle of Tanna in the South Seas.

There are innumerable varieties of the Orange in China, and other countries of Aſia, as well as in South America and the Weſt Indies, and even in Europe.

Loureiro deſcribes the moſt grateful of all the Oranges, as a diſtinct ſpecies, under the title of *Citrus nobilis*. The branches do not ſpread ſo much as in the common Orange, but are rather aſcending; and they are not prickly. Leaves lanceolate, quite entire, dark green, on *linear* petioles. Berry red within and without, twice as large as the common ſort, being five inches in diameter: the ſkin thick, juicy, ſweet, eatable, and irregularly tuberceled. It abounds in Cochinchina.

The moſt eſteemed fruit in China, according to Groſier, is very ſmall, with a ſmooth ſoft ſkin, of a reddiſh yellow colour. They have alſo the Four-ſeaſon or Everlaſting Orange, ſo called from its being always in fruit and bloſſom; this alſo bears a very ſmall fruit: the large Clove or Mandarine; and the ſmall Clove or Mandarine: the Soft Cuſhion Orange: the Gold Orange, &c. &c.

The Chineſe Oranges are in general firmer than thoſe of Europe, their ſkin does not eaſily peel off, and the pulp will not ſeparate into ſmall diviſions. They commonly give them to the ſick, ſoftening them a little at the fire, and mixing ſugar with them.

Loureiro deſcribes another ſort, under the name of *Citrus fuſca*, or brown Orange, which in ſome reſpects ſeems to approach the Seville Orange of Europe. It is a tree above the middle ſize, with abundance of twiſted branches, that riſe a little, and are armed with many long ſtout ſpines. Leaves ovate-lanceolate, quite entire, dark green, of an unpleaſant odour, on large, winged, heart-ſhaped petioles. Flowers on many-flowered ſubterminating peduncles, white, and not very ſweet. Berry globular, two inches in diameter, rough, browniſh-green: the juice pale, acid, bitteriſh and unpleaſant. It is very common in Cochinchina.

The Seville Orange differs little from that of China in the tree, except that it is more hardy, and that the leaves are larger and handſomer. The fruit however is very different in the colour of the peel, and in the taſte both of that and of the juice, as is well known.]

The varieties of the Orange moſt known in the Engliſh gardens are; beſides the Seville and China already mentioned:

1. The willow-leaved or Turkey Orange.
2. The yellow and white ſtriped-leaved.
3. The curled-leaved.
4. The horned Orange.
5. The double-flowering.
6. The hermaphrodite.
7. The Dwarf or Nutmeg Orange.

Theſe and other varieties of this, the Lemon, Lime and Citron, are figured by Ferrarius in his Heſperides.

The Horned Orange, like the figured Lemon or Citron deſcribed above, divides into parts, ſpreading out in form of horns: this and the diſtorted Orange are preſerved merely for variety, not being ſo beautiful, as the common ſort.

The leaves of the Dwarf Orange are very ſmall, and grow in cluſters; the joints of the branches are very near each other; the flowers grow very cloſe together, and appear like a noſegay, the branches being covered with them. This, when in flower, is proper to be placed for ornament in a room or gallery, which it will perfume with its flowers: but it requires care, and is ſeldom in health.

[The firſt China Orange, ſays Evelyn, (that appeared in Europe) was ſent for a preſent to the old Conde Mellor, then Prime Miniſter to the King of Portugal; but of that whole caſe that came to Liſbon, there was but one only plant which eſcaped the being ſo ſpoiled and tainted, that with great care it hardly recovered to be ſince become the parent of all thoſe flouriſhing trees of that name, cultivated by our gardeners, though not without ſenſibly degenerating. Receiving this account, adds our famous planter, from the illuſtrious ſon of the Conde, I thought fit to mention it, for an inſtance of what induſtry may produce in leſs than half an age.

South America and the Weſt Indies have been furniſhed with this fruit, ſo ſalutary and agreeable to the palates of the people, and ſo congenial to thoſe hot climates, from Spain and Portugal.]

Mr. Miller informs us, that he ſent two ſmall trees of the true Seville Orange to Jamaica, where this ſort was then wanting, and that from theſe many other trees were budded, which produced plenty of fruit. Some of theſe were ſent to England; and although they were long in their paſſage, yet they were greatly ſuperior to any of the fruit imported from Spain and Portugal, affording three times the quantity of juice.

[In England this tree has been cultivated certainly ſince 1629. The firſt ſhifts made to preſerve it, will not be incurious to the reader.

“ The Orange tree (ſays Parkinſon) hath abiden
“ with ſome extraordinary looking and tending of
“ it, when as neither Citron or Lemmon trees
“ would by any meanes be preſerved any long time.
“ Some keepe them in great ſquare boxes, and lift
“ them to and fro by iron hooks on the ſides, or
“ cauſe them to be rowled by trundels, or ſmall
“ wheeles under them, to place them in an houſe,
“ or cloſe gallerie for the winter time: others plant
“ them againſt a bricke wall in the ground, and
“ defend them by a ſhed of boardes, covered over
“ with ſeare-cloth in the winter, and by the warmth
“ of a ſtove, or other ſuch thing, give them ſome
“ comfort in the colder times: but no tent or
“ meane proviſion will preſerve them.” *Parad.* 584.

But Biſhop Gibſon, in his additions to Camden's Britannia, probably from Aubrey, ſays that the Orange trees at Beddington in Surrey, introduced from Italy by a Knight of the noble family of the Carews, (Sir Francis) were the firſt that were brought into England; that they were planted in the open ground, under a moveable covert during the winter months; and that they had been growing there more than a hundred years; that is before 1595:

the firſt edition of Camden by Biſhop Gibſon, being printed in 1695.

The editors of the Biographia Britannica, article *Raleigh*, ſpeaking from a tradition preſerved in the family, tell us, that theſe Orange trees were raiſed by Sir Francis Carew from the ſeeds of the firſt Oranges which were imported into England by Sir Walter Raleigh, who had married his niece, the daughter of Sir Nicholas Throckmorton. But this is not probable, for the plants raiſed from theſe ſeeds would have required to be inoculated, in order to produce fruit. And it is much more likely that they were plants brought from Italy.

Profeſſor Bradley reports, that they always bore fruit in great plenty and perfection; that they grew on the ſouth ſide of a wall, not nailed againſt it, but at full liberty to ſpread. And by the account of Mr. Henry Day the gardener, they were fourteen feet high; the girt of the ſtem twenty-nine inches; and the ſpreading of the branches one way nine feet, and twelve feet another.

Theſe trees were entirely killed by the great froſt in 1739-40. The year before, they had been incloſed by a permanent building, after the manner of a green-houſe; ſo that it is uncertain whether the dampneſs of new walls, and the want of ſo much air and light as the trees had been accuſtomed to, might not have deſtroyed them, if the froſt had not happened.

Citrus Aurantium, or Orange, has long maintained a very reſpectable place in the materia medica. The ſort principally employed in medicine is the Seville orange, the juice of which is well known to be a grateful acid liquor, which by allaying heat, quenching thirſt, and promoting various excretions, proves of conſiderable uſe in febrile and inflammatory diſorders. It is alſo conſidered as a powerful antiſeptic, and of great efficacy in preventing and curing the ſcurvy. The juice of the China or common orange poſſeſſes the ſame qualities in an inferior degree. The acid of oranges by uniting with the bile, is ſaid to take off its bitterneſs; and hence Dr. Cullen thinks it " probable that acid fruits taken in, are often uſeful in obviating the diſorders that might ariſe from the redundancy of bile, and perhaps from the acrid quality of it. On the other hand, however, if the acids are in greater quantity than can be, or are, properly corrected by the bile preſent, they ſeem by ſome union with that fluid, to acquire a purgative quality that gives a diarrhœa, and the colic pains that are ready to accompany the operation of every purgative." Not only the juice, but the rind or peel of the Seville orange is of conſiderable medical efficacy; ſince beſides its uſe as a ſtomachic, it has been much celebrated in intermittent fevers; and in teſtimony of its efficacy in the moſt obſtinate agues, we find ſeveral authorities cited by profeſſor Murray. It has alſo been experienced as a powerful remedy in Menorrhagia, and in immoderate uterine evacuations; and for its good effects in theſe diſorders we have not only the aſſertions of foreign phyſicians, but alſo thoſe of Drs. Whytt and Hamilton. It gives out its flavor and taſte readily to water, and is uſeful in all flatulences, in whatever form it be given; it alſo ſits better on the ſtomach than moſt other corroborants. The leaves of the Orange are not without their virtues, and in particular (as alſo the flowers) have been celebrated in convulſive diſorders; and have been ſucceſsfully given in the doſe of a dram at a time in nervous and hyſterical caſes.

The virtues of *Citrus Limon*, or Lemon, are alſo very conſiderable. Its juice, as an antiſcorbutic, is very generally carried on board ſhips deſtined for long voyages. Taken to the quantity of four or ſix ounces a day, it has been found to cure the jaundice. Dr. Whytt found it ſucceſsful in allaying hyſterical palpitations of the heart. The rind is a very grateful aromatic bitter, not ſo hot as orange-peel, and yields in diſtillation leſs quantity of the oil: it is ſimilar in qualities, however, to that of the orange, and is employed in the ſame intentions.

Citrus Medica, or Citron, is of ſimilar virtues alſo; the fruit is more flavored than that of the Lemon, and the rind acts more as an emetic; it is the yellow rind which is uſed, and from it, eſpecially ſome of its varieties, the perfume called Bergamot is extracted. Citrons are very rarely kept in the ſhops, though formerly much uſed in the Materia Medica.

The Median Apple, whether it were the Citron or the Orange, was celebrated anciently for correcting unſavoury breaths, as a cure for the aſthma, and for expelling poiſon.

————" quo non præſentius ullum,
" Pocula ſi quando ſævæ infécere novercæ;
" Miſcueruntque herbas, & non innoxia verba,
" Auxilium venit, ac membris agit atra venena.
————" animas & olentia Medi
" Ora fovent illo, & ſenibus medicantur anhelis."

Virgil.

3. The Shaddock was originally regarded by Linneus, only as a variety of the Orange, to which it certainly makes very near approaches. It differs in the ſuperior ſize of the fruit; in having the flowers growing more in bunches, and thoſe bunches being ſomewhat tomentoſe[l].

It is a tree above the middle ſize, with ſpreading prickly branches. Leaves ovate, ſubacute, ſeldom obtuſe, very ſeldom emarginate, ſmooth, ſcattered: petioles cordate-winged, the wings as broad as the leaves. Flowers white, very ſweet-ſcented, in copious upright terminating bunches. Corolla reflex. Stamens about twenty, nearly equal to the petals, collected into a many-cleft tube. Berry ſpheroidal, frequently retuſe at each end, eight inches in diameter, of an even ſurface, greeniſh-yellow, divided into twelve or more cells, containing ſome a red, others a white pulp, the juice in ſome ſweet, in others acid. The rind is very thick, white, fungous, bitter, uſeleſs. Seeds ovate, ſubacute, two or three in each cell.

There are many varieties of this tree, one of which, ſuperior to the reſt in the flavour and ſmell of the fruit, has a ſmaller trunk, and ſubglobular fruit, five inches in diameter, yellow on the outſide, white, and very ſweet within. In China it is called *Hiam yuen*, in Cochinchina *Huong ien*, which ſignifies *Sweet ball*[m].

Thunberg deſcribes the fruit in Japan as being the ſize of a child's head; and ſays, that it may be kept many weeks on ſhip-board, if it be hung up; that the juice is of a ſubacid ſweetneſs, and excellent for quenching thirſt.

It is a native of India, and is common both in China and Cochinchina; as it is alſo in Japan, where it was introduced from Batavia. It is found alſo in the Friendly iſlands.]

It was brought to the Weſt Indies in an Eaſt India ſhip by Captain Shaddock, from whom it has there received its name. The Dutch call it *Pompelmoes*. The fruit has greatly degenerated ſince it has been in the Weſt Indies, by raiſing the trees from ſeeds; the greateſt part of which produce harſh ſour fruit, with a pale yellow pulp; whereas if they would have budded from a good ſort, they might have continued it in perfection: but there are few perſons there who underſtand the method of grafting or budding fruit trees; and they are ſo negligent of their fruits as to leave the whole to nature; ſeldom giving themſelves any farther trouble than to put the ſeeds into the ground, and leaving the reſt to chance.

[In England it was cultivated by Mr. Miller in 1739[n].

4. This is a ſmall ſhrub, and the fruit is no bigger than a cherry; it ripens in december and january, and is very ſweet and pleaſant. It approaches to the Citron in having the flowers axillary, but it has winged petioles like the Orange,

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[l] Linn. ſyſt.

[m] Loureiro.

[n] Hort. kew.

from which however it differs in having only one or two axillary flowers, not panicled as in that. Native of Japan, where the fruit is ripe in december and january, and is very ſweet and pleaſant [o].

5. Leaves ſerrate, with a membranaceous petiole. Spines axillary. Flowers axillary, ſolitary. The fruit is bad, with a glutinous pulp [p].

Stem nearly two yards in height. Branches alternate, flatted and angular, flexuoſe, ſpreading very much, ſtiff, very ſmooth, thorny. Thorns alternate, dilated and compreſſed at the baſe, ſpreading very much, acute, ſmooth, yellow at the end, an inch in length. Corolla white; ſtamens double the length of the petals. This ſhrub forms ſtrong hedges in Japan, with its long, ſtiff, ſharp thorns. It flowers in april with leafleſs branches to may, when the leaves burſt forth. The fruit is laxative [q].

Triphaſia aurantiola of Loureiro, is not this, but *Limonia trifoliata.*]

PROPAGATION AND CULTURE.

All the trees of this kind may be raiſed and treated in the ſame manner as is here directed for the Orange.

Where the trees are to be raiſed for ſtocks to bud Oranges, you ſhould procure ſome Citron-ſeeds which were duly ripened; for the ſtocks of this kind are preferable to any other, both for quickneſs of growth, as alſo that they will take buds of either Orange, Lemon, or Citron; next to theſe are the Seville Orange ſeeds. The beſt ſeeds are uſually to be had from rotten fruits, which are commonly eaſy to be procured in the ſpring of the year; then prepare a good hot-bed, of either horſe-dung or tanners bark; the laſt of which is much the better, if you can eaſily procure it. When this bed is in a moderate temper for heat, you muſt ſow your ſeeds in pots of good rich earth, and plunge them into the hot-bed; obſerving to give them water frequently, and raiſe the glaſſes in the great heat of the day, to give proper air, leſt the ſeeds ſhould ſuffer by too great heat: in three weeks time your ſeeds will come up, and if the young plants are not ſtinted, either for want of proper heat or moiſture, they will be in a month's time after their appearance, fit to tranſplant into ſingle pots: you muſt therefore renew your hot-bed, and having prepared a quantity of ſmall halfpenny pots, which are about five inches over at the top, fill theſe half full of good freſh earth, mixed with very rotten cow-dung; and then ſhake out the young plants from the large pots, with all the earth about them, that you may the better ſeparate the plants without tearing their roots; and having half filled the pots with earth, put a ſingle plant into each of the ſmall pots; then fill them up with the ſame earth as before directed, plunging the pots into the new hot-bed, giving them a good watering to fix the earth to their roots; and obſerve to repeat the ſame very often, for this plant, when in a hot-bed, requires much water, but be ſure to ſcreen them from the ſun in the heat of the day. In this method, with due care, your plants will grow to be two feet high by july, when you muſt begin to harden them by degrees, by raiſing your glaſſes very high, and when the weather is good, taking them quite off; but do not expoſe them to the open ſun in the heat of the day, but rather take off the glaſſes, and ſhade the plants with mats, which may be taken off when the ſun declines; for the violent heat in the middle of the day would be very injurious to them, eſpecially while young. Toward the end of ſeptember you muſt houſe them, obſerving to place them near the windows of the green-houſe, to prevent the damps from moulding their tender ſhoots. During the winter ſeaſon they may be often refreſhed with water, and in march or april, waſh their heads and ſtems, to clear them from the filth that may have ſettled thereon, during their being in the houſe; and you muſt alſo give them a moderate hot-bed in the ſpring, which will greatly forward them; but harden them by the beginning of june, that they may be in right order to bud in auguſt; when you ſhould make choice of cuttings from trees that are healthy and fruitful, of whatever kinds you pleaſe, obſerving that the ſhoots are round; the buds of theſe being much better and eaſier to part from the wood, than ſuch as are flat. When you have budded the ſtocks, you ſhould remove them into a green-houſe, to defend them from wet, turning the buds from the ſun; but let them have as much free air as poſſible, and refreſh them often with water. In a month's time after budding, you will ſee which of them has taken; you muſt then untie them, that the binding may not pinch the buds, and let them remain in the green-houſe all the winter; then in the ſpring, prepare a moderate hot-bed of tanners bark; and, after having cut off the ſtocks about three inches above the buds, plunge their pots into the hot-bed, obſerving to give them air and water, as the heat of the weather ſhall require; but be ſure to ſcreen them from the violence of the ſun during the heat of the day. In this management, if your buds ſhoot kindly, they will grow to the height of two feet or more, by the end of july; at which time you muſt begin to harden them before the cold weather comes on, that they may the better ſtand in the green-houſe the following winter. In the firſt winter after their ſhooting, you muſt keep them very warm; for, by forcing them in the bark-bed, they will be ſomewhat tenderer; but it is very neceſſary to raiſe them to their height in one ſeaſon, that their ſtems may be ſtraight: for in trees, which are two or more years growing to their heading height, the ſtems are always crooked. In the ſucceeding years, their management will be the ſame as in full grown trees, which will be hereafter treated of: I ſhall therefore now proceed to treat of the management of ſuch trees as are brought over every year in cheſts from Italy; which is, indeed, by much the quicker way of furniſhing a green-houſe with large trees; for thoſe which are raiſed from ſeeds in England, will not grow ſo large in their ſtems under eighteen or twenty years, as theſe are when brought over; and although their heads are ſmall when we receive them, yet in three years, with good management, they will obtain large heads, and produce fruit.

In the choice of theſe trees obſerve firſt, the difference of their ſhoots and leaves, if they have any upon them, to diſtinguiſh their different ſorts, for the Shaddock and Citrons always make much ſtronger ſhoots than the Orange; for which reaſon, the Italian gardeners, who raiſe theſe trees for ſale, generally propagate thoſe ſorts, ſo that they bring few of the Seville Orange-trees over, which are much more valuable both for their flowers and fruit; alſo prefer thoſe that have two good buds in each ſtock, for many of them have but one, which will always produce an irregular head: the ſtraightneſs of the ſtem, freſhneſs of the branches, and plumpneſs of the bark, are neceſſary obſervations.

When you have furniſhed yourſelf with a parcel of trees, you muſt prepare a moderate hot-bed of tanner's bark, in length and breadth according to the number of trees to be forced; then put your trees into a tub of water upright, about half way of the ſtems, leaving the head and upper part of the ſtem out of water, the better to draw and imbibe the moiſture. In this ſituation they may remain two or three days, according to their plumpneſs when you received them; then take them out, and clean their roots from all filth, cutting off all broken or bruiſed roots, and all the ſmall fibres, which are quite dried by being ſo long out of the earth, and ſcrub the ſtems with a hard hair bruſh, cleaning them afterwards with a cloth; then cut off the branches about ſix inches from the ſtem, and having prepared a quantity of good freſh earth, mixed with very rotten neats dung, plant your trees therein, obſerving never to put them into large pots; for if they are but big enough to contain their roots, it is ſufficient at firſt planting; and be ſure to put ſome potſherds and large ſtones in the bottom of each pot, to keep the holes at the bottom of the pots from being ſtopped with earth, that the water may freely paſs off, and wrap ſome haybands round their ſtems, from bottom to top, to prevent the ſun from drying their bark; then plunge theſe pots into the bark-bed, watering them well to ſettle the earth to their roots, frequently repeating the ſame all over their heads and ſtems, being very careful not to over-water them, eſpecially before they have made good roots; and obſerve to ſcreen the glaſſes of your hot-bed from the ſun in the heat of the day.

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[o] Thunb. [p] Linn. [q] Thunb.

If your trees take to grow kindly, as there is little reaſon to doubt of, if the directions given be duly obſerved, they will have made ſtrong ſhoots by the beginning of june; at which time you ſhould ſtop their ſhoots, to obtain lateral branches to furniſh their heads; and now you muſt give them air plentifully, and begin to harden them, that in the middle of july they may be removed into the open air, in ſome warm ſituation, defended from the great heat of the ſun, and from winds, that they may be hardened before winter. About the end of ſeptember you ſhould houſe theſe plants, ſetting them at firſt in the front of the green-houſe, near the glaſſes, keeping the windows open at all times when the weather will permit; and about the latter end of october, when you bring in the Myrtles, and other leſs tender trees, you muſt ſet your Oranges in the warmeſt and beſt part of the houſe, placing lower plants or trees in the front, to hide their ſtems. During the winter, let your waterings be frequent, but give them not too much at a time; for now their heads are but ſmall, and therefore incapable to diſcharge too great a quantity of moiſture, and take great care to guard them from froſt.

In the ſpring, when you begin to take out ſome of your hardieſt ſorts of plants to thin your houſe, waſh and cleanſe the ſtems and leaves of your Orange-trees, taking out the upper part of the earth in the pots, filling them up again with good, freſh, rich earth, laying thereon a little rotten neats dung round the outſide of the pots, but do not let it lie near the ſtem of the trees; then place them at wider diſtances in the houſe, that the air may circulate round their heads, giving them air diſcretionally, as the weather grows warm; but do not remove them into the open air until the latter end of may, that the weather is ſettled; for many times, when they are removed out too ſoon, the mornings often proving cold, give them at leaſt a great check, which will change the colour of their leaves, and many times kill the extreme weak part of the ſhoots. Let the ſituation for your Orange-trees, during the ſummer ſeaſon, be as much defended as poſſible, by tall trees or hedges, from the ſun in the heat of the day, and from ſtrong winds, for both theſe are very hurtful to them.

As theſe trees advance, it will be neceſſary in the ſummer to ſtop ſtrong ſhoots where they grow irregularly, to force out lateral branches to fill the head; but do not pinch off the tops from all the ſhoots, as is the practice of ſome, which will fill the tree with ſmall ſhoots too weak to ſupport fruit; but endeavour to form a regular head, and obtain ſtrong ſhoots, taking away weak trifling branches where they are too cloſe.

During the ſummer ſeaſon, your Orange-trees will require frequent waterings in dry weather, eſpecially if they are large; therefore you ſhould endeavour to have the water as near the trees as poſſible, to ſave the trouble of carrying it, which, in a large quantity of trees, takes up much time. Your water ſhould be ſoft, and expoſed to the air, but never add dung of any ſort thereto; which, although by many frequently recommended, yet has always been found deſtructive to theſe, and all other trees, if much uſed; it being like hot liquors to human bodies, which, at firſt taking, ſeem to add vigour, yet certainly leave the body weaker after ſome time than before.

Your Orange-trees will require to be ſhifted and new potted every other year, therefore you muſt prepare a quantity of good earth, at leaſt a year before you intend to uſe it, that it may be well mixed, and perfectly rotten. The beſt ſeaſon for this work is about the end of april, that they may have taken freſh root before they are removed out of the green-houſe; and when this work is performed, it will be neceſſary to let them remain in the houſe a fortnight longer than uſual, to be well ſettled.

In the performing this work, after you have drawn the trees out of the pots, you muſt cut off all the roots round the outſide of the ball of earth, and take away all mouldy roots (if any ſuch be;) then with a ſharp iron inſtrument, get as much of the old earth from between the roots as poſſible, being careful not to break or tear the roots; then ſet the root of the tree into a large tub of water for about a quarter of an hour, to ſoak the under part of the ball of earth; and afterwards ſcrub the ſtems of the trees with a hard hair-bruſh, cleaning them and the heads with water, and a ſoft woollen cloth. Your pots being prepared, with ſome potſherds and large ſtones in the bottom, put ſome of your freſh earth into the pot, about three or four inches thick; and having placed your tree thereon, in the middle of the pot, upright, fill it up with the ſame rich earth, preſſing it down hard with your hands; then water the tree all over the head with a watering-pot that has a roſe upon the ſpout, to let the water fall light and thick, as in a ſhower of rain; and in watering theſe trees, do it in the ſame manner, during the time they abide in the houſe after ſhifting; this will greatly refreſh their heads, and promote their taking freſh roots.

When you firſt ſet theſe trees abroad after ſhifting, you ſhould place them near the ſhelter of hedges, and faſten their ſtems to ſtrong ſtakes, to prevent their being diſturbed by winds, which ſometimes will blow freſh planted trees out of the pots, if too much expoſed thereto, and thereby greatly injure their new roots.

If old Orange-trees have been ill managed, and their heads become ragged and decayed, the beſt method to reſtore them, is to cut off the greateſt part of their heads early in march, and draw them out of the tubs or pots, and ſhake off the earth from their roots, cutting away all ſmall fibres and mouldy roots; and then ſoak and clean their roots, ſtems, and branches, planting them in good earth, and ſetting them into a hot-bed of tanners bark, as was directed for ſuch trees as came from abroad, managing them in the ſame manner: by this method they will produce new heads, and in two years time become good trees again. But if theſe are large trees, and have grown in tubs for ſeveral years, your beſt way will be to prepare a parcel of rough baſkets, ſuch as are uſed for baſketing Evergreens, when ſent to a diſtant place: let theſe be ſomewhat leſs than the tubs you deſign to plant your trees into; then plant your trees herein, plunging them into the hot-bed, and about the beginning of july, when your trees have made good ſhoots, you may remove them into the tubs, with their baſkets about them, filling the empty ſpace with the ſame good earth: this will preſerve your tubs from rotting in the bark, and the trees will do equally well as if planted into the tubs at firſt, provided you are careful in removing the baſkets, not to diſturb their roots; and alſo let them remain in the green-houſe a fortnight or three weeks after planting, before you ſet them abroad.

Theſe trees being new potted or tubbed every other year, thoſe years in which they are not ſhifted, you muſt in april obſerve to take out as much of the old earth from the tops of the pots and tubs, and alſo round the ſides of them, as poſſible, without injuring the roots of the trees, and fill them up with freſh earth; you muſt alſo waſh and clean their ſtems and leaves from filth, which will greatly ſtrengthen their flowering, and cauſe them to ſhoot vigorouſly the following ſummer.

In the management of Orange-trees which are in good health, the chief care ſhould be to ſupply them with water duly, inſtead of ſtarving them in winter, as is ſometimes practiſed; whereby their fibres are dried, and become mouldy, to the great prejudice of the trees; and not to give them water in too great abundance, but rather to let their waterings be frequent, and given in moderate quantities. You muſt alſo obſerve, that the water has free paſſage to drain off; for if it be detained in the tubs or pots, it will rot the tender fibres of the trees. During the winter ſeaſon, they muſt have a large ſhare of air when the weather is favourable; for nothing is more injurious to theſe trees than ſtifling them, nor ſhould they be placed too near each other in the green-houſe; but ſet them at ſuch diſtance, that their branches may be clear of each other, and that the air may circulate freely round their heads. In ſummer they ſhould be placed where the winds are not violent, and to have the morning and evening ſun; for if they are too much expoſed to the mid-day ſun, they will not thrive. The beſt ſituation for them is near ſome large plantation of trees, which will break the force of the winds, and ſcreen them from the violent heat of the ſun. In ſuch a ſituation they may remain until the beginning of october, or later, according as the ſeaſon proves favourable; for if they are carried into the green-houſe early, and the autumn ſhould prove warm, it will occaſion the trees to make freſh ſhoots, which will be weak and tender, and ſo liable to periſh in winter; and ſometimes it will occaſion their flowering in winter, which greatly weakens the trees; nor ſhould they remain ſo long abroad as to be injured by morning froſts. The beſt compoſt for Orange-trees is two thirds of freſh earth from a good paſture, which ſhould not be too light, nor over ſtiff, but rather a hazel loam; this ſhould be taken about ten inches deep with the ſward, which ſhould be mixed with the earth to rot, and one third part of neats dung; theſe ſhould be mixed together, at leaſt twelve months before it is uſed, obſerving to turn it over every month, to mix it well, and to rot the ſward; this will alſo break the clods, and cauſe the mould to be finer. Before you make uſe of this earth, you ſhould paſs it through a rough ſcreen, to ſeparate the great ſtones and the roots of the ſward therefrom; but by no means ſift the earth too fine, for this is very prejudicial to moſt plants, but particularly to Orange-trees.

Of late years there have been many of theſe trees planted againſt walls, againſt which frames of glaſs are made to fix over them in winter; and ſome few curious perſons have planted theſe trees in the full ground, and have erected moveable covers to put over the trees in winter, which are ſo contrived as to be all taken away in ſummer: where theſe have been well executed, the trees have made great progreſs in their growth, and produced a much larger quantity of fruit, which have ripened ſo well, as to be extremely good for eating. If theſe are planted either againſt walls with deſign of training the branches to the walls, or in borders at a ſmall diſtance, ſo as to train them up as ſtandards, there ſhould be a contrivance of a fire-place or two, in proportion to the length of the wall, and flues carried the whole length of the wall, to warm the air in very cold weather, otherwiſe it will be very difficult to preſerve the trees in very hard winters alive; or, if they do live through the winter, they will be ſo much weakened by the cold, as not to be recovered the following ſummer to a proper ſtrength for bearing; ſo that wherever the trees are intended to be placed againſt or near old walls, the flues ſhould be built up againſt the front, allowing four inches thickneſs of the brick-work on each ſide the flues, obſerving to faſten this with irons, at proper diſtances, to ſecure it from ſeparating from the old wall. Where this contrivance is made, there will be no hazard of loſing the trees, be the winter ever ſo ſevere, with a little proper care; whereas, if this is wanting, there will require great care and trouble to cover and uncover the glaſſes every day, when there is any ſun; and if the wall is not thicker than they are uſually built, the froſt will penetrate through the walls in ſevere winters; ſo that covering and ſecuring the glaſſes of the front will not be ſufficient to preſerve the trees, be it done with ever ſo much care; therefore the firſt expence of the walls will ſave great trouble and charge, and be the ſecureſt method.

If the ground is wet, or of a ſtrong clay, ſo as to detain the moiſture, the borders ſhould be raiſed above the level of the ground, in proportion to the ſituation of the place; for where the wet lies in winter near the ſurface, it will greatly prejudice, if not totally deſtroy the trees; ſo that lime rubbiſh ſhould be laid at leaſt two feet thick in the bottom of the border, to drain off the wet; and the earth ſhould be laid two and a half, or three feet thick thereon, which will be a ſufficient depth for the roots of the trees. In theſe borders there may be a few roots of the Guernſey and Belladonna Lilies and Hæmanthus planted, or any other exotic bulbous-rooted flowers, which do not grow high, or draw too much nouriſhment from the borders; and theſe, producing their flowers in autumn or winter, will make a good appearance, and thrive much better than if kept in pots.

The management of the Orange-trees in theſe places, is nearly the ſame as has been directed for thoſe in pots or tubs, excepting that the borders in theſe places ſhould be dug, and refreſhed with ſome very rotten dung every year.

[It is commonly ſaid, that the Malteſe red Oranges are budded on the Pomegranate: and that the Orange grafted or budded on Mulberry ſtocks in Sicily, produces fruit with a blood-coloured pulp: but theſe accounts of travellers are apocryphal.]

The China, dwarf Orange, Shaddock, and thoſe with ſtriped leaves, are all more tender than the Seville Orange, and therefore muſt be treated with more care, and placed in a warmer part of the green-houſe in winter. The China Orange rarely produces good fruit in England, nor are the leaves of the tree near ſo large or beautiful as thoſe of the Seville Orange; the latter, therefore, ſhould be preferred, and only a tree or two of the China ſort kept for variety. The varieties with ſtriped leaves never produce good fruit, nor do they produce even flowers in ſo great plenty as the plain ones.

Citron.

The ſeveral ſorts of Citrons are cultivated much in the ſame manner as the Orange-tree; but theſe are ſomewhat tenderer than the Orange, and ſhould therefore have a warmer ſituation in winter, otherwiſe they are very ſubject to caſt their fruit. They ſhould alſo continue a little longer in the houſe in the ſpring, and be carried in again ſooner in the autumn; as alſo have a warmer and better defended ſituation in the ſummer, though not too much expoſed to the ſun in the heat of the day.

And as their leaves are larger, and their ſhoots ſtronger, than thoſe of the Orange, they require a little more water in the ſummer; but in winter they ſhould have but little water at each time, which muſt be the oftener repeated. The ſoil ought to be much the ſame as for the Orange-tree, but not quite ſo ſtrong.

The common Citron is much the beſt ſtock to bud any of the Orange or Lemon kinds upon, it being the ſtraighteſt and freeſt growing tree. The rind is ſmoother, and the wood leſs knotty, than either the Orange or Lemon; and will take either ſort full as well as its own kind, which is what none of the other ſorts will do: and theſe ſtocks, if rightly managed, will be very ſtrong the ſecond year after ſowing, capable to receive any buds, and will have ſtrength to force them out vigorouſly;

whereas it often happens, when theſe buds are inoculated into weak ſtocks, they frequently die, or remain till the ſecond year before they put out; and thoſe that ſhoot the next ſpring after budding, are oftentimes ſo weak as hardly to be fit to remain, being incapable of making a ſtraight handſome ſtem, which is the great beauty of theſe trees.

Lemon and Lime.

Theſe are propagated by budding or inarching on Lemon or Citron ſtocks, produced from ſeeds; but they will not ſo readily unite on Orange ſtocks.

Their culture is the ſame with that of the Orange: but the common Lemon is ſomewhat hardier, and requires a greater ſhare of freſh air in winter; for which reaſon, Lemon trees ſhould always be placed nearer to the doors or windows of the green-houſe. In ſome curious gardens theſe trees have been planted againſt walls, where, by covering them with glaſſes in winter, and protecting them from ſevere froſt, they have produced plenty of large fruit. As theſe trees generally produce ſtronger ſhoots, they require more water than the Orange. As to the more tender ſorts, they muſt be treated with a little more care, otherwiſe their fruit will fall in winter.

Cives. See *Allium*.

[Clandestina. See *Lathræa*.

Clary. See *Salvia*.

Clathroides and Clathroidastrum. See *Clathrus*.

CLATHRUS. A genus of *Fungi*, inſtituted by Micheli.—Roundiſh, conſiſting of a reticular, windowed, hollow body; the ramifications connected on every ſide.

There are only four ſpecies recited by Linneus. Mr. Hudſon has eight ſpecies. Seven ſpecies are figured by Bolton in t. 93 and 94.

In Dr. Withering's Botanical Arrangement, the name *Trichia* is adopted from Haller, and he has eleven ſpecies, comprehending ſome of Linneus's Mucors, the Sphærocarpus of Bulliard, and the Lycoperdon rufum of Dickſon.

The eſſential character there given is, that it grows in cluſters, moſtly fixed to a membranaceous baſe. Capſules globular or oblong. Seeds eſcaping from its whole ſurface through openings made by the ſeparations of the fibres. They are found chiefly on rotten wood.

Clava Herculis. See *Zanthoxylum*.

CLAVARIA. A genus of Fungi; one of the loweſt order in the ſcale of vegetation, differing ſometimes very little in ſubſtance from the rotten wood whence it iſſues. It is a ſmooth, oblong body, of one uniform ſubſtance.

Thirteen ſpecies are recited in the *Syſtema Vegetabilium*: five ſimple, and the reſt branched. In Withering's Botanical Arrangment there are twenty ſpecies, beſides many varieties. They are figured by Schæffer, Micheli, Bulliard, Bolton, Dickſon, &c.

In Dr. Withering's work, the eſſential character is—Fungus oblong, upright, club-ſhaped. Seeds emitted from every part of its ſurface.]

CLAYTONIA. (*From Mr. John Clayton, who collected plants chiefly in Virginia, and ſent them to Gronovius, who publiſhed them in his Flora Virginica.*)

Gronov. Lin. gen. n. 287. *Reich.* 309. *Schreb.* 402. *Gærtn. t.* 129. *Juſſ.* 314.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Succulentæ*. *Portulaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* bivalve, ovate, tranſverſe at the baſe.

Cor. *Petals* five, obcordate, with claws, emarginate.

Stam. *Filaments* five, ſubulate, recurve, a little ſhorter than the corolla, each inſerted into the claw of each petal. *Anthers* oblong, incumbent.

Pist. *Germ* roundiſh. *Style* ſimple, the length of the ſtamens. *Stigma* trifid.

Per. *Capſule* roundiſh, three-celled, three-valved, elaſtic.

Seeds three, round.

Obs. C. portulacaria, *having obovate petals, no ſtyle, and three ſimple ſtigmas; is removed from this genus.*

ESSENTIAL CHARACTER.

Cal. two-valved. *Cor.* five-petalled. *Stigma* trifid (or three). *Capſ.* three-valved, one-celled, three-ſeeded.

SPECIES.

1. Claytonia virginica.
Lin. ſpec. 294. *Reich.* 572. *Gron. virg.* 25. *Pluk. alm. t.* 102. *f.* 3. *Rudb. elyſ.* 2. 139. *f.* 6. *Ait. hort. kew.* 284.
Leaves linear-lanceolate; petals entire.

2. Claytonia ſibirica.
Lin. ſpec. 294. *ſyſt.* 245. *Reich.* 572. *hort. upſ.* 52. *Gmel. ſib.* 4. 89. *Gærtn. fruct.* 2. 221.
Limnia. *Act. ſtockh.* 1746. 130. *t.* 5.
Leaves ovate.

DESCRIPTIONS, &c.

1. Has a ſmall tuberous root, which ſends out ſlender ſtalks in the ſpring, about three inches high, having each two or three ſucculent narrow leaves about two inches long, of a deep green colour. At the top of the ſtalk four or five flowers are produced in a looſe bunch. Petals ſpreading, white ſpotted with red on their inſide. The flowers appear in april, and the ſeeds ripen in june. It grows naturally in Virginia, whence it was ſent by Mr. Clayton, [and cultivated by Mr. Miller before the year 1759. The leaves are linear, and the calyxes obtuſe. There is a variety with lanceolate leaves, and acutiſh calyxes[a].]

2. This is a low plant, ſeldom riſing more than two or three inches high. The root is tuberous, as in the other.

[Root-leaves petioled, nerved, very ſmooth. Scape declined. Stem-leaves two, oppoſite, ſeſſile, between which are two one-ranked racemes; whilſt tender theſe are revolute; and one of them is two-leaved. Flowers red. Stamens inſerted into the claws of the petals[b].]

PROPAGATION AND CULTURE.

The plants are both propagated by ſeeds, and alſo from offſets ſent out from the roots: the ſeeds ſhould be ſown upon a ſhady border of light earth, or in pots filled with the like mould, ſoon after they are ripe; for if they are kept out of the ground till ſpring, the plants will not come up till the next year; whereas thoſe which are ſown early in the autumn, will grow the following ſpring; ſo that a whole year is gained. When the plants come up, they will require no other care but to keep them clean from weeds; and in the autumn, if ſome old tanners bark is ſpread over the ſurface of the ground, it will ſecure the roots from being injured by froſt; but in mild winters they will not require protection.

The beſt time to tranſplant the roots is about Michaelmas, when they are inactive; but as they are ſmall, if great care is not taken in opening the ground, the roots may be buried and loſt; for being of a dark colour, they are not eaſily diſtinguiſhed from the ground.

[Claytonia Portulacaria. See Portulacaria.

Cleavers. See *Galium Aparine*.]

CLEMATIS. (*From* κλῆμα, *viticula, ſarmentum; becauſe it climbs trees, by means of its pliant twigs, like thoſe of the Vine.*)

Lin. gen. n. 696. *Reich.* 754. *Schreb.* 950. *Dill. elth.* 73. *Gærtn.* 74. *Juſſ.* 232.

Clematitis. *Tournef.* 150. Viticella. *Dill. gen.* 14.

Claſſ. 13. 7. Polyandria Polygynia.

Nat. order of *Multiſiliquæ*. *Ranunculaceæ*. Juſſ.

GENERIC CHARACTER.

Cal. none.

Cor. *Petals* four, oblong, lax.

Stam. *Filaments* very many, ſubulate, ſhorter than the corolla. *Anthers* growing to the ſide of the filaments.

Pist. *Germs* very many, roundiſh, compreſſed, ending in ſubulate *Styles*, longer than the ſtamens. *Stigmas* ſimple.

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[a] Hort. kew.

[b] Linn. ſyſt.

Per. none. *Receptacle* headed, ſmall.

Seeds very many, roundiſh, compreſſed, furniſhed with the ſtyle, in various forms.

Obs. Clematitis T. *has lanceolate petals; the ſeeds have a very long villoſe briſtle.*

Flammula *has eight piſtils; the ſeeds orbicular, with a very long feather.*

Viticella *has five erect deltoid petals; the ſeeds have a naked crooked point.*

C. virginiana & dioica *are both dioecous.*

ESSENTIAL CHARACTER.

Cal. none. *Pet.* four, ſometimes five, or even ſix. *Seeds* having a tail.

SPECIES.

* *Climbing.*

1. Clematis cirrhoſa. *Evergreen Virgin's Bower.*

Lin. ſpec. 766. *ſyſt.* 512. *Reich.* 2. 641. *hort. cliff.* 226. *Bauh. pin.* 300. *n.* 3. *Cluſ. hiſt.* 1. 123. *Raii hiſt.* 621. 2. *Bauh. hiſt.* 2. 126. *fig. Ger.* 739. *f.* 2. *emac.* 886. *f.* 2. *Park. theat.* 383. *f.* 2.

Leaves ſimple, ſtem climbing by oppoſite tendrils, peduncles one-flowered, lateral.

2. Clematis Viticella. *Purple Virgin's Bower.*

Lin. ſpec. 765. *ſyſt.* 512. *Reich.* 2. 641. *hort. cliff.* 225. *Scop. carn. n.* 670. *Bauh. pin.* 300. *n.* 9. *Cluſ. hiſt.* 1. 122. *Raii hiſt.* 622. 6. *Bauh. hiſt.* 2. 128. *f.* 1. *Ger. emac.* 887. *f.* 1, 2. *Park. theat.* 381. *f.* 4. *Camer. epit.* 696.

β. C. alpina. *Mill. dict. n.* 9.

C. alp. geranii folio. *Bauh. pin.* 300.

Leaves compound and decompound, leaflets ovate, ſublobed, quite entire.

3. Clematis Viorna. *Leathery-flowered Virgin's Bower.*

Lin. ſpec. 765. *Reich.* 2. 642. *Gron. virg.* 62. 84. *Raii hiſt.* 1926.

Flammula. *Dill. elth. t.* 118. *f.* 144.

Leaves compound and decompound, ſome of the leaflets trifid.

4. Clematis criſpa. *Curled Virgin's Bower.*

Lin. ſpec. 765. *Reich.* 2. 642. *Dill. elth. t.* 73. *f.* 84. *Thunb. jap.* 239.

Leaves ſimple and ternate, leaflets entire and three-lobed.

5. Clematis orientalis. *Oriental Virgin's Bower.*

Lin. ſpec. 765. *Reich.* 2. 642.

Flammula. *Dill. elth. t.* 119. *f.* 145.

Leaves compound, leaflets gaſhed angular lobed wedge-form, petals villoſe on the inſide.

[6. Clematis hexapetala.

Lin. ſyſt. 512. *ſuppl.* 271. *Forſt. florul. auſtr. n.* 230.

Leaves compound, leaflets ovate ſerrate, peduncles two-leaved, corolla ſpreading, ſix-petalled.

7. Clematis virginiana. *Virginian Virgin's Bower.*

Lin. ſpec. 766. *Reich.* 2. 642. *amœn.* 4. 275. *Pluk. mant. t.* 389. *f.* 4. *Gron. virg.* 62. 84. *Thunb. jap.* 240. *Lour. cochinch.* 345. *Kæmpf. amoen.* 5. 885.

Leaves ternate, leaflets cordate, ſomewhat lobed and angular; climbing, flowers dioecous.

8. Clematis florida. *Large-flowered Virgin's Bower.*

Lin. ſyſt. 512. *Thunb. jap.* 240.

Leaves decompound, leaflets binate and ternate; petals ovate.

9. Clematis japonica. *Japan Virgin's Bower.*

Lin. ſyſt. 512. *Thunb. jap.* 240.

Leaves ternate, leaflets elliptic-ovate, ſerrate; flowers cylindric.]

10. Clematis dioica. *Trifoliate Virgin's Bower,* or *Climber.*

Lin. ſpec. 765. *Reich.* 2. 643. *amœn.* 6. 398. *Brown. jam.* 255. *Sloan. jam.* 1. 199. *t.* 128. *f.* 1. *Lour. cochinch.* 344.

Leaves ternate, quite entire; flowers dioecous.

11. Clematis Vitalba. *Common Virgin's Bower, wild Climber,* or *Traveller's Joy.*

Lin. ſpec. 766. *ſyſt.* 512. *Reich.* 2. 643. *hort. cliff.* 225. *Jacqu. auſtr.* 4. *t.* 308. *Hudſ. angl.* 238. *With.* 568. *Curt. lond.* 4. 37. *Hall. helv. n.* 1142. *Scop. carn. n.* 669. *Pollich. pal. n.* 521. *Gærtn. fruct.* 1. 353. *t.* 74. *Villars dauph.* 3. 710. *Krock. ſileſ. n.* 859.

C. ſylveſtris latifolia. *Bauh. pin.* 300.—ſ. Viorna. *Park. theat.* 383. 1.—tertia ſ. Vitalba. *Camer. epit.* 697.

C. latifolia integra. *Bauh. hiſt.* 2. 125. *f.* 1. *Raii hiſt.* 620.—dentata. *Bauh. hiſt. f.* 2.

Vitalba. *Dod. pempt.* 404.

Viorna. *Ger.* 739. 1. *emac.* 886. 1.

Atragene Theophr. *Cluſ. hiſt.* 1. 122.

β. C. canadenſis. *Mill. dict. n.* 5. *Broad-leaved Canada Virgin's Bower,* or *Climber.*

C. can. latifolia & triphylla.

Leaves pinnate, leaflets cordate, climbing.

12. Clematis Flammula. *Sweet-ſcented Virgin's Bower.*

Lin. ſpec. 766. *Reich.* 2. 643. *hort. cliff.* 225. *Hall. helv. n.* 1143. *Ger. prov.* 382. *Allion. pedem. n.* 1080. *Villars dauph.* 3. 711. *Bauh. hiſt.* 2. 127. *f.* 1. *Bauh. pin.* 300. *n.* 4. *Raii hiſt.* 621. 3.

C. urens. *Ger.* 641. *f.* 1. *emac.* 888.—fl. albo. *Park. theat.* 381. *f.* 3.

Flammula. *Dod. pempt.* 404. *Dalech. hiſt.* 1171.

Lower leaves pinnate laciniate; upper ſimple, quite entire, lanceolate.

** *Erect.*

[13. Clematis maritima.

Lin. ſpec. 767. *Reich.* 644.

C. marit. repens. *Bauh. pin.* 300. *n.* 5. *prodr.* 135. *n.* 1.

Leaves pinnate, linear; ſtems ſimple, hexagonal.]

14. Clematis recta. *Upright Virgin's Bower.*

Lin. ſpec. 767. *Reich.* 2. 644. *hort. cliff.* 225. *upſ.* 155. *Jacqu. auſtr.* 3. *t.* 291. *Hall. helv. n.* 1144. *Scop. carn. n.* 667. *Villars dauph.* 3. 711. *Krock. ſileſ. n.* 857. *Woodv. med. bot.* 175. *t.* 62.

C. ſ. Flammula ſurrecta alba. *Bauh. hiſt.* 2. 127. *f.* 2. *Raii hiſt.* 621. *n.* 4.

Flammula. *Dod. pempt.* 405. *f.* 1. *Cam. epit.* 698. *Cluſ. hiſt.* 1. 124.—recta. *Bauh. pin.* 300.

F. jovis ſurrecta. *Ger.* 74. 1. 2. *emac.* 888. *f.* 2. *Park. theat.* 382. *f.* 2.

β. C. hiſpanica. *Mill. dict. n.* 3.

C. hiſp. ſurrecta altera & humilior, fl. albicante. *H. R. Par.*

Leaves pinnate, leaflets ovate-lanceolate, quite entire; ſtem erect; flowers four and five-petalled.

15. Clematis integrifolia. *Entire-leaved Virgin's Bower,* or *Hungarian Climber.*

Lin. ſpec. 767. *Reich.* 2. 644. *hort. cliff.* 225. *upſ.* 156. *Jacqu. auſtr.* 4. *t.* 363. *Curt. mag.* 65. *Krock. ſileſ. n.* 858.

C. nutans. *Crantz. auſtr.* 124.

C. inclinata. *Scop. carn. n.* 668.

C. cærulea erecta. *Bauh. pin.* 300.

C. cær. pannonica. *Cluſ. hiſt.* 1. 123. *Park. parad.* 393. *n.* 9.

C. pannon. *Ger.* 742. *f.* 4. *emac.* 889. *f.* 4. *Raii hiſt.* 622. *n.* 5.—fl. cærul. ſurrecta. *Bauh. hiſt.* 129. *f.* 3.

Leaves ſimple, ovate-lanceolate, flowers drooping.

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* *Climbing.*

[16. Clematis calycina. *Minorca Virgin's Bower.*

L'Herit. ſtirp. nov. 2. *t.* 26. *Ait. hort. kew.* 2. 259. *Vahl ſymb.* 3. 75.

C. balearica. *De Lamarck encycl.* 2. 43.

Calycine involucre approximating; leaves ternate, the intermediate one three-parted.]

17. Clematis americana. *South-American Virgin's Bower* or *Climber.*

Mill. dict. n. 14.

Leaves ternate, leaflets cordate-acuminate, quite entire, flowers corymbed.

[18. Clematis chinenſis. *Chineſe Virgin's Bower.*

Retz. obſ. 2. 18. *n.* 53. *t.* 2.—Conf. *Lour. cochinch.* 345. 3.

Leaves quinate-pinnate, leaflets lanceolate.

** *Erect.*

19. Clematis ochroleuca. *Yellow-flowered Virgin's Bower.*
Ait. hort. kew. 2. 260. *Pluk. mant.* 51. *t.* 379. *f.* 5.
Leaves ſimple ovate pubeſcent quite entire; flowers erect.

Climbing.

20. Clematis trifolia.
Vahl. ſymb. 3. 74. *Lamarck encycl.* 2. *P.* 1. *p.* 43.
Leaves ternate, leaflets ovate ſerrate, ſerratures mucronate, peduncles three-flowered.

21. Clematis minor.
Lour. cochinch. 345.
Leaves quinate, leaflets conical, three-nerved, peduncles very long.

DESCRIPTIONS, &c.

The Virgin's Bowers are chiefly climbing ſhrubs, ſome of them however are erect. Leaves oppoſite, ſimple ternate or unequally pinnate. Flowers axillary, but more frequently terminating; ſolitary, but more frequently in corymbs; in ſome ſpecies dioecous; in a few furniſhed with a turbinate bifid calycle, removed a little from the petals[a].]

1. This has a climbing ſtalk, riſing to the height of eight or ten feet, ſending out branches from every joint, whereby it becomes a very thick buſhy plant. Leaves ſometimes ſingle, ſometimes double, frequently ternate, ſerrate. [According to Linneus, they are uſually ſimple, petioled, ovate, ſeveral together from the ſame joint.] They keep their verdure all the year. The tendrils come out oppoſite to the leaves. The flowers are produced from the ſide of the branches; they are large, of an herbaceous colour, [and under each is a remote, hemiſpheric, minute calycle[b].] They appear at the end of december, or beginning of january. It grows naturally in Spain: [where it was obſerved by Cluſius in 1565. In 1596, it was cultivated by Gerarde[c], who calls it *Traveller's Joy of Candia.* Johnſon names it better *Spaniſh Traveller's Joy,* and Parkinſon, *Spaniſh wild Climer.*]

2. Stems very ſlender and weak, having many joints, whence come out ſide branches, which are again divided into ſmaller. If theſe be ſupported, they will riſe to the height of eight or ten feet. The leaves branch out into many diviſions, each having a ſlender foot-ſtalk, with three oval entire leaflets; four foot-ſtalks generally ariſe from the ſame joint, two on each ſide; the two lower have three of theſe diviſions, ſo that they are compoſed of nine leaflets; but the two upper have only two oppoſite leaves on each, and between theſe ariſe three ſlender peduncles, each ſupporting one flower. [According to Linneus, the lower leaves are cordate, the middle three-lobed, the upper pinnate, the floral leaves ovate. Petals deciduous, deltoid, very obtuſe, thinner on the ſides:] they are of a dark worn out purple, or blue, or bright purple or red. It grows naturally in the woods of Spain and Italy; [and was cultivated in 1569, by Mr. Hugh Morgan[d]. Gerarde calls it blue or red-flowering Ladies Bower, from its aptneſs to make bowers or arbours in gardens.]

There are four varieties cultivated in the nurſeries. 1. Single blue. 2. Single purple. 3. Single red. 4. Double purple. They flower in june and july, but the ſeeds ſeldom ripen in England. The laſt continues to the end of auguſt.

β. Riſes only three or four feet high. The leaves have nine leaflets, three on each foot-ſtalk. The flowers come out at the joints of the ſtem, are white, and make no great appearance. It flowers in may, and grows naturally on the mountains of Italy. Mr. Miller received it from Monte Baldo.

3. [Stems many, ſlender, ſarmentoſe, round, ſtriated, proſtrate or climbing. Leaflets three-lobed, divided to the petiole, ſmooth, paler underneath, entire, ſometimes gaſhed, but commonly ſomewhat ſinuated and waved, the nerve of the ſide-lobes not in the middle, but nearer to the inner ſide. Peduncles long, ſolitary, axillary, with one pair of ſimple leaves in the middle; flowers ſolitary, nodding, coriaceous, ribbed on the outſide, never opening except at the end, where the petals are bent back; they are of a greeniſh purple on the outſide, and very pale green within. The ſtamens ſcarcely emerge from the corolla. Seeds broadiſh, flat, at firſt green then brown; tail bent in and plumoſe, of a browniſh green colour[e].

Native of Carolina and Virginia. It is in Baniſter's catalogue of the plants of Virginia ſent over in the year 1680[f]. In 1732, it was cultivated by James Sherard, M. D. at Eltham[g]:] and Mr. Miller received the ſeeds from both countries. It flowers from june to ſeptember, and if the autumn prove warm, the ſeeds will ripen.

4. This has weak ſtalks, which riſe near four feet high, and by their claſpers faſten themſelves to neighbouring plants. The flowers come out ſingly from the ſides of the branches upon ſhort peduncles, having one or two pair of leaves on them, which are oblong and ſharp-pointed. The corolla is purple, the inſide is curled, and has many longitudinal furrows.

[Thunberg deſcribes the ſtem as ſtriated, flexuoſe and ſmooth; the leaves as five-nerved, petioled, ovate, acute and ſmooth; and the flowers as growing in a compound, trichotomous panicle.]

Native of Carolina, whence Mr. Miller received the ſeeds in 1726. It was cultivated in the Eltham garden at the ſame time. [It is alſo a native of Florida and Japan.] It flowers in july, and the ſeeds ripen in ſeptember.

5. This alſo has weak climbing ſtalks, riſing to the height of ſeven or eight feet when ſupported. The leaves conſiſt of nine leaflets, which are angular and ſharp-pointed.

[According to the deſcription of Dillenius, they reſemble the upper leaves of Smallage in ſhape, but they are glaucous on both ſides, and have ſuch ſoft and ſlender hairs on them as are not eaſily either ſeen or felt: the petioles and ends of the twigs have alſo the ſame delicate pubeſcence. Flowers drooping; petals bent back, finally flat, villoſe within, of a yellowiſh green colour, with a tinge of ruſſet on the upper part or outſide. Stamens collected into an oblong purple head, with oblong purple anthers yellow at the edge.

It flowers from july to october;] and was diſcovered by Tournefort in the Levant, whence he ſent the ſeeds to the royal garden at Paris. [It was cultivated here in 1732, by James Sherard, M. D. at Eltham[h].

6. Leaves ternate: leaflets cordate-ovate, crenate-gaſhed. Peduncles branching, trichotomous. Flowers yellowiſh, dioecous.—Native of New Zealand: found in Charlotte Sound, november 1774[i].

7. Stems climbing, very high. Leaves ternate: leaflets thinly but deeply ſerrate-angular, naked, cordate, veined: floral leaves ſimple, ſix together or ſubverticillate, quite entire, three-lobed or undivided. Peduncles ſimple and three-flowered mixed. Corolla white, ſpreading, tomentoſe beneath: petals ovate-oblong, not lanceolate, ſpreading. Stamens and piſtils yellowiſh white. The petiolules twiſt about and ſerve as tendrils to elevate the plant. The female flowers have ſtamens, but the anthers are deſtitute of pollen[k].

Loureiro aſſerts that the flowers are hermaphrodite; and that the ſeeds are ſix in number, of an ovate-oblong ſhape, with a ſtraight hairy tail, about the ſame length with the ſtamens.

Native of North America: alſo of Japan and Cochinchina. Cultivated in 1767, by Mr. James Gordon. It flowers from june to auguſt[l].

8. Stem ſtriated, purple, ſmooth. Leaves oppoſite, petioled, ſubtriternate. Leaflets petioled;

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[a] Juſſieu.
[b] Linn. ſpec.
[c] Hort. kew.
[d] Ibid.
[e] Dillenius.
[f] Ray's hiſt. app.
[g] Hort. kew.
[h] Ibid.
[i] Forſter.
[k] Linn. amoen. and ſpec.
[l] Hort. kew.

pinnas ſeſſile, ovate, entire or ſeldom gaſhed, villoſe, the middle one larger. Petioles perfoliate at the baſe, ſemicylindric, ſpreading out horizontally. Flowers axillary, peduncled, ſolitary. Peduncles villoſe, one-flowered, longer than the leaves. Corolla large, handſome, ſpreading; petals acuminate, yellowiſh. Stamens unequal, purpliſh. This differs from *C. viticella* in having decompound leaves, acute leaflets, and ovate petals. Native of Japan[m].

Introduced about 1776, by John Fothergill, M. D. It flowers moſt part of the year[n].

9. Stem filiform ſtriated purple villoſe. Leaves ſeveral from each joint, petioled. Leaflets on ſhort petioles, acuminate, equally ſerrate from the middle to the end, nerved, villoſe, the middle one larger. Petiole capillary, looſe. Flowers from the joints, peduncled, ſolitary, purple. Peduncles one-flowered, the length of the leaflets. This differs from *C. virginiana* in having the leaflets not cordate, but drawn to a point towards both ends, the flowers cylindric not ovate, and peduncled.——Native of Japan[o].]

10. This has ſlender tough climbing ſtalks, riſing to the height of ten or twelve feet. Leaves trifoliate, coming out on each ſide the ſtalk; the leaflets are large, ovate and entire, having three or five longitudinal nerves. The peduncles are produced at the ſame joints, cloſe to the petioles, one on each ſide: theſe are long, naked, and grow horizontally, extending beyond the leaves before they divide and branch; then there come out three or four pairs of ſmall foot-ſtalks from the large one, each of which divides again into three ſmaller, each ſupporting a ſingle flower: the lower pair of theſe is extended four or five inches, the others gradually diminiſh to the top, ſo that they form a pyramidal thyrſe of flowers; theſe are white, and are compoſed of four narrow petals which are reflected, but the ſtamens all ſtand erect.

[There are about eighty ſeeds diſpoſed in a head; they are obtuſely three-cornered and compreſſed, with a very long tail, fringed with many white hairs[p].

Native of the Weſt Indies, and alſo of Cochinchina; climbing very high without tendrils.] It was ſent to Mr. Miller from Jamaica, by Dr. Houſtoun.

11. [This ſhrub climbs as high as twenty feet by means of the twiſted petioles. The younger ſtems are ſlightly hirſute, flexible and purple: the old ones are the thickneſs of the finger, deeply grooved, and of a whitiſh colour. Leaves oppoſite, ſpreading, on long petioles, they conſiſt of two pairs of leaflets with an odd one; leaflets remote, ſubacuminate, ſometimes cordate, entire, ſerrate, or lobed, of a yellowiſh green colour, ſomewhat ſhining, veined on the under ſide. Flowers in axillary racemes, conjugate, leafy, dividing firſt into three, then into two ſmaller branches; ſweet-ſcented. Petals four, croſs-ſhaped, (ſometimes five) ſlightly emarginate, ſpreading, a little rolled back, villoſe, on the upper ſide of a pale ſulphur colour, underneath greeniſh. Filaments the length of the corolla, upright: anthers oblong, whitiſh[q]. Seeds about twenty, covered with a membranaceous thin reddiſh coat, with whitiſh hairs ſcattered over it, and ending in a very long plumoſe tail; when this coat, which does not open of itſelf, is taken off, the ſeed appears to be elliptic, turgidly lens-ſhaped, and of a pale yellow colour[r].]

β. This in its appearance is very like the common ſort, but the leaves are broader, and grow by threes on the ſame foot-ſtalk, whereas in that there are five or ſeven leaflets to each leaf. The flowers appear at the ſame time, but the ſeeds do not ripen in England, unleſs the ſeaſon be very warm. There is little beauty in this ſort. It is a native of North America[s].

[12. This is rather creeping than climbing. It is lower and more tender than the foregoing; leaves ſmaller, with five and ſeven pinnas, or three-lobed, or three-leaved; leaflets ovate-lanceolate, with few gaſhes, and one or two teeth. Peduncles conjugate, branching. Stipules numerous, ſerrate. Petals lanceolate, white, marked with lines, burning[t]. Native South of France, Italy, the Griſons, &c. It flowers from july to october.

Cultivated 1597, by Gerarde[u].

13. Perennial. Leaves oppoſite; leaflets uſually five pairs, remote, linear, ſomewhat rigid, ſubſeſſile, even, undivided, but ſometimes bifid or trifid. Flowers as in the next ſpecies. Magnol and Ray determine it to be a variety of *C. Flammula*, but I, ſays Linneus, ſhould rather ſuppoſe it to be a variety of *C. recta* changed by the ſoil[x].—Near Montpellier, Nice, and Venice.

14. Perennial. Stems herbaceous, annual, round, ſcarcely branched, from three to five feet high, firm, ending in a panicle at top. Leaves oppoſite, pinnate; leaflets from two to four pairs, with an odd one at the end, petioled, lanceolate or ovate, acute, the upper ſurface ſmooth and green, the lower ſomewhat villoſe and glaucous; they are entire, ſeldom two-lobed. Stipules minute at the diviſions of the peduncles. Petals white, oblong, four in number, (ſometimes five) obtuſe, ſomewhat villoſe, a little longer than the ſtamens. Seeds few (from one to three or four, ſeldom more), dark brown, ſmooth, orbicular, much compreſſed; with a long, yellowiſh, plumoſe tail[y].

Linneus remarks, that the umbels of flowers are upright and ſtiff.]

The flowers come out in june, and the ſeeds ripen in ſeptember.

[Native of France, Switzerland, Sileſia, Auſtria, Carniola, Hungary, Tartary. Cultivated in 1597, by Gerarde[z].

β. The variety, which Mr. Miller makes a ſpecies, under the name of *C. hiſpanica*,] differs only in having but two or three pairs of leaflets, which are narrower and ſtand farther aſunder; ſhorter ſtalks, and larger flowers.

[This plant, as well as moſt of the other ſpecies, is acrid, corroſive, and inflames the ſkin, whence the name *Flammula*. It is recommended by Baron Stoerck in inveterate ſyphilitic diſeaſes, in ulcers, cancers, and ſevere head-achs. It acts as a diuretic or diaphoretic. The character of *Clematis* reſts wholly on Stoerck's authority. He uſed an extract of the leaves; but he chiefly recommends an infuſion of the freſh leaves, two or three drams to a pint of boiling water, four ounces to be taken three times a day, whilſt the powdered leaves are applied as an eſcharotic to the ulcers. It may be uſed alſo for raiſing bliſters, where cantharides cannot be obtained.

15. Perennial. Stems ſeveral, annual, a foot and half high or more, ſtriated, erect, a little fiſtuloſe, ſomewhat pubeſcent at top, terminated by a nodding flower, and ſometimes branched in the upper axils. Leaves oppoſite, ovate, ſeſſile, quite entire, nerved, veined, acute, ſmooth, except about the edge and on the dorſal nerves, which are ſlightly villoſe. Scopoli remarks, that the two upper leaves, before the corolla is unfolded, are erect, keeled, and touching each other reſemble an oblong bladder. Peduncles erect, pubeſcent, ſuſtaining one elegant flower, but void of ſcent: petals large, lanceolate, blue, nerved, acute, waved, thick, ſpreading very much. Filaments very pale yellow, villoſe all over, and twice as long as the petals. Seeds roundiſh, compreſſed, ſomewhat villoſe, ending in a long plumoſe tail[a].

Native of Germany, Auſtria, Carniola, Hungary. It flowers in july, or from june to auguſt; was cul-

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[m] Thunberg. [n] Hort. kew. [o] Thunberg. [p] Loureiro. [q] Curtis. [r] Gærtner. [s] Curtis.

[t] Haller. [u] Hort. kew. [x] Linn. ſpec. [y] Jacquin. [z] Hort. kew. [a] Jacquin.

tivated in 1596 by Gerarde [b]; and is not uncommon now in the nurſeries about London.

Forſter (fl. auſtral. n. 231.) has given the ſame name to a very different plant from New Zealand, with ternate leaves, the leaflets ovate entire and mucronate, the peduncles axillary panicled two-leaved.

16. Stem ſmooth, ſtriated. Leaves ſeveral from each joint: leaflets ſmooth, lanceolate, narrow, with three or four deep ſerratures on the outſide, and a pair on the inner ſide; the lateral ones ſubſeſſile, the middle one petioled. Peduncles axillary, villoſe, one-flowered, with a ſmooth hemiſpherical involucre at the top. Petals oblong, an inch in length, obtuſe, villoſe on the outſide [c].

Native of Minorca. Introduced in 1783, by Monſ. Thouin. It flowers in february [d].]

17. This has ſtrong climbing ſtalks, which faſten themſelves by their claſpers to the neighbouring trees, whereby they are ſupported, and riſe to the height of twenty feet or more; at each joint are trifoliate leaves, heart-ſhaped, pointed, and entire. The flowers come out on long, naked, branching axillary peduncles; they are white, and collected into roundiſh bunches; theſe are ſucceeded by ſeeds ſhaped like thoſe of the common ſort, but have long curling beards to each, which are finely feathered.

It was ſent to Mr. Miller from Campeachy, by Dr. Houſtoun.

[18. Stems four-cornered, weak ſo as to want ſupport, ſcarcely climbing. Leaflets far remote, petioled. Peduncles oppoſite, axillary, three or five-flowered; the lateral pedicels have a pair of ſmall bractes far removed from the flower; the end one is naked. Flowers ſmall; petals linear-lanceolate, dark purple, the inner edge painted with a tomentoſe line. Tail of the ſeeds ſcarcely ſhorter than the anthers.

It was ſent from China by Bladh [e].

Loureiro has deſcribed a plant under the name of *C. ſinenſis*, which is common in many parts of the Chineſe empire, and ſeems to be different from Retzius's. The ſtems are round, very long, ſcandent and branched. Leaves quinate; leaflets ovate-lanceolate, quite entire, and ſubſeſſile, which Retzius's are not. Flower red purple, on many-flowered axillary peduncles: corolla ſpreading. Seeds three to five.—He adds, that he has found three plants in Chineſe books under this name: the firſt, which he has examined, with quinate leaves; the ſecond, with ternate; and the third, with ſimple three-lobed leaves: all having a large ſcandent ſtem.

19. This is a low unbranched plant. Stem pubeſcent. Leaves oppoſite, ſeſſile, ſtrongly nerved. Flower ſingle, terminating, pale yellow.

Native of North America, where it was obſerved firſt by Baniſter. Cultivated in 1767, by Mr. James Gordon. It flowers in june and july [f].

20. Branches ſtriated, ſmooth. Leaves petioled, oppoſite: leaflets petioled, two inches long, the ſide ones oblique at the baſe, the upper ones ſometimes ſubcordate, three-nerved, ſmooth, veined beneath, the midrib ſlightly hairy: the upper ones ſimple, petioles ſcandent. Peduncles axillary and terminating, oppoſite, ſolitary, ſpreading very much, almoſt the length of the leaves. Pedicels alſo ſpreading, two inches long or more, having a ſmall leaf on each ſide at the baſe, and two minute ones in the middle of the ſide pedicels; the middle pedicel longer and naked. Corolla the ſize of that in *C. virginiana*: petals oblong, villoſe on both ſides. Seeds purple villoſe, with a long plumoſe tail. Native of the iſle of Bourbon [g].

Its proper place is between the ſixth and ſeventh ſpecies.

21. Stem ſuffruticoſe, round, ſlender, not very long, ſcandent, branched. Leaflets ſmall, bluntiſh at the end, quite entire, ſmooth; all the petioles long. Flowers white, axillary, ſeveral together. Petals oblong, ſtriated. Stamens about forty, unequal. Styles four, hairy, a little longer than the corolla.

Native of the ſuburbs of Canton in China [h].]

PROPAGATION AND CULTURE.

1. The firſt ſort retains its leaves all the year, which renders it valuable. This was formerly preſerved in green-houſes in the winter, ſuppoſing it too tender to live in the open air in England; but now it is generally planted in the full ground, where the plants thrive much better than in pots, and produce plenty of flowers, which they never did when they were more tenderly treated; nor have I found that the plants have ſuffered from ſevere froſts; for thoſe which have been growing in the open air at Chelſea, more than fifty years, have reſiſted the greateſt cold without covering.

This ſort does not produce ſeeds in England, it is therefore propagated by layers, and alſo from cuttings. If it be propagated by layers, it muſt be done in the beginning of october, when the ſhoots of the ſame year only ſhould be choſen for this purpoſe; for the older branches do not put out roots in leſs than two years; whereas the tender ſhoots will make good roots in one year: theſe muſt be pegged down. If the ſhoots have two inches of earth over them, it will be better than a greater depth; but, then, a little old tanners bark ſhould be ſpread over the ſurface of the ground, to keep out the froſt; for the plants generally begin flowering about Chriſtmas, and at the ſame time they are putting out roots, which being but juſt formed, may be injured by ſevere froſts: theſe layers will have ſtrong roots by the following autumn, when they may be taken from the old plant, and tranſplanted where they are deſigned to remain.

When it is propagated by cuttings, they ſhould be planted in march, in pots filled with good kitchen-garden earth, and plunged into a very moderate hot-bed, obſerving to ſhade them from the ſun in the day-time, and to water them gently two or three times a week, and in leſs than two months they will have taken root, when they ſhould be gradually inured to the open air. The following ſummer they may be placed in any part of the garden till Michaelmas, and then they ſhould be turned out of the pots and planted in the full ground, either where they are deſigned to remain, or into a nurſery-bed, to grow a year longer to get ſtrength, before they are placed out for good.

2. All the varieties of purple Virgin's Bower are propagated by laying down their branches; for although the ſingle flowers ſometimes produce ſeeds in England, yet as theſe ſeeds, when ſown, generally remain a whole year in the ground before they vegetate, the other, being the more expeditious method of increaſing theſe plants, is generally practiſed: but in order to ſucceed, theſe layers ſhould be laid down at a different ſeaſon from the former ſort; for when they are laid in the autumn, their ſhoots are become tough, ſo as rarely to put out roots under two years; and after lying ſo long in the ground, not one in three of them will have made good roots; ſo that many have ſuppoſed theſe plants were difficult to propagate, but ſince they have altered their ſeaſon of doing it, they have found theſe layers have ſucceeded as well as thoſe of other plants.

The beſt time for laying down the branches is in the beginning of july, ſoon after they have made their firſt ſhoots, for it is theſe young branches of the ſame year, which freely take root; but as theſe are very tender, there ſhould be great care taken not to break them in the operation: therefore thoſe branches from which theſe ſhoots were produced, ſhould be brought down to the ground, and faſtened to prevent their riſing; then the young ſhoots ſhould be laid into the earth, with their tops raiſed upright, three or four inches above ground; and after the layers are placed down, if the ſurface of the ground be covered with moſs, rotten tanners bark, or other decayed mulch, it will prevent the ground from drying, ſo that the layers will not require watering above three or four times, which ſhould not be at leſs than five or ſix days interval; for when theſe layers have too much wet, the tender ſhoots frequently rot; or when the young fibres are newly put out, they are ſo tender, as to periſh by having much wet: where the method here directed is practiſed, the layers will more certainly take root, than by any other yet practiſed.

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[b] Hort. kew. [c] Vahl. [d] Hort. kew. [e] Retz.
[f] Hort. kew. [g] Vahl.

[h] Loureiro.

As moſt of theſe plants have climbing branches, they ſhould be always planted where they may be ſupported, otherwiſe the branches will fall to the ground and appear unſightly; ſo that unleſs they are properly diſpoſed, inſtead of being ornaments to a garden, they will become the reverſe. Where there are arbours or ſeats, with trellis work round them, theſe plants are very proper to train up againſt it; or where any walls or other fences require to be covered from the ſight, theſe plants are very proper for the purpoſe; but they are by no means proper for open borders, nor do they anſwer the expectation, when they are intermixed with ſhrubs; for unleſs their branches have room to extend, they will not be productive of many flowers.

The ſort with double flowers is the moſt beautiful, and that ſhould be preferred to thoſe with ſingle flowers, of which a few only ſhould be planted for variety. They are all equally hardy, and are ſeldom injured by froſt, excepting in very ſevere winters, when ſometimes the very tender ſhoots are killed: but if theſe are cut off in the ſpring, the ſtems will put out new ſhoots.

3, 4, 5. Are alſo very hardy plants, and having climbing branches, may be diſpoſed in the ſame manner as the other: they are alſo propagated by layers, which will ſucceed, if performed at the ſame time, and in the ſame manner as is directed for them.

10, 17. The ſorts which are natives of the warmeſt parts of America, will not thrive in this country, uleſs they are preſerved in ſtoves; but as theſe are great ramblers and plants of no great beauty, they are ſeldom preſerved in Europe, but in botanic gardens for the ſake of variety. Theſe may be propagated by layers, in the ſame manner as the other ſorts; or may be raiſed from ſeeds, obtained from the countries where they naturally grow; but theſe muſt be treated in the ſame manner as other exotic plants from the ſame country.

11. β. 12. Have no more beauty than the common ſort, and are ſeldom preſerved in gardens, unleſs for the ſake of variety. They are both as hardy as that, and may be propagated either by ſeeds or laying down their branches.

14, 14. β. 15. Have perennial roots, which multiply pretty faſt, but their ſtalks die down every autumn, and new ones ariſe in the ſpring, in which particular they differ from the other ſpecies, and therefore they require different management, and are propagated in a different manner.

Theſe plants are propagated either by ſeeds, or parting their roots; but the former being a tedious method (the plants ſeldom riſing until the ſecond year after ſowing, unleſs the ſeeds are ſown in the autumn ſoon after they are ripe, and are often two years more before they flower,) the latter is generally practiſed. The beſt ſeaſon for parting theſe roots is in october or february; either juſt before their branches decay, or before they riſe again in the ſpring.

They will grow almoſt in any ſoil or ſituation; but if the ſoil is very dry, they ſhould always be new planted in the autumn, otherwiſe their flowers will not be ſo ſtrong; but if the ſoil be wet, it is better to defer it until the ſpring. The roots may be cut through their crowns with a ſharp knife, obſerving to preſerve to every offset ſome good buds or eyes; and then it matters not how ſmall you divide them, for their roots increaſe very faſt: but if you part them very ſmall, you ſhould let them remain three or four years before they are again removed, that their flowers may be ſtrong, and their roots multiplied in eyes, which in leſs time cannot be obtained.

Theſe plants are extremely hardy, enduring the cold of our ſevereſt winters in the open air, and are very proper ornaments for large gardens, either to be planted in large borders, or intermixed with other hardy flowers in quarters of flowering ſhrubs; where, by being placed promiſcuouſly in little open places, they fill up thoſe ſmall vacancies, and are agreeable enough. They begin to flower about the beginning of june, and often continue to produce freſh flowers until auguſt, which renders them valuable, eſpecially ſince they require very little care in their culture; for their roots may be ſuffered to remain ſeveral years undiſturbed, where there is no want to part them, which will not in the leaſt prejudice them.

[CLEMATIS. See *Atragene, Baniſteria, Bauhinia, Bignonia, Ciſſampelos, Ophioxylum, Paſſiflora, Paullinia, Plumeria, Strychnos, Vinca.*

CLEMATITIS. See *Ariſtolochia, Bauhinia, Clematis, Eupatorium.*]

CLEOME. (*From* κλείω, *claudo, to cloſe or ſhut up. Linneus adopted the name from Theod. Priſcianus, called alſo Octavius or Octavianus Horatius, who lived at the end of the fourth century. A medical work of his was publiſhed in* 1532 *and* 1547.)

Lin. gen. n. 826. *Reich.* 890. *Schreb.* 1099. *Gærtn. t.* 76. *Juſſ.* 243. Sinapiſtrum. *Tournef.* 116.

Claſſ. 15. 2. Tetradynamia Siliquoſa.

Nat. order of *Putamineæ. Capparides* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved, very ſmall, ſpreading; the lower leaflet gaping more than the reſt: deciduous.

COR. four-petalled: all the petals aſcending, ſpreading; the neareſt intermediate ones ſmaller than the others.

Nectareous glands three, roundiſh, one at each diviſion, except one at the calyx.

STAM. *Filaments* ſix (ſometimes twelve or twenty-four) ſubulate, declining. *Anthers* lateral, aſcending.

PIST. *Style* ſimple. *Germ* oblong, declining, the length of the ſtamens. *Stigmas* thickiſh, riſing.

PER. *Silique* long, cylindric, placed on the ſtyle, one-celled, two-valved.

SEEDS very many, roundiſh.

OBS. *In ſome ſorts the germ is pedicelled, and the ſtamens ſit on a pedicel next the germ, as in the claſs* Gynandria. *Others have more ſtamens than ſix.*

ESSENTIAL CHARACTER.

Nectareous glands three, at each ſinus of the calyx, except the loweſt. *Petals* all aſcending. *Silique* one-celled, two-valved.

SPECIES.

[1. Cleome fruticoſa. *Shrubby Cleome.*
Lin. ſpec. 937. *Reich.* 3. 291. *Burm. ind. t.* 46. *f.* 3.
Stroemia tetrandra. *Vahl. ſymb.* 1. 20.
Flowers gynandrous four-ſtamened; leaves ſimple; ſtem ſhrubby.]

2. Cleome heptaphylla. *Seven-leaved Cleome.*
Lin. ſpec. 937. *ſyſt.* 604. *Reich.* 3. 291. *Swartz obſ.* 252.
C. Erucago. *Mill. dict. n.* 6.
Sinapiſtrum. *Burm. zeyl.* 215. 3. *Herm. lugdb.* 564. *Sloan. jam.* 1. 194. 4.
Pentaphyllum. *Mor. hiſt.* 2. 288. 2.
β. Sinap. indicum majus quinquefolium aſperum. *Raii ſuppl.* 418. 4.
Flowers gynandrous; leaves with about ſeven leaflets; ſtem prickly.

3. Cleome pentaphylla. *Five-leaved Cleome.*
Lin. ſpec. 938. *Reich.* 3. 291. *hort. cliff.* 341. 1. *upſ.* 193. *fl. zeyl.* 239. *Jacqu. hort.* 1. *t.* 24. *Lour. cochinch.* 397.
Sinapiſtrum. *Herm. lugdb.* 564. *Sloan. jam.* 1. 294. 5.
Pentaphyllum.

Pentaphyllum. *Mor.* 2. 288. 1. *Park. theat.* 396. *n.* 3. 397. *f.* 3. *Raii hiſt.* 859. 2.
Quinquefolium lupini folio. *Bauh. pin.* 326.
Cara-veela. *Rheed. mal.* 9. 43. *t.* 24. *Raii ſuppl.* 420.
Flowers gynandrous; leaves quinate; ſtem unarmed.

4. Cleome triphylla. *Three-leaved Cleome.*
Lin. ſpec. 938. *Reich.* 3. 292.
Sinapiſtrum. *Herm. lugdb.* 564. *t.* 565. *Raii ſuppl.* 419. *n.* 1.
Flowers gynandrous; leaves ternate; ſtem unarmed.

[5. Cleome juncea. *Ruſhy Cleome.*
Lin. ſyſt. 605. *ſuppl.* 300. *Sparrm. in act. upſ. nov.* 3. 192.
Leafleſs; flowers gynandrous, eight-ſtamened, corymbs lateral, genitals elongated, ſilique linear tomentoſe; ſtem ſhrubby.

6. Cleome polygama.
Lin. ſpec. 939. *Reich.* 3. 292. *Brown. jam.* 273.
Sinapiſtrum. *Sloan. jam.* 1. 194. 6. *t.* 124. *f.* 1.
Upper flowers four-ſtamened male; leaves ternate, leaflets ſeſſile ſomewhat prickly on the edge.

7. Cleome Chelidonii.
Lin. ſyſt. 605. *ſuppl.* 300.
Flowers many-ſtamened; leaflets in fives or ſevens wedge-form rugged; racemes terminating; ſiliques filiform.

8. Cleome felina.
Lin. ſyſt. 605. *ſuppl.* 300.
Flowers many-ſtamened, axillary, ſolitary, peduncled; leaves ternate wedge-form ſtrigoſe; ſiliques linear compreſſed.

9. Cleome icoſandra.
Lin. ſpec. 938. *Reich.* 3. 292. *fl. zeyl. n.* 240. *Lour. cochinch.* 398.
Sinapiſtrum. *Burm. zeyl.* 215. *t.* 99.
Laganſa. *Rumph. amb.* 5. *t.* 96. *f.* 3.
Flowers icoſi-tetrandrous; leaves quinate.]

10. Cleome viſcoſa. *Viſcid Cleome.*
Lin. ſpec. 938. *Reich.* 3. 293. *mant.* 430. *fl. zeyl. n.* 241. *Willich. obſ.* 114. *p.* 65.
Sinapiſtrum. *Mart. cent.* 25.
Aria-veela. *Rheed. mal.* 9. 41. *t.* 23.
Flowers twelve-ſtamened; leaves quinate and ternate.

[11. Cleome dodecandra. *Twelve-ſtamened Cleome.*
Lin. ſpec. 939. *ſyſt.* 605. *Reich.* 3. 293. *fl. zeyl. n.* 242.
Sinapiſtrum. *Burm. zeyl.* 216. *t.* 100. *f.* 1.
Flowers twelve-ſtamened; leaves ternate.

12. Cleome gigantea. *Gigantic Cleome.*
Lin. ſyſt. 605. *Reich.* 3. 293. *mant.* 430. *Jacqu. obſ.* 4. 1. *t.* 76.
Flowers ſix-ſtamened; leaves in ſevens; ſtem unarmed.

13. Cleome aculeata. *Prickly Cleome.*
Lin. ſyſt. 605. *Reich.* 3. 294.
Flowers ſix-ſtamened; leaves ternate quite entire; ſtipules ſpineſcent.]

14. Cleome ſpinoſa. *Thorny Cleome.*
Lin. ſpec. 939. *Reich.* 3. 294. *Jacqu. amer.* 190. 3. *pict.* 93. *Swartz obſ.* 252. *Brown. jam.* 273. *n.* 1.
Tareriaya. *Marcgr. braſ.* 33. *t.* 34.
Flowers ſix-ſtamened; leaves in ſevens and fives; ſtem thorny.

[15. Cleome ſerrata. *Serrate-leaved Cleome.*
Lin. ſpec. 939. *Reich.* 3. 294. *Jacqu. amer.* 190. *t.* 180. *f.* 43. (a leaf only.)
Flowers ſix-ſtamened; leaves ternate, leaflets linear-lanceolate ſerrate.]

16. Cleome ornithopodioides. *Bird's-foot Cleome.*
Lin. ſpec. 940. *Reich.* 3. 294. *hort. cliff.* 341. 4. *upſ.* 194.
Sinapiſtrum. *Tourn. cor.* 17. *Dill. elth.* 359. *t.* 266. *f.* 345. *Buxb. cent.* 1. 6. *t.* 9. *f.* 24.
Flowers ſix-ſtamened; leaves ternate, leaflets oval-lanceolate.

[17. Cleome violacea. *Violet-coloured Cleome.*
Lin. ſpec. 940. *ſyſt.* 605. *Reich.* 3. 295. *hort. cliff.* 341. 3. *Gærtn. fruct.* 1. 368. *t.* 76. *f.* 6. *Riv. tetr. t.* 75. *f.* 2. (Sinapiſtrum.)
Trifolium ſiliquoſum, fl. violaceo luſitanicum. *Barr. ic.* 866.
β. Sinapiſtrum peregrinum alterum, fl. luteo. *Barr. ic.* 865.
Flowers ſix-ſtamened; leaves ternate and ſolitary, leaflets lanceolate-linear quite entire.

18. Cleome arabica.
Lin. ſyſt. 606. *Reich.* 3. 295. *dec.* 3. *t.* 8.
Sinapiſtrum. *Shaw. afr. f.* 557.
Flowers ſix-ſtamened; leaves ternate lanceolate obtuſe; ſiliques fuſiform viſcid-ſcabrous.]

19. Cleome monophylla.
Lin. ſpec. 940. *Reich.* 3. 295. *fl. zeyl. n.* 243.
Sinapiſtrum. *Burm. zeyl.* 217. *t.* 100. *f.* 2.
Tsjeru-veela. *Rheed. mal.* 9. 63. *t.* 34.
Flowers ſix-ſtamened; leaves ſimple ovate-lanceolate petioled.

[20. Cleome capenſis.
Lin. ſpec. 940. *Reich.* 3. 296.
C. juncea. *Berg. cap.* 104.
Flowers ſix-ſtamened; leaves ſimple ſeſſile linear-lanceolate; ſtem angular.

21. Cleome procumbens.
Lin. ſyſt. 606. *Reich.* 3. 296. *Jacqu. amer.* 189. *t.* 120. *ed.* 2. *pict.* 93. *t.* 181. *Brown. jam.* 273. *n.* 2. *Swartz obſ.* 253. *Sloan. jam.* 1. *t.* 123. (Leucoium.)
Flowers ſix-ſtamened; leaves ſimple lanceolate petioled; ſtems procumbent.

22. Cleome tenella.
Lin. ſyſt. 606. *ſuppl.* 300. *Retz. obſ.* 4. 28. *n.* 91.
Sinapiſtrum. *Pluk. phyt. t.* 224. *f.* 3.
Flowers ſix-ſtamened; leaves ternate filiform linear.

23. Cleome filifolia.
Vahl ſymb. 1. 48. *Forſk. ægypt.* 120. *n.* 71.
Flowers ſix-ſtamened, leaves lower ſeptenate, upper ternate.

DESCRIPTIONS, &c.

1. Stem fruteſcent, round, branching. Leaves oval-oblong, quite entire, ſmooth, petioled, alternate. Racemes terminating, ſimple. Calyxes four-leaved, ſpreading, ovate-lanceolate. Petals roundiſh, with oblong claws. Germ on a very long pedicel, in the middle of which are four ſtamens, the two lower frequently united at the baſe. Anthers oval. Silique oblong.—Native of India[a].

2. Stem herbaceous, from three to five feet high, branched, upright, angular-grooved: branches ſubdivided, ſpreading, grooved, hirſute, viſcid, prickly. Leaves alternate, ſcattered, ſpreading, digitate: leaflets lanceolate, acuminate, nerved, patulous, pubeſcent: petiolules in the centre, ſhort, round, hirſute: the outer leaflets largeſt and gradually ſmaller to the inmoſt: common petioles longer, erect, round, ſtriated, hirſute, viſcid. Prickles in pairs, oppoſite, thick, ſhort, at the baſe of the petioles. Flowers terminating in long looſe ſpikes. Bractes cordate-roundiſh (creſcent-ſhaped, *Linn. ſyſt.*) ſeſſile, entire, pubeſcent, white, ſeparating the flowers. Peduncles longiſh (two inches long, *Miller*) round, pubeſcent. Leaflets of the calyx linear-lanceolate, acute, patulous, convex, pubeſcent, two of them a little longer. Petals with claws, reflex, erect, contiguous, oblong, concave, entire, white: (Miller ſays, large and fleſh-coloured.) Filaments ſix, longer than the corolla, bent down, patulous, red-purple: anthers long, erect, linear, brown. Germ pedicelled, linear, quadrangular, green; without any ſtyle: ſtigma obtuſe, black[b].] Silique or pod thick, tapering, five inches long, hanging down. It is an annual plant, and was ſent to Mr. Miller by Dr. Houſtoun from Jamaica; where he found it growing in great plenty. [It muſt have been cultivated therefore by Mr. Miller before 1748. It flowers in june and july, and is ſuppoſed to be a native alſo of the Eaſt Indies. Mr. Miller adds Egypt.

3. This is an annual, elegant but fetid plant, upright, either wholly ſmooth or with a few hairs at bottom; the ſtem round and branching. Leaves on the ſtem and branches all quinate; the leaflets obo-

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[a] Linn. ſpec.

[b] Swartz.

vate, acute, very finely ſerrate: floral leaves ternate, obovate, obtuſe, quite entire; the loweſt on ſhort petioles, the reſt ſeſſile. Raceme (or ſpike) of flowers very long, formed by ſolitary, ſpreading, one-flowered peduncles iſſuing from ſome of the axils. Leaflets of the calyx lanceolate. Petals white or fleſh-coloured. The germ is placed on a long ſlender purple pedicel, round which are ſix ſtamens, concolor and equal. Silique rough with rigid, blunt, very ſhort hairs, and appearing to be dotted[c].

According to Loureiro, the ſtem is unarmed, ſimple, two feet high, of a duſky red colour, with diffuſed branches. The common petiole long. Leaflets oval, tomentoſe, ſeſſile, the uppermoſt larger than the reſt. Leaflets of the calyx oblong, erect. Petals rounded, unequal, with long, filiform claws. Anthers oblong, erect. Style none. Stigma lenticular, retuſe. Silique three inches long, ſubulate-cylindric, wrinkled. Seeds kidney-form, wrinkled, in ſix rows. He refers to t. 96 f. 2. of Rumphius; and p. 216. 1. Burm. zeyl.

Native of both Indies, Cochinchina, *&c.*] Mr. Miller ſays, that it grows naturally in Aſia, Africa, and America; that he received the ſeeds from Aleppo, the coaſt of Guinea, and in the earth which came from the Weſt Indies with other plants.

[It was cultivated in 1640 by Parkinſon; and flowers in june and july[d]]

4. This is an annual plant which riſes two feet high, ſending out many ſide branches, with leaves, having one large ſpear-ſhaped lobe in the middle, and two very ſmall ones on the ſide; theſe ſit cloſe to the branches. The flowers come out ſingly from the ſide of the branches, upon long peduncles: they have four large fleſh-coloured petals, and ſix ſtamens, which ſtand out beyond the petals; when the flowers fade, the germ which ſits upon the ſtyle becomes a taper pod four inches long.

[That this and the two foregoing, ſays Linneus, were originally the offspring of the ſame plant, is evident, from the floral leaves in all being ſeſſile; from the flowers being gynandrous and having ſix ſtamens; the petals aſcending; the ſiliques pedicelled; and their habit the ſame: they are therefore hardly diſtinct ſpecies.]

It was ſent to Mr. Miller from Jamaica, by Dr. Houſtoun, in the year 1730.

5. Stem from a foot to two feet in height, hardly the thickneſs of a gooſe-quill. Branches rigid like ſpines, commonly ending ſharply, greeniſh, round, ſpreading, ſmoothiſh. Leaves ſcarcely any, but rather minute ſcales coming out here and there on the ſtem and branches. Flowers in a corymb; common peduncle very ſhort; partial peduncles filiform, from half an inch to an inch in length, round, ſomewhat woolly, yellowiſh. Leaflets of the calyx ſpreading a little, ſuborbiculate, concave, a quarter of an inch in length, and almoſt equal; the two outer ones however are a little larger: they are all of a dirty yellow, ſmooth within, but ſomewhat rugged on the outſide with crowded glands: there are alſo ſome pedicelled glands at the periphery of the leaves. Corolla none, unleſs the calyx be rather regarded as ſuch. Nectary ſhort, tubular, two-lipped, faſtened by the ſide to the baſe of the piſtil: upper lip very ſhort, ſubgaleate, ſometimes entire, ſometimes toothed; lower lip more prominent, aſcending, either ſharpiſh and entire, or truncate-toothed: there is a depreſſion or channel in the tube on the outſide and at top. Piſtil permanent, lengthened out to an inch and half, the whole tubular, a third part of it at top ſtaminiferous. Stigma oblong. Filaments half an inch long, in a whorl on the ſtyle. Anthers from erect incumbent. Seeds blackiſh, orbiculate, ſomewhat compreſſed, in a double row, and each as it were in its proper cell.

Native of the Cape of Good Hope, and found there near the Black river by Andr. Sparrman, M. D.[e]

6. Stem erect, ſomewhat gloſſy, and a little branched. Leaves on long petioles; leaflets ovate-lanceolate. Racemes long; the loweſt flower fertile, the others minute, male. Silique ſeſſile within the calyx[f].

It is ſimple, and ſeldom riſes above twenty or twenty-five inches.—Native of Jamaica, in moiſt bottoms[g].

7. Leaves on long petioles, digitate. Calyx three or five-parted, ſtrigoſe. Corolla red, ſhaped like that of *Chelidonium hybridum*. Stamens yellow. Silique filiform, very ſmooth. Seeds hiſpid.—This ſpecies has certainly a great affinity to *Chelidonium*, were it not for the digitate leaves, more than two leaves to the calyx, and five petals to the corolla.

König found it near Tanſchaur, in the Eaſt Indies[h].

8. The whole herb, together with the calyx, is ſtrigoſe. Leaves ſubretuſe. Corolla angular, ſmall, red. Siliques ſhort, ſmooth.—This ſmall plant is ſingular with its hiſpid leaves; the hairs very much dilated at the baſe, very ſtiff, preſſed cloſe to the leaves, pointing towards the extremity; ſo as exactly to reſemble a cat's tongue.—Found in Ceylon, by König[i].

9. Stem herbaceous, annual, two feet high, erect, round, unarmed, ſtriated, viſcid-hairy: branches aſcending. Petiole long. Leaflets ovate-lanceolate, rough, ſeſſile, quite entire. Flowers axillary, ſolitary. All the parts, except the petals and ſtamens, have viſcid teats on them. Calyx bell-ſhaped, with lanceolate leaflets. Corolla bell-ſhaped; petals ovate-oblong, almoſt equal, longer than the calyx. Filaments eighteen to twenty-two (or twenty-four), ſhort, equal, placed on a flattiſh receptacle: anthers ſubulate, recurved. Style thick, ſhort: ſtigma obtuſe. Silique ſubulate, ſlender, obliquely ſtriated. Seeds kidney-ſhaped.

Native of the Eaſt Indies and Cochinchina.

This and *C. pentaphylla* have not the ſtamens as in the claſs Tetradynamia, they have not the nectareous glands, nor are the petals aſcending[k].

10. Stem erect, a foot high, ſimple, round, ſtriated, villoſe, viſcid, (often red). Leaves alternate, viſcid, villoſe; petiole an inch long; leaflets unequal, ſubrhomboid, quite entire, nerved underneath. Flowers axillary, peduncled, at the top of the plant. Leaflets of the calyx erect at bottom, ſpreading a little at top, lanceolate, equal, all gaping regularly. Petals yellow, lanceolate-ovate, from erect ſpreading and ſometimes revolute, equal, two more diſtant than the others. Stamens eight or nine to thirteen, from the receptacle not from the germ, unequal. Silique two or three inches long, ſtriated, villoſe. Seeds ſmall, compreſſed, with a netted ſurface[l].

The leaves are all quinate, except the uppermoſt, which are ternate; both theſe and the flowers are ſmaller than in the foregoing ſpecies. The lower petals are more divaricated. It has from ten to fifteen ſtamens[m]. Burman ſuppoſed this not to be ſpecifically diſtinct from *C. icoſandra*.] It is an annual plant, native of the iſland of Ceylon, whence the ſeeds were brought to Holland, and ſent to Mr. Miller by Boerhaave, in 1739.

[11. Stem and ſiliques viſcid-pubeſcent. Leaflets elliptic, even, the middle one largeſt. Upper flowers uſually male. Calyx purpliſh. Petals white, emarginate. Stamens ten to fourteen. Siliques ſeſſile, erect, fuſiform, ſomewhat inflated[n].—Native of both Indies. Annual.

12. Stem two and even four yards in height, round, pubeſcent, erect, evergreen. Branches few, irregular, with ſcars. Leaves alternate, petioled; leaflets lanceolate, quite entire, pubeſcent, on the upper ſurface ſilky. Petioles longer than the leaves. Racemes terminating, erect, ſtiff, two feet in length. Pedicels remote, ſtanding out, glu-

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[c] Jacquin. [d] Hort. kew. [e] Sparrman.

[f] Linn. ſpec. [g] Browne. [h] Linn. ſuppl.
[i] Ibid. [k] Loureiro. [l] Willich. [m] Linn. mant.
[n] Linn. ſyſt.

tinous, longer than the flower, without bractes. Leaflets of the calyx linear, at bottom rather erect but ſpreading above. Petals oblong, wrinkled, green, cloſely cohering, except in front on account of the genitals: claws diſtinct, the length of the petal. Filaments equal, inſerted into the receptacle, longer than the petal: anthers erect, oblong, yellowiſh. Germ ſtipitate, ſtipe the length of the ſtamens: ſtigma ſeſſile, obtuſe. Receptacle of the fructification globular, exuding nectar into the claws of the petals.—This beautiful plant has a very burning taſte and ſtinking ſmell[o].

Native of South America. Introduced 1774 by Dr. Fothergill[p].

13. Stem herbaceous. Stipules in pairs, very ſhort, recurved. Leaflets elliptic-lanceolate, on long petioles. Floral leaves, at the baſe of the peduncle, ſimple. Flowers ſolitary, peduncled, ſmall. Siliques columnar.—Obſerved in America, by Zoega[q].

14. Root annual. Stem herbaceous, a fathom high, upright, branched, hirſute, round, with prickles at the baſe of the branchlets. Branches ſubdivided, upright, angular, hirſute, prickly at the petioles. Prickles oppoſite, ſtrong, ſhort. Leaves petioled, digitate, alternate. Leaflets ſeven, (five or three), lanceolate, entire, nerved, ſlightly wrinkled, pubeſcent and ſomewhat viſcid. Petioles long, round. Spikes a foot in length, with a coma at the top. Bractes cordate, ſeſſile, obtuſe, ſcattered, approximating, nerved, pubeſcent. Flowers large, white, on ſolitary one-flowered peduncles, longer than the bractes. Leaflets of the calyx lanceolate-linear, concave. Petals oblong, entire, with elongated claws, and a roundiſh gland at the baſe of each. Filaments ſix, unequally inſerted into the receptacle, almoſt of the ſame length, ſpreading, filiform, three times the length of the corolla, purple. Anthers erect, long, two-celled, yellow. Germ pedicelled, round, curved. Style none. Stigma obtuſe. Silique three or four inches long, round, toruloſe, ſomewhat hirſute, viſcid. Seeds oblong[r].

According to Linneus, the branches are divaricate. Leaves ſmoothiſh. Stipules in pairs, permanent and hardening into thorns. Stamens longer than the flower, but not gynandrous.—Native of the Weſt Indies.] Sent to Mr. Miller from the Havannah, in the year 1731, by Dr. Houſtoun.

15. This is an annual upright plant, two feet in height. Racemes looſe, ſimple, terminating. Corolla white. Stamens tetradynamous. Silique round, three inches long.—Native of Carthagena in South America, in moiſt woods[s].

16. Stem round, ſtraight, from a foot to two feet in height, pale green, with ſhort ſtiffiſh rough hairs. Leaves ſtrong-ſmelling, on a rough petiole half an inch in length; leaflets commonly bent back, of a pale glaucous hue on both ſides, ſmooth in appearance, but roughiſh to the touch, having numerous ſhort hairs along the edge; ſcarcely perceptible except in the younger leaves: from the axils of theſe there are other ſmaller ones. From the upper axils come out ſingly ſmall yellow flowers, on ſlender peduncles ſpreading horizontally. Stamens ſix, bent in: anthers ſmall, ſaffron-coloured. Silique ſubhirſute, appearing jointed when ripe, like the legume of *Ornithopus*, whence the trivial name[t].

It is an annual plant, flowering in june and july; a native of the Levant, and was cultivated in 1732, by James Sherard, M.D.[u]

17. This is a viſcid and pubeſcent plant. The leaflets nearly equal. The floral leaves ſimple. The peduncles even. The calyx yellow with purpliſh tips. The two upper petals dark purple with yellow dots; the two lateral cordate, unguiculate, crenate, concolor. Anthers purpliſh. Receptacle above the ſtamens with three yellow globular glands. Stamens and piſtil declining[x].

Gærtner calls the ſeed-veſſel a ſiliquoſe capſule, ſubpedicelled, oblong, obtuſe, compreſſed like a lens, villoſe. Seeds twelve or more, ſubgloboſe, with a little pit on each ſide, acuminate towards the navel, ſmooth, of a ruſty red colour.

Native of Portugal. Annual. Flowering in june and july. Introduced 1776, by M. Thouin[y].

18. This is an annual viſcid and ſcabrous plant, two feet high. Petioles the length of the leaves. Leaflets ſeſſile, ſcabrous underneath. Floral leaves ſimple. Petals yellow, with purple tips. Siliques nodding, ſubdiaphanous. Seeds hirſute[z]. Native of Arabia.]

19. This is an annual plant, with an herbaceous ſtalk a foot and half high. Leaves long, narrow, alternate. Peduncles axillary, ſolitary, one-flowered. Corolla yellow. Silique ſlender, taper.

[Stem erect, viſcid-hairy. Stamens long, very ſlender. Siliques linear, not jointed[a].

20. Stem ſimple, ſtiff and upright, reſembling that of *Epilobium*. Leaves like thoſe of *Broom*, ſtiff, ſtraight and ſmooth. Flowers corymbed, as in *Epilobium*[b].

It is thus deſcribed by Bergius, if his plant be the ſame with Linneus's.—Stem herbaceous, erect, round, ſtriated, ſmooth, more than a foot high: branches alternate, ſimple, long, upright. Leaves alternate, linear, obtuſe, fleſhy. Flowers in thin racemes, on alternate, one-flowered pedicels. Leaflets of the calyx ovate, ſharpiſh, equal, permanent. Petals wedge-ſhaped, blunt, narrowed gradually downwards, upright, equal, ſeveral times longer than the calyx, purple-fleſh-coloured, with linear, ſhort, yellowiſh claws. Seed-veſſel a cordate capſule, two-celled, two-valved. Native of India and the Cape of Good Hope.

21. Stem herbaceous, ſix inches high, ſuffruteſcent, branched, ſmooth: branches ſomewhat erect, ſubdivided, ſmooth. Leaves alternate, ſmall, acute, ſmooth. Flowers axillary, peduncled, ſolitary. Peduncles longer than the petioles, one-flowered, purple. Corolla yellow, turning to orange or red. Leaflets of the calyx lanceolate, acute. Petals oblong, patulous, entire, with claws. Filaments equal, the length of the petals: anthers blackiſh, ovate, revolute, two-celled. Germ ſubpedicelled, acuminate, compreſſed: ſtyle ſubulate, thick: ſtigma obtuſe ſimple. Silique pedicelled, erect, ſubtoruloſe. Seeds echinate, black.——Native of Jamaica and Hiſpaniola, in dry ſand; flowering in november[c].

22. A plant of a ſpan in height, branching, erect. Leaflets ſeſſile, the length of the petals. Siliques linear[d]. Retzius adds, that the leaflets are longer than the petioles; the end one longer than thoſe on the ſide. Pedicels ſolitary, in the ripe ſilique equalling the petioles in length. Corolla yellow.——Found by König abundantly in dry ſandy ſoil, in the Eaſt Indies. It is an annual plant, as moſt of the others are.

23. Stem erect, weak, herbaceous, a foot high, branched, ſtriated, towards the top dotted with raiſed, minute, ſcattered dots. Petioles ſhorter than the leaves. Siliques a finger's length pedicelled, a little bent in at the top and narrower. It agrees with *C. tenella* in the form of the leaves, but differs in their number, in the height and weakneſs of the ſtem, in the ſilique being pedicelled, drawn to a point at the end and pendulous, and the ſtem being dotted[e].]

PROPAGATION AND CULTURE.

Moſt of theſe plants are natives of very warm countries, and will not thrive in England without artificial heat; therefore their ſeeds muſt be ſown upon a good hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be planted in ſeparate ſmall pots, filled with freſh light earth, and plunged into a freſh hot-bed, obſerving to ſhade them until they have taken freſh root; after which they ſhould have air admitted to them every day in proportion to the warmth of the ſeaſon, and their waterings ſhould be frequently repeated, but not given in too great plenty; when the plants have filled theſe ſmall pots with their roots, they ſhould be put into larger, and plunged again into a hot-bed to bring them forward; and in July, when they are too tall to remain longer in the hot-bed, they ſhould be removed into an airy glaſs-caſe, where they may be ſcreened from cold and wet, but in warm weather may enjoy the free air. With this management the plants will flower ſoon after, and perfect their ſeeds in autumn.

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[o] Linn. mant.
[p] Hort. kew.
[q] Linn.
[r] Swartz.
[s] Jacquin.
[t] Dillenius.
[u] Hort. kew.
[x] Linn. ſyſt.
[y] Hort. kew.
[z] Linn. ſyſt.
[a] Linn. zeyl.
[b] Linn. ſpec.
[c] Swartz.
[d] Linn. ſuppl.
[e] Vahl.

6. If the ſeeds of this are ſown in autumn the plants will flower in June, and their ſeeds will ripen in auguſt, but thoſe which are ſown in the ſpring do not flower till July; ſo that unleſs the ſeaſon proves favourable the ſeeds will not ripen: if the ſeeds of this ſort are permitted to ſcatter, the plants will come up without care, and require only to be thinned and kept clean from weeds, for they will not bear tranſplanting.

CLEONIA. (*Probably adopted by Linneus* (*gen. edit.* 6.) *from* Cleonicium *of Pliny, and* Κλεωνικιον *of Dioſcorides.*)
Lin. gen. n. 736. *Reich.* 794. *Schreb.* 991. *Gærtn. t.* 66. Brunella. *Lamarck & Juſſ.*
Claſſ. 14. 1. Didynamia Gymnoſpermia.
Nat. order of *Verticillatæ. Labiatæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubular, angular, two-lipped: *upper lip* flattiſh, broad, three-toothed—*lower* two-parted, ſhort.

COR. one-petalled, ringent. *Upper lip* ſtraight, bifid, keeled—*lower* trifid; the middle ſegment two-lobed, the ſide ones ſpreading.

STAM. *Filaments* four, forked at the end; the two lower longeſt. *Anthers* ſitting on the outer apex of the filaments, croſſed in pairs.

PIST. *Germ* four-parted. *Style* filiform, the length of the ſtamens. *Stigmas* four, ſetaceous, equal.

PER. none. *Calyx* cloſed with hairs.

SEEDS four, nearly columnar, ſmooth.

OBS. *This genus differs from all others of this order in having four ſtigmas.* (*Stigma quadrifid.* Gærtn.)

ESSENTIAL CHARACTER.

Filam. forked, with an anther at one of the tips. *Stigma* four-cleft.

SPECIES.

1. Cleonia luſitanica. *Sweet-ſcented Cleonia.*
Lin. ſpec. 837. *ſyſt.* 548. *Reich.* 3. 102. *mant.* 414. *Loefl. itin.* 148. *Mill. fig. t.* 70. *f.* 1. *Barr. ic.* 561. *Mor. hiſt.* 3. 363. (Prunella) & 391. *f.* 11. *t.* 5. *f.* 4. *Corn. canad.* 46. *t.* 47. (Bugula). *Gærtn. fruct.* 1. 318. *t.* 66. *f.* 7.

DESCRIPTION, &c.

[Stem erect, brachiate, in the lower part hairy. Upper lip of the corolla erect, the ſegments reflected at the end; lower obcordate, complicate-ſpreading, gibbous on the upper ſide of the baſe. All the filaments thorny. Anthers creſted at the back[a]. Seeds roundiſh, turgidly lens-ſhaped, mucronate at the baſe, rufeſcent, with a white navel ſhaped like the letter y, lodged in the ventricoſe, ſtriated calyx, cloſed at the mouth with a white nap[b]. It differs little from Prunella except in its four-cleft ſtigma, and laciniate bractes[c].]

It is an annual plant, native of Spain and Portugal. [Cultivated by Mr. Miller, in 1756.]

PROPAGATION AND CULTURE.

Sow the ſeeds in the autumn, and the plants will come up the following ſpring. When they are fit to tranſplant, they may be removed to a border, where they will flower and produce ſeeds. They do not take much room, and they require little culture. Seeds ſown in the ſpring frequently lie a whole year before they vegetate.

[CLERODENDRUM. [From κλῆρος, lot, chance or fortune, and δένδρον, a tree. *Fortunate Tree.*)
Lin. gen. n. 789. *Reich.* 852. *Schreb.* 1057. *Gærtn. t.* 57. *Juſſ.* 106. *Burm. zeyl. t.* 29. *p.* 67.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ. Vitices* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted, bell-ſhaped: ſegments ovate-acute, broader than the tube of the corolla, permanent.

COR. one-petalled, irregular: *tube* ſlender, long: *border* (funnel-form, *Gærtn.*) five-parted, equal; the upper ſegments more deeply ſeparated.

STAM. *Filaments* four, filiform, much longer than the corolla, aſcending through the upper fiſſure of the corolla; two of them ſhorter. *Anthers* ſimple.

PIST. *Germ* roundiſh. *Style* form, length and ſituation of the ſtamens. *Stigma* ſimple, (bifid).

PER. *Drupe* (*Berry*) roundiſh, placed on a large calyx. (*Berry* one-celled, four-ſeeded, often ſplitting into four parts.)

SEED one, roundiſh. (Seed one in each ſtone, which is one-celled, convex and wrinkled on one ſide, angular and ſmooth on the other: the ſeed is of the ſame ſhape, G.)

ESSENTIAL CHARACTER.

Cal. five-cleft, bell-ſhaped. *Cor.* with a filiform tube, and a funnel-ſhaped, five-parted, equal border. *Stam.* very long, gaping very much between the ſegments. *Berry* one-ſeeded. (One-celled, four-ſeeded, often ſplitting into four parts when ripe, G.)

SPECIES.

1. Clerodendrum infortunatum.
Lin. ſpec. 889. *Reich.* 3. 197. *fl. zeyl. n.* 232. *Burm. ind.* 137. *Gærtn. fruct.* 271. *t.* 57. *Lour. cochinch.* 387.
Petaſites agreſtis. *Rumph. amb.* 4. 108. *t.* 49.
Peragu. *Rheed. mal.* 2. 41. *t.* 25. *Raii hiſt.* 1571.
β. C. fol. lato & acuminato. *Burm. zeyl.* 66. *t.* 29.
Leaves cordate tomentoſe.

2. Clerodendrum fortunatum. *Entire-leaved Clerod.*
Lin. ſpec. 889. *Reich.* 3. 198. *amæn.* 4. 320. *Oſb. itin.* 228. *t.* 11. *Burm. ind.* 137.
Leaves lanceolate quite entire.

3. Clerodendrum Phlomidis.
Lin. ſyſt. 578. *ſuppl.* 292. *Vahl ſymb.* 2. 74.
Volkameria multiflora. *Burm. ind.* 137. *t.* 45. *f.* 1.
Leaves ovate toothed and angular, peduncles axillary ſubtriflorous.

4. Clerodendrum calamitoſum.
Lin. ſyſt. 578. *Reich.* 3. 198. *mant.* 90.
Volkameria alternifolia. *Burm. ind.* 137. *t.* 44.
Leaves oval ſomewhat toothed naked.

5. Clerodendrum paniculatum.
Lin. ſyſt. 578. *Reich.* 3. 198. *mant.* 90. *Vahl ſymb.* 2. 74.
Leaves five-lobed toothletted ſmooth, panicle brachiate, axils woolly.

6. Clerodendrum trichotomum.
Lin. ſyſt. 578. *Thunb. jap.* 256. *Kæmpf. amæn.* 5. 827. *ic. ſelect. t.* 22.
Leaves lobed and undivided broad-ovate entire, panicle trichotomous.

7. Clerodendrum ſquamatum.
Vahl ſymb. 2. 74.
Leaves cordate obſcurely angular, branches of the panicle dichotomous ſmooth.

8. Clerodendrum diverſifolium.
Vahl ſymb. 2. 75.
Leaves entire and three-lobed ovate, branches of the panicle dichotomous villoſe, pedicels racemed.

DESCRIPTIONS, &c.

1. This is a tree (or rather ſhrub) with ſubtomentoſe branches. Leaves oppoſite, acute, veined, ſomewhat ſcabrous, large, quite entire; petioles the length of the leaves. Panicle terminating, peduncles brachiate, dichotomous. Calyx wide, divided deeply into five oblong, acuminate, equal ſegments.

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[a] Linn. mant. [b] Gærtner. [c] Juſſieu.

Border of the corolla ſhort; ſegments obovate. Anthers oblong. Stigma bifid[d].

It is deſcribed by Loureiro as upright, and ſeven feet high, with quadrangular, four-grooved branches. Leaves broad-ovate, acuminate, ſubcrenate, hairy, wrinkled. Flowers in a vaſt, terminating, racemed corymb. The peduncle and all the parts of the flower are of a bright ſcarlet colour. Anthers nodding, emarginate at the baſe. Stigma acute, bifid.

The fruit, according to Gærtner, is a ſucculent berry, covered by the triangular, three-nerved ſegments of the calyx, ſubglobular, flatted a little, with a croſs-ſhaped groove at the top. Skin very thin, ſmooth and ſhining, not opening; pulp ſoft, vaniſhing by age. There are four ſtones incloſed, which are ſomewhat of a bony texture.

Native of the Eaſt Indies, and China.

2. This is a hoary ſhrub. Leaves oppoſite, naked, petioled, decurrent a little along the petioles. Peduncles axillary, dichotomous, ſhorter than the leaves. Calyxes ſpreading[e].

Native of the Eaſt Indies. Introduced 1789, by Meſſrs. Kennedy and Lee[f].

3. This is a hoary ſhrub. Leaves petioled, oppoſite, exactly ovate, ſerrate in the middle, with very few notches. Panicles on the top of the branches, axillary, ſolitary, oppoſite, few-flowered, dichotomous, jointly forming a large panicle. A pair of ovate entire bractes at each diviſion of it. Calyx cleft to the middle; ſegments ſubulate, bell-form, ſpreading; tube ſlender, white[g].

The leaves, according to Vahl, are ſharp at both ends, an inch long, quite entire, toothed or angular on the ſame branch, greeniſh-hoary. Petioles filiform, hoary, lax. Peduncles uſually three-flowered. Segments of the calyx lanceolate, acuminate.

Found in the Eaſt Indies, by König.

4. Leaves oppoſite, petioled. Panicle brachiate. Flowers rather leſs than in the other ſpecies.—Obſerved in Java, by Baſter[h].

5. Branches quadrangular, ſmooth, purple, with a groove along the ſides. Leaves petioled, oppoſite, a hand in length, the lower ones a ſpan long, five-lobed, cordate at the baſe, ſmooth on both ſides, remotely toothletted; lobes lanceolate, acute: petioles round, grooved, the ſize of a pigeon's quill: axils hirſute with long curling whitiſh hairs ſurrounding the ſtalk, as well as at the baſe of the branches of the panicle. Panicle terminating, half a foot in length: partial peduncles horizontal, oppoſite, ſmooth, many times dichotomous, the branchlets ſpreading out very much; the laſt pedicels capillary. Leaflets petioled, cordate-lanceolate at the baſe of the partial peduncles: ſubulate at the baſe of the branchlets. Calyx ſmooth, with lanceolate ſegments. Corolla an inch over; tube filiform; ſegments of the border oblong[i].

6. Stem ſhrubby; branches four-cornered, four-furrowed, ſmooth. Leaves oppoſite, petioled; the lower larger, three-lobed; the upper undivided; the uppermoſt very ſmall: all acuminate, ſmooth; deep green on the upper ſurface, paler underneath and nerved; a hand in length. Petioles ſubpubeſcent, an inch long. Panicle very large, ſuperdecompound, naked. Peduncles and pedicels ſmooth, compreſſed at the diviſion. Calyx inflated, contracted above, five-cornered, ſhrivelling but permanent, much wider and ſhorter than the corolla, ſmooth; ſegments keeled, acute, erect. Tube of the corolla a little bent; ſegments of the border oblong, obtuſe, ſpreading, white. Filaments inſerted into the tube of the corolla within the throat, whitiſh, divaricated at bottom. Anthers cordate-ovate. Germ four-cornered, ſmooth. Style longer than the ſtamens. Stigma truncated. The fruit is an almoſt globular capſule, which is four-furrowed, ſmooth, incloſed within the large calyx, four-celled and four-valved. There is one ſmooth ſeed in each cell. The leaves have a ſtrong poiſonous ſmell like Mandragora.—Near Nagaſaki, *&c.* in Japan; flowering in auguſt and ſeptember[k].

7. Branches quadrangular, ſmooth, with four grooves. Leaves two inches and more in length; with a deep ſinus at the baſe, little acuminate, three or five-nerved, with aſcending nerves, tender, ſmooth, ſcarce toothletted, ſometimes ciliate with very minute hairs, covered underneath with very minute orbicular ſcales: petioles ſhort, a little hairy. Panicle terminating, ſpreading, ſmooth: peduncles thrice dichotomous: pedicels not racemed, but a one-flowered pedicel, in each diviſion. Leaflets oppoſite, petioled, cordate, ſlightly villoſe beneath under the firſt ramifications; the upper ones gradually narrower: under the branchlets ſubulate, ſeſſile. Leaflets of the calyx ovate, acute, coloured, ſmooth. It differs from *C. infortunatum*, in having the leaves ſmaller, ſmooth, and cut with a deep ſinus at the baſe; the panicle, calyx and corolla ſmooth; the branches four-cornered and grooved: from *C. trichotomum* in the ſinus at the baſe of the leaves, which are ſcaly beneath, all entire; but they agree in the calyx.

Native of the Eaſt Indies.

8. Branches quadrangular, four-grooved, villoſe at top. Leaves an inch and half in length, tender, ſharp at the baſe, three-nerved, very ſmooth; the middle lobe acuminate, the ſide ones ſhort: petiole one-third or one-fourth of the length of the leaf. Panicle terminating, half a foot long: partial peduncles oppoſite, ſpreading, twice or thrice dichotomous. Leaflets at the baſe of the partial peduncles petioled, oblong, acute at both ends, quite entire; the reſt ſubulate. Flowers pedicelled, alternate, diſtant. Calyx pubeſcent, with oblong, acute ſegments. Tube of the corolla pubeſcent, an inch long; upper lip bifid, with erect linear ſegments; the lower three-lobed, ſpreading very much; the lobes oblong, the ſide ones ſhorter. It differs from *C. trichotomum* in having the branches villoſe at top, the leaves narrower, the panicle villoſe, dichotomous, and finally racemed, the ſegments of the calyx oblong. The lobes of the corolla are ſcarcely equal.—Native of the Eaſt Indies[l].

CLERODENDRUM. See *Volkameria.*]

CLETHRA. (Κλήθρα *Theophr. probably from* κλειω, *to cloſe or ſhut up.*)

Lin. gen. n. 553. *Reich.* 597. *Schreb.* 751. *Gærtn. t.* 63. *Juſſ.* 160. *Gron. virg.* 43.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Bicornes. Ericæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted; (five-leaved, *Gærtn.*) *leaflets* ovate, concave, erect, permanent.

COR. *Petals* five, oblong, broader on the outſide, from erect ſpreading, a little longer than the calyx; the upper one broadeſt.

STAM. *Filaments* ten, ſubulate, the length of the corolla. *Anthers* oblong-erect, gaping at the top.

PIST. *Germ* roundiſh. *Style* filiform, erect, permanent, increaſing. *Stigma* trifid.

PER. *Capſule* roundiſh, involved in the calyx, three-celled, three-valved.

SEEDS very many, angular. (few, *G.*)

ESSENTIAL CHARACTER.

Cal. five-parted. *Pet.* five. *Stigma* trifid. *Capſ.* three-celled, three-valved.

SPECIES.

1. Clethra alnifolia. *Alder-leaved Clethra.* *Lin. ſpec.* 566. *ſyſt.* 408. *Reich.* 2. 299. *Gron. virg.* 47. 67. *Duham. arb.* 1. 176. *t.* 71. *Ait. hort. kew.* 2. 73. *Mill. fig. t.* 281. *Gærtn. fruct.* 1. 301. *t.* 63.

Alnifolia americana, &c. *Pluk. alm. t.* 115. *f.* 1. *Cateſb. car.* 1. *t.* 66.

α. C. denudata. *With leaves ſmooth on both ſides.*

β. C. pubeſcens. *With leaves tomentoſe underneath. Shrubby; leaves obovate-lanceolate, ſerrate, ſmooth; racemes ſimple in form of ſpikes.*

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[d] Linn. zeyl.

[e] Linn. amoen.

[f] Hort. kew.

[g] Linn. ſuppl.

[h] Linn. mant.

[i] Vahl.

[k] Thunberg.

[l] Vahl.

[2. Clethra paniculata. *Panicled Clethra.*
Ait. hort. kew. 2. 73.
Shrubby; leaves lanceolate, naked on both ſides; flowers panicled.

3. Clethra arborea. *Tree Clethra.*
Ait. hort. kew. 2. 73.
A tree; leaves oblong-lanceolate ſmooth on both ſides; racemes in form of ſpikes; calyxes obtuſe.

4. Clethra tinifolia.
Swartz prodr. 74.
Tinus occidentalis. *Lin. ſpec.* 530. *Reich.* 2. 230.
Volkameria. *Brown. jam.* 214. *t.* 21. *f.* 1. *Sloan. jam.* 2. 86. *t.* 198. *f.* 2.
A tree; leaves oblong-lanceolate, quite entire, hoary underneath; racemes panicled, ſpike-ſhaped, tomentoſe.

DESCRIPTIONS, *&c.*

1. The roots ſpread far on every ſide, and ſend up many ſtems, from eight or ten to fourteen feet high, which are covered with a grayiſh bark, and divide into ſmall round alternate branches. The leaves are about three inches long, and an inch and quarter broad in the middle; they are of a deep-green on their upper ſide, and of a whitiſh green underneath, alternate, and on very ſhort petioles. The flowers are on looſe ſpikes from four or five inches to a ſpan long; the petals are white. They appear in july, and when the ſeaſon is mild, ſome ſpikes are produced in october[a]. The fruit is a ſmall, ſubglobular, cruſtaceous capſule, with three grooves on it. The partitions within are ſimple and contrary to the valves. There are ſix or eight ſeeds in each cell; they are ſmall, ſubovate, variouſly angular, ſomewhat compreſſed, wrinkled and ruſeſcent[b].

Native of North America, in moiſt places, and by rivulets. Introduced in 1736, by Peter Collinſon, Eſq.[c] Cateſby (in 1731) ſays that it flouriſhes at Mr, Bacon's at Hoxton.

2. Native of North America. Mr. William Young. Introduced in 1770. It flowers from auguſt to october[d].

3. Native of Madeira. Mr. Francis Maſſon. Introduced in 1784[e].

4. This ſhrubby tree riſes generally to the height of twelve or fourteen feet, with a thick trunk, covered with a ſmooth clay-coloured bark: the branches are ſpread equally round, and towards their ends are beſet with leaves five inches long and half as broad in the middle, dark green and ſmooth, on petioles a quarter of an inch in length. Each flower is on a pedicel with a ſubulate bracte at the baſe. Fruits ſmooth, green, roundiſh, bigger than peas; containing a ſweet, white, mealy pulp, and a hard, browniſh-black ſtone, bigger than a peppercorn and much like it: they are ſometimes eaten in Jamaica, of which iſland this tree is a native. Sloane calls it Baſtard Locuſt-tree[f].]

PROPAGATION AND CULTURE.

This is hardy enough to bear the open air in England, and is one of the moſt beautiful ſhrubs at the ſeaſon of its flowering; which is very little later than in its native country, being commonly in flower here by the beginning of july; and if the ſeaſon is not very hot, there will be part of the ſpikes in beauty till the beginning of auguſt; and as moſt of the branches are terminated by theſe ſpikes of flowers, when the ſhrubs are ſtrong, they make a fine appearance at that ſeaſon.

This will thrive much better in moiſt land than in dry ground, and requires a ſheltered ſituation, where it may be defended from ſtrong winds, which frequently break off the branches, where they are too much expoſed to its violence. It is propagated by layers, but they are generally two years before they get root, ſo that at preſent it is rare in England. The fineſt ſhrubs of this kind, were in the curious garden of his grace the Duke of Argyle, at Whitton near Hounſlow, where they throve as well as in their native country. They may alſo be propagated by ſuckers, which are ſent out from their roots; if theſe are carefully taken off with fibres in the autumn, and planted into a nurſery-bed, they will be ſtrong enough in two years to tranſplant where they are to remain.

It may alſo be propagated by ſeeds, which muſt be procured from the countries where it grows naturally, for the ſeeds are not perfected in England. But as theſe ſeldom arrive here till ſpring, when they are ſown at that ſeaſon, the plants will not come up till the following ſpring. Therefore the ſeeds ſhould be ſown in pots, and placed in a ſhady ſituation till autumn, then placed under a frame in winter; the plants will come up the next ſpring, and in autumn may be tranſplanted into a nurſery-bed, to get ſtrength before they are placed to remain.

[CLEVERS. See *Galium Aparine.*

CLEYERA. See *Ternſtroemia.*

CLIBADIUM. (Κλιβάδιον, *the name of a plant in Dioſcorides.*)
Lin. gen. n. 1329. *Reich.* 1156. *Schreb.* 1430. *Juſſ.* 191. *Auth. Allamand.*
Claſſ. 21. 5. Monoecia Pentandria.
Natural order of *Compoſitæ Oppoſitifoliæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. common imbricate; *ſcales* ovate, acute.

COR. *Compound:* corollules tubular, funnel-form; border five-cleft.
Corollules of the diſk many, pedicelled, hermaphrodite—of the ray three or four, ſeſſile, female.

STAM. in the *hermaphrodites* filaments five, capillary, very ſhort. *Anthers* oblong, approximating.

PIST. in the *hermaphrodites*, germ very ſmall, ſuperior: ſtyle filiform: ſtigma ſimple—in the *females*, germ roundiſh, inferior; ſtyle filiform: ſtigma two-parted.

PER. *common* none. *Calyx* ventricoſe, coloured.
Proper, to the *hermaphrodites* none—to the *females*, a roundiſh, ſucculent, umbilicate *drupe.*

SEED one, cordate, compreſſed.

ESSENTIAL CHARACTER.

MALE. Common calyx imbricate. *Cor.* of the diſk five-cleft.

FEM. Common calyx the ſame. *Cor.* of the ray female, three or four. *Seed* an umbilicate drupe.

SPECIES.

1. Clibadium ſurinamenſe.
Lin. ſyſt. 853. *Reich.* 4. 142. *mant.* 294.
C. foetidum. *Allam. mſs.*

DESCRIPTION, *&c.*

Leaves oppoſite, petioled, ovate, acuminate, acutely crenate, ſcabrous. Peduncles oppoſite. Common calyx violet-coloured when ripe. Corolla white. Drupe green, with a yellow viſcid juice.—Native of Surinam[g].]

CLIFFORTIA. (*This name was given by Eichrodt, in honour of George Clifford, a merchant at Amſterdam; a catalogue of whoſe garden at Hartecamp was publiſhed by Linneus, Amſt.* 1737, *folio.*)
Lin. gen. n. 1133. *Reich.* 1239. *Schreb.* 1550. *Juſſ.* 337.
Claſſ. 22. 11. Dioecia Polyandria.
Nat. order of *Tricoccæ. Roſaceæ* Juſſ.

GENERIC CHARACTER.

* *Male.*

CAL. *Perianth* three-leaved; *leaflets* ovate, acute, coriaceous, ſpreading, deciduous.

COR. none.

STAM. *Filaments* about thirty, capillary, erect, the length of the calyx. *Anthers* twin, oblong, obtuſe, erect, compreſſed.

* *Female.*

CAL. *Perianth* three-leaved, equal, erect, ſuperior, permanent: *leaflets* acute, lanceolate.

COR. none.

PIST. *Germ* oblong, inferior. *Styles* two, filiform, long, plumoſe. *Stigmas* ſimple.

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[a] Mill. fig.
[b] Gærtner.
[c] Hort. kew.
[d] Ibid.
[e] Ibid.
[f] Sloane.
[g] Allamand in Linn. mant.

PER. *Capſule* oblong, nearly columnar, two-celled, crowned with the calyx.

SEEDS ſolitary, nearly columnar, linear.

ESSENTIAL CHARACTER.

MALE. *Cal.* three-leaved, ſuperior. *Stamens* about thirty.

FEM. *Cal.* three-leaved, ſuperior. *Cor.* none. *Styles* two. *Capſ.* two-celled. *Seed* one.

SPECIES.

* *With ſimple leaves.*

[1. Cliffortia odorata.
Lin. ſyſt. 893. *ſuppl.* 431.
Leaves ovate ſerrate ribbed villoſe underneath.]

2. Cliffortia ilicifolia. *Ilex-leaved Cliffortia.*
Lin. ſpec. 1469. *Reich.* 4. 274. *mant.* 499. *hort. cliff.* 463. 1. *t.* 30. *Mill. illuſtr. ic. Dill. elth.* 36. *t.* 31. *f.* 35.
Leaves ſubcordate toothed.

3. Cliffortia ruſcifolia. *Butcher's-Broom-leaved Cliffortia.*
Lin. ſpec. 1469. *ſyſt.* 893. *Reich.* 4. 274. *hort. cliff.* 463. 2. *t.* 31. *Berg. cap.* 354. *Pluk. alm. t.* 297. *f.* 2.
Leaves lanceolate quite entire.

[4. Cliffortia ferruginea.
Lin. ſyſt. 893. *ſuppl.* 429.
Leaves lanceolate ſetaceous-ſerrate.

5. Cliffortia graminea.
Lin. ſyſt. 893. *ſuppl.* 429.
Leaves enſiform ſerrulate, petioles dilated terminated by two ſtipule-ſhaped awns.

6. Cliffortia polygonifolia.
Lin. ſpec. 1470. *Reich.* 4. 275. *hort. cliff.* 501. *t.* 32.
Leaves linear hairy.

7. Cliffortia filifolia.
Lin. ſyſt. 893. *ſuppl.* 430.
Leaves filiform triquetrous ſmooth quite entire.

** *With compound leaves.*

8. Cliffortia crenata.
Lin. ſyſt. 893. *ſuppl.* 430.
Leaves binate orbiculate crenulate.

9. Cliffortia pulchella.
Lin. ſyſt. 893. *ſuppl.* 430.
Leaves binate orbiculate quite entire.]

10. Cliffortia trifoliata.
Lin. ſpec. 1470. *Reich.* 4. 275. *hort. cliff.* 456. 6. (Myrica). *Pluk. alm. t.* 319. *f.* 4.
Leaves ternate, the middle three-toothed.

[11. Cliffortia ſarmentoſa.
Lin. ſyſt. 893. *Reich.* 4. 275. *mant.* 299.
Leaves ternate linear villoſe.

12. Cliffortia ſtrobilifera.
Lin. ſyſt. 893. *Reich.* 4. 275. *Pluk. alm. t.* 275. *f.* 2.
Leaves ternate linear acute even.

13. Cliffortia obcordata.
Lin. ſyſt. 894. *ſuppl.* 429.
Leaves ternate, leaflets roundiſh, the middle one obcordate.

14. Cliffortia ternata.
Lin. ſyſt. 894. *ſuppl.* 430.
Leaves ternate, leaflets entire hairy.

15. Cliffortia juniperina.
Lin. ſyſt. 894. *ſuppl.* 430.
Leaves ternate triquetrous ſubulate crowded.

16. Cliffortia falcata.
Lin. ſyſt. 894. *ſuppl.* 431.
Leaves ternate linear falcated ſmooth.

17. Cliffortia teretifolia.
Lin. ſyſt. 894. *ſuppl.* 430.
Leaves faſcicled columnar ſubulate incurved ſmooth entire.

18. Cliffortia ericæfolia.
Lin. ſyſt. 894. *ſuppl.* 430.
Leaves faſcicled columnar furrowed ſmooth.

19. Cliffortia cuneata. *Wedge-leaved Cliffortia.*
Ait. hort. kew. 3. 413.
Leaves wedge-form ſerrate at the end.

DESCRIPTIONS, &c.

The Cliffortias are ſhrubs from the Cape of Good Hope. Leaves ſimple or ternate, ſheathing at the baſe. Flowers axillary, ſubſeſſile.

1. This is an erect ſhrub, three feet high, little branching. Branches ſimple, ſubpubeſcent. Leaves alternate, ſubpetioled, obtuſe, by no means ſtiff. Stipules under the leaf, membranaceous, ſemibifid, acute, withering. Flowers from the axils of the leaves. Calyx three-parted. The male flowers only have been obſerved; theſe agree with the other ſpecies of Cliffortia, though the habit is different, and rather reſembles that of Mint[a].

This, and moſt of the other new ſpecies of the Supplement, were found at the Cape of Good Hope by Thunberg.

2. A ſhrub, with alternate declining branches, clothed with truncated membranes and ſtipules. Leaves alternate, ſheathing very ſhortly at the baſe, roundiſh, having ſeven or nine teeth terminated with ſpines, ſpreading, recurved at the end, flat, cartilaginous about the edge, nerved, ſmooth, biennial, horizontally deciduous, leaving a reddiſh permanent ſheath. Stipules at the baſe of the leaf in front, above the ſheath, acuminate-thorny; ſpreading, permanent. Flowers lateral, axillary, ſeſſile, ſolitary, green. Filaments white, anthers yellow[b].]

Stem weak, four or five feet high. Leaves grayiſh. Before the calyx opens, it forms a bud, in ſhape and ſize like thoſe of the Caper. The flowers appear in june, july, and auguſt; but the leaves continue in verdure through the year. The plants in the European gardens, both of this and the following ſort, are all male. [Cultivated 1714, in Chelſea garden.

3. Branches alternate, frequent, aſcending, below aſh-coloured, ſmooth, above brown, tomentoſe; branchlets alternate, very frequent, ſhort, covered with lanceolate, acuminate, imbricate ſcales, in other reſpects naked, except at the end, where they are leafy. Leaves ovate-lanceolate, with a ſpine at the end, ſomewhat gaſhed, the upper ſurface ſmooth, even and ſhining, the lower ſix-nerved and villoſe; they are ſeſſile and approximating. Spikes of flowers roundiſh, at the ends of the branchlets, intrenched in leaves. Bractes ſmaller than the leaves, involving each flower, trifid, hirſute on the outſide, ſpiny, with a ſharp, membranaceous, hairy leaflet near the baſe on each ſide. The female flowers have a double perianth: the lower two-leaved, inferior; leaflets linear, obtuſe, broader at the baſe, concave, claſping, hairy, tender, longer than the germ: the upper three-leaved, ſuperior; leaflets ovate, acute, mucronate-hairy, green, ſmooth, reflex-ſpreading, the length of the germ. Germ ovate, obtuſe, attenuated at the baſe, ſubgibboſe, ſtreaked and angular[c].

Introduced in 1786, by Mr. Francis Maſſon[d].

4. Stems like thoſe of Knot-graſs, filiform, uſually proſtrate, even, branching. Branches ſhort, ferruginous, herbaceous. Leaves alternate, ſubpetioled, ſtriated, acute, naked, ſerrate; the ſerratures ſetaceous, unarmed. Stipules two-parted, ferruginous, ſcarioſe. Flowers axillary, ſeſſile, trifid.—The female has not been obſerved.—Found at the Cape by Sparrmann[e].

5. Stems many together, two feet high, ſcarcely branching, ſtriated, covered with leaves, which are approximating, erect, convolute, ſmooth, ſtriated, acute. Petioles connected with the leaves by a joint; the edges elongated into ſubulate, erect diviſions[f].

6. This is a ſmaller ſhrub than the ſecond and third ſorts. Branches naked, upright, leſs divided, alternate, gray, pubeſcent, round. Leaves numerous, imbricate-faſcicled, lanceolate-linear, quite entire and reflex at the edge, acuminate, ſeſſile. It differs from *C. ruſcifolia,* in having leaves only one fourth of the ſize, with a ſingle nerve, hairy and

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[a] Linn. ſuppl. [b] Linn. mant. [c] Bergius. [d] Hort. kew. [e] Linn. ſuppl. [f] Ibid.

ſeſſile; whereas in that they are ſmooth and toothed at the baſe, with three nerves at the back[g].

7. Of this we have no deſcription. It was found at the Cape, with many of the others, by Thunberg.

8. An erect ſhrub, rather large. Leaves alternate, ſeſſile, conjugate, very finely crenulate, ſmooth. Flowers axillary, ſolitary, trifid.

9. Leaves converging, and guarding the flowers in the cavity which they form, like *Hedyſarum pulchellum*, beautifully adorned on the outſide with radiating nerves[h].]

10. Stems ſlender, woody, procumbent, ſilky with hairs, and ſending out ſlender branches on every ſide. Leaves ſeſſile, hairy, the middle leaflet much broader than the two ſide ones, which are lanceolate. Flowers axillary, on very ſhort peduncles, ſhaped like thoſe of the ſecond, but ſmaller; they appear in july and auguſt. We have only male plants in the Engliſh gardens.

[Cultivated by Mr. Miller before 1759.

11. Stem ſhrubby, ſarmentoſe, filiform, four feet high, irregular: branches alternate, ſhort, ſimple, round, pubeſcent. Leaves alternate, ſubſeſſile, ſubequal, very narrow, unarmed, hoary-pubeſcent. Petiole very ſhort, ſtipular, membranaceous, dilated, emarginate, naked. Flowers lateral, axillary, ſeſſile, ſolitary, white.—The female has not been obſerved[i].

12. A ſhrub with round branches, ſparingly branched. Stipules (at firſt petioles) ſheathing, ſcarioſe, ſubovate, having two teeth, ſmooth, permanent. Leaves ſeſſile, carinated, on a very ſhort, ſheathing petiole. The fructification not having been obſerved, we can only conjecture the genus from the ſtructure. The ſtrobiles are galls, not fruits[k]. Juſſieu doubts whether this ſpecies with its ſtrobile-ſhaped galls, and ſo different in habit, be really a Cliffortia.

13. An erect lowly ſhrub, with diſtich branches. Leaves ſeſſile, obovate, nerveleſs, very obtuſe, quite entire, ſmooth, like thoſe of *Peplis* (Purſlane), ſmall. Flowers in the axils of the leaves, ſeſſile, not longer than the leaves. The leaves are often in pairs.

14. A ſhrub, with ſmall, ovate-lanceolate, hairy leaves, very different from the other Cliffortias.

15. A ſhrub reſembling Juniper, erect, three feet in height, branching very much. Leaves faſcicled, aceroſe (like thoſe of Juniper) linear, channelled, mucronate, ſubſerrate, on a broadiſh petiole, ſo ſhort as ſcarcely to be obſervable. Flowers axillary, ſeſſile.—Obſerved at the Cape by Sparrmann.

16. A ſhrub, a foot in height, erect, branching, ſtrict. Leaves often three from each bud: leaflets ſharpiſh, incurved. It reſembles *C. ſarmentoſa* in the leaves, but they are ſmooth in this ſpecies.

17, 18. There is much ſimilitude between theſe and *C. filifolia*[l].

19. Native of the Cape, (with all the former) Mr. Fr. Maſſon. Introduced 1787. It flowers in april[m].]

PROPAGATION AND CULTURE.

2. This plant is eaſily propagated by cuttings, which may be planted in any of the ſummer months; if theſe are planted in ſmall pots filled with light earth, and plunged into a very moderate hot-bed, they will ſoon take root, provided they are ſcreened from the ſun, and duly watered; when they have taken root, they muſt be gradually inured to bear the open air, to which they ſhould be expoſed, to prevent their drawing up weak: therefore they ſhould be placed abroad till they have obtained ſome ſtrength, then they may be each tranſplanted into a ſeparate ſmall pot, and placed in the ſhade until they have taken freſh root; after which they may be placed with other of the hardy kinds of exotic plants in a ſheltered ſituation till october, when they ſhould be removed into the green-houſe, or placed under a common hot-bed frame, where they may be ſcreened from the hard froſt, but enjoy the free air at all times when the weather is mild.

When the plants advance in height, their ſtems and branches muſt be ſupported, otherwiſe they will trail upon the ground. In ſummer they muſt be placed in the open air, with Myrtles and other hardy green-houſe plants; and in winter the plants may be treated in the ſame manner as thoſe, but muſt have little water in winter. This plant has endured the cold of our ordinary winters, when planted near a ſouth-weſt wall without covering, but in ſevere winters it is always deſtroyed.

3. This is more tender; therefore it ſhould be placed in a warm green-houſe in winter, and during that ſeaſon ſhould have little water. In ſummer it may be expoſed to the open air in a ſheltered ſituation, but ſhould not remain abroad too late in autumn; for if there ſhould be much rain at that ſeaſon, it might endanger the plants. We have only the male plant in Europe, and it is difficult to propagate.

10. This requires the ſame management as the ſecond, and is equally hardy; but muſt not be over watered in winter. As there are only male plants in Europe, it is only propagated by layers, and theſe are two years before they take root. The leaves continue green all the year, and being ſingularly ſhaped, they make a variety in the green-houſe during the winter ſeaſon.

[The other ſorts, coming from the ſame country, and being ſhrubs of the ſame nature with theſe, whenever they are introduced among us, will be propagated in the ſame manner, and require the ſame treatment.

CLIMBER. See *Clematis*.

CLINOPODIUM. (Κλινοποδιον, *Dioſcor. From* κλινη *and* ποδιον, *dimin. of* πους, *pes lecti, bed's-foot.—The flowers growing in whorls, one above another, like the old-faſhioned turned feet of beds.)*

Lin. gen. n. 725. *Reich.* 783. *Schreb.* 980. *Tournef.* 92. *Juſſ.* 115. *Raii meth.* 64.

Claſſ. 14. 1. Didynamia Gymnoſpermia.

Nat. order of *Verticillatæ*. *Labiatæ* Juſſ.

GENERIC CHARACTER.

CAL. *Involucre* many-briſtled, length of the perianth, placed beneath the whorl.

Perianth one-leafed, cylindric, very ſlightly incurved, with a two-lipped mouth; upper lip wider, trifid, acute, reflected: lower lip divided, ſlender, inflected.

COR. one-petalled, ringent; *Tube* ſhort, gradually widened into the throat; upper lip erect, concave, obtuſe, emarginate. Lower lip trifid, obtuſe; middle ſegment wider, emarginate.

STAM. *Filaments* four, under the upper lip, of which two are ſhorter than the others. *Anthers* roundiſh.

PIST. *Germ* four-parted. *Style* filiform, the ſame ſituation and length with the ſtamens. *Stigma* ſimple, acute, compreſſed.

PER. none. Calyx contracted round the neck, gibbous round the body, containing the ſeeds.

SEEDS four, ovate.

ESSENTIAL CHARACTER.

Involucre many-briſtled, under the whorl.

SPECIES.

1. Clinopodium vulgare. *Wild Baſil.*
Lin. ſpec. 821. *Reich.* 3. 75. *hort. cliff.* 305. *fl. ſuec.* 533. *Hudſ. angl.* 261. *With.* 620. *Lightf. ſcot.* 316. *Relh. cant. n.* 444. *Hall. helv. n.* 239. *Scop. carn. n.* 731. *Pollich. pal. n.* 572. *Riv. mon. t.* 43. *Sabb. hort.* 3. *t.* 65, 66. *Mor. hiſt. ſ.* 11. *t.* 8. *f.* 1. *Pet. herb. t.* 32. *f.* 9. *Ger. emac.* 675. *f.* 2. *Park. theat.* 22. 4. *Baub. pin.* 224. *Cluſ. hiſt.* 1. 354. 2. *Lob. obſ.* 269. 2. *ic.* 1. 504. 2. *Cam. epit.* 563. *Trag.* 36. 2. *Matth.* 814. *Raii hiſt.* 558. *ſyn.* 239.

β. C. humile. *Dwarf wild* or *field Baſil.*
Mill. dict. n. 4.

γ. C. carolinianum. *Carolina field Baſil.*
Mill. dict. n. 5.

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[g] Linn. cliff.
[h] Linn. ſuppl.
[i] Linn. mant.
[k] Linn. ſyſt.
[l] Linn. ſuppl.
[m] Hort. kew.

δ. C. ægyptiacum. *Egyptian field Baſil.*
Mill. dict. n. 6. *fig. t.* 95.
Heads roundiſh, hiſpid; bractes briſtly.

2. Clinopodium incanum. *Hoary Clinopodium.*
Lin. ſpec. 822. *Reich.* 3. 75. *Dill. elth.* 87. *t.* 74. *f.* 85. *Mor.* 11. 8. 4. *Pluk. mant. t.* 344. *f.* 7. *Raii ſuppl.* 298. 1.
Origanum. *Raii hiſt.* 1229.
Leaves tomentoſe underneath; whorls flatted; bractes lanceolate.

3. Clinopodium rugoſum. *Wrinkled Clinopodium.*
Lin. ſpec. 822. *Reich.* 3. 76. *Dill. elth.* 88. *t.* 75. *f.* 86.
Leaves wrinkled; heads axillary, peduncled, flatted, radiated.

[4. Clinopodium capitatum.
Swartz prodr. 88. *Brown. jam.* 259. 1. *Dill. elth.* 89. *Plum. ic. t.* 163. *f.* 2. (Meliſſa) *Sloan. jam.* 1. 174. *t.* 109. *f.* 2. (Sideritis) *Pluk. phyt. t.* 222. *f.* 7. (Scabioſæ affinis). *Raii ſuppl.* 284. *n.* 7. (Mentha).
Hyptis capitata. *Jacqu. collect.* 1. 102. *ic. rar. t.* 114.
Leaves flat, ſmooth, heads axillary, peduncled.

5. Clinopodium aſiaticum.
Lour. cochinch. 374.
Leaves oblong, nerved, wrinkled, tomentoſe underneath, ſpike whorled, terminating.]

DESCRIPTIONS, *&c.*

1. Root perennial, fibrous, ſending up ſeveral ſtiff ſquare ſtalks a foot and half high, from which come out a few lateral branches towards the top. The flowers come out in round whorls; one of theſe terminates the ſtalk, and there is generally another which ſurrounds the ſtalk at the joint immediately below it. The whorls grow very cloſe, and each peduncle ſuſtains ſeveral flowers, which are uſually purple, but ſometimes white: they appear in june.

[The whole plant is hairy. Stems reddiſh. Leaves diſtant, ovate, ſometimes cordate-ovate, or ovate-acuminate, ſerrate, or crenate, ſometimes nearly entire, on ſhort petioles. Forty flowers are found in one whorl; calyx very hirſute; colour of the corolla bright red; tube long; lower lip crenate.—It is fond of a calcareous ſoil.—The ſmell is ſlightly aromatic, and not unpleaſant.]

β. Stems not more than half the height of the common ſort, and dividing into many long ſide branches; leaves ſmaller and rougher; whorls produced half the length of the branches, whereas the common ſort has rarely more than two; the bractes are alſo much longer. This flowers in june and july, and has a perennial root.

γ. Root perennial. Stems ſtraight, hairy, almoſt round, joints four or five inches aſunder, with two oblong leaves at each, hairy on their under ſide, on ſhort foot-ſtalks; at the bottom of theſe a ſlender branch comes out on each ſide, half an inch long, having two or four ſmall leaves ſhaped like the others. The flowers are produced in ſmall whorls, ſtanding thinly; they are white, and the bractes are longer than the calyxes. It flowers in auguſt.

Both theſe were ſent to Mr. Miller from Carolina by Dr. Dale.

δ. Root perennial. Stems a foot and half high. Leaves oval, with many tranſverſe deep furrows, dark green, oppoſite, five or ſix inches aſunder. There are commonly two or four ſide branches from the main ſtem, produced towards the bottom; and the whorls of flowers are produced at every joint towards the upper part of the ſtem, which are pretty large and hairy. The flowers are ſomewhat larger than thoſe of the common ſort, of a deeper colour, and ſtretch a little more out of the calyx; but the greateſt difference between them is, that in this the leaves and whorls are placed at a greater diſtance; nor do the plants continue ſo long. It is a native of Egypt.

It flowers in june, a fortnight or three weeks before the common Field Baſil, and the ſeeds ripen in ſeptember.

2. Root perennial. Stems about two feet high, putting out a few ſhort ſide branches towards the upper part. Leaves oblong, oval, the ſize of thoſe of Water Mint, oppoſite, ſeſſile, ſoft to the touch, with a ſtrong odour between that of Marjoram and Baſil, the upper ſurface pale green, the under hoary and woolly; the edges are ſlightly indented. Whorls flat, ſmooth, generally three, the upper ſmaller and terminating, the loweſt larger than the middle one. Flowers pale purple, the ſtamens ſtanding out beyond the corolla; the bractes large, lanceolate, indented. Native of North America, where in ſome parts it is called Snake-weed, being looked upon as a remedy for the bite of the rattle-ſnake. In England it flowers in july. Mr. Miller frequently received the ſeeds from Pennſylvania and Carolina. [Sherard had them from Virginia and Maryland; and it was cultivated in the Eltham garden in 1732.]

3. Root perennial. Stems cloſely covered with browniſh hairs, and between two and three feet high. Leaves very unequal in ſize, ſerrate, rough on their upper ſide, hairy on the under. Peduncles ſlender, hairy, about three inches long, ſuſtaining ſmall heads of flowers ſhaped like thoſe of the Scabious; corolla white, ſmaller than that of the foregoing; bractes radiate. It flowers in ſeptember, but never ripens its ſeeds here. Native of Carolina, whence the ſeeds were ſent to Mr. Miller by Dr. Dale. [It was cultivated in the Eltham garden; and before that, in the royal garden at Hampton Court, in 1690[n].

4. Jacquin makes this a diſtinct genus, under the name of *Hyptis*, from the inverted (υπτιω) form of the corolla. He thus deſcribes it.

Stems ſuffruticoſe, two or three feet high; from theſe in the ſpring ariſe herbaceous ſtems, which are quadrangular, roughiſh, two feet high, branched. Leaves oppoſite, petioled, ovate, but with the baſe acute, veined, unequally ſerrate, acute, both ſides appearing hairy with a magnifier, deep green; the lower ones wrinkled, the largeſt ſeven inches long. Peduncles ſolitary, quadrangular, ſlender, when full grown two or three inches long, bearing at the top numerous flowers collected into a cloſe ſemiglobular head, ſupported at bottom by an involucre of many lanceolate leaflets. Calyx ſomewhat hiſpid. Corolla white, with a tinge of fleſh-colour; tube ſomewhat hairy on the outſide, but the back of the helmet more ſo; border ſpreading much, often reflex and inverted, upper lip trifid, lower (which is uppermoſt by the inverſion of the corolla) ſemibifid. The whole plant is inodorous[o].

Native of Jamaica, Barbadoes, and St. Domingo. Cultivated in the Eltham garden in 1732.

5. Stem ſuffruticoſe, two feet and an half high, erect, quadrangular, four-furrowed, ſimple, villoſe. Leaves ovate-oblong, obtuſe, ſlightly ſerrate, many-nerved. Flowers violet-coloured, in interrupted whorls, forming an oblong ſpike, with ſharp, hirſute involucres. Calyx two-lipped, quite entire, unequal, very hairy. Upper lip of the corolla concave, equally trifid; lower refracted, quite entire, longer. Native of Cochinchina[p].]

PROPAGATION AND CULTURE.

Theſe plants may be propagated by ſeeds, and alſo by parting their roots; the latter is generally practiſed in England, becauſe the foreign ſorts do not perfect their ſeeds here. The beſt time to tranſplant and part their roots is in autumn, that they may take root before winter. If theſe are planted in a dry ſoil, they are (except the third ſort,) hardy enough to thrive in the open air in England, and require no other care but to keep them clean from weeds, and every other year they may be tranſplanted and parted. The third ſort muſt be planted in pots, and in winter ſheltered under a frame, where the plants may enjoy the free air in mild weather, but ſcreened from froſt, otherwiſe they will not live in this country.

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[n] Hort. kew.

[o] Jacquin.

[p] Loureiro.

[Clinopodium. See *Anthoſpermum, Bartſia, Cleonia, Cometes, Monarda, Nepeta, Phlomis, Satureia, Thymus, Ziziphora.*]

CLITORIA. (*So named from the form of the corolla.*) *Lin. gen. n.* 869. *Reich.* 943. *Schreb.* 1183. *Gærtn. t.* 149. *Juſſ.* 357. Ternatea *Tourn.* A. G. 1706. t. 1. *Dill.* gen. 10. Clitorius *Dill. Elth.* 76.

Claſſ. 17. 3. Diadelphia Decandria.
Nat. order of *Papilionaceæ* or *Leguminoſæ*.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, erect, tubular, five-toothed, permanent.

Cor. papilionaceous.

Standard very large, ſtraight, emarginate, waved at the margin, ſpreading, and overſhadowing the other petals.

Wings oblong, ſtraight, obtuſe, ſhorter than the ſtandard.

Keel ſhorter than the wings, falcated ſomewhat roundly.

Stam. In two brotherhoods, (ſimple and nine-cleft.) *Anthers* ſimple.

Pist. *Germ* oblong. *Style* aſcending. *Stigma* obtuſe.

Per. *Legume* very long, linear, compreſſed, one-celled, two-valved, with the tip ſubulate.

Seeds many, reniform.

Obs. *The corolla often appears in a ſupine or inverted poſition.—Seeds without albumen. Embryo without plume; by which it is diſtinguiſhed from* Phaſeolus *and* Vicia. G.

ESSENTIAL CHARACTER.

Cor. inverted: ſtandard very large, ſpreading, overſhadowing the wings.

SPECIES.

1. Clitoria Ternatea. *Winged-leaved Clitoria.*
Lin. ſpec. 1025. *Reich.* 3. 456. *hort. cliff.* 360. *upſ.* 214. *fl. zeyl. n.* 283. *Gærtn. fruct.* 2. 321. *Lour. cochinch.* 454.
Lathyrus ſpectabilis. *Forſk. ægypt.* 135. Orobus volubilis. *cat.* 117. *n.* 430.
Phaſeolus fol. pinnatis. *Riv. tetr. t.* 34.
Flos clitorius Breynii. *Comm. hort.* 1. 47. *t.* 24. *Burm. zeyl.* 100.
Flos clitoridis ternatenſium. *Breyn. cent.* 76. *t.* 31. *Raii hiſt.* 890.
Flos cæruleus. *Rumph. amb.* 5. 56. *t.* 31.
Schonga-Cuſpi. *Rheed. mal.* 8. 69. *t.* 38.
Leaves pinnate.

2. Clitoria braſiliana. *Braſilian Clitoria.*
Lin. ſpec. 1026. *Reich.* 3. 456. *hort. upſ.* 215. *cliff.* 361. *Breyn. cent.* 78. *t.* 32.
Leaves ternate; calyxes ſolitary, bell-form.

3. Clitoria virginiana. *Small-flowered Clitoria.*
Lin. ſpec. 1026. *Reich.* 3. 456. *Gron. virg.* 111. 2. *Brown. jam.* 298. *Dill. elth.* 90. *t.* 76. *f.* 87. *Swartz obſ.* 282.
Leaves ternate; calyxes geminate, bell-form.

4. Clitoria mariana. *Maryland Clitoria.*
Lin. ſpec. 1026. *Reich.* 3. 456. *Gron. virg.* 111. 1. *Pet. ſicc.* 243.
Leaves ternate; calyxes cylindric.

[5. Clitoria Galactia. *Milky Clitoria.*
Lin. ſpec. 1026. *Reich.* 3. 457.
Galactia. *Brown. jam.* 298. *t.* 32. *f.* 2.
Phaſeolus. *Sloan. jam.* 1. 182. 15. *t.* 114. *f.* 4.
Leaves ternate; raceme erect; flowers pendulous.]

DESCRIPTIONS, &c.

1. This riſes with a twining herbaceous ſtalk to the height of four or five feet, in the ſame manner as the Kidney-bean, and requires the like ſupport; for in the places where it grows naturally, it twiſts itſelf about the neighbouring plants; the leaves are winged, compoſed of two or three pair of leaflets, terminated by an odd one; theſe are of a beautiful green, and are placed alternate on the ſtalks; from the appendages of the leaves come out the peduncles; each of theſe is encompaſſed by two very fine leaves about the middle, where they are bent, ſuſtaining a very large, gaping, beautiful flower, whoſe bottom part ſeems as if growing to the top.

The flowers have a green membranaceous calyx; the corolla is of a blue colour, and ſtains paper, like Indigo, but as a dye it is not permanent. It is a native of the Eaſt Indies and Cochinchina, but the ſeeds were firſt brought to Europe from Ternate, one of the Molucca iſlands, and this induced Tournefort to give the name of Ternatea to this genus. There is a variety with white flowers, and another with blue flowers, which are very double.

[This production of double flowers is a ſingularity in the leguminous claſs of plants.

The legume is narrow, elongated, a finger's length and more, lenticular-compreſſed, without knots or riſings, ſubpubeſcent, pale, terminated by the longiſh, ſubulate ſtyle, many-celled, two-valved: partitions thin. Seeds ſolitary, ſeven to twelve, ovate-kidney-form, cut off at one end, compreſſed a little, ſomewhat gibboſe on both ſides, ſmooth, cheſtnut-brown[a].—Cultivated 1739, by Mr. Miller[b]. Breynius received the ſeeds from the Eaſt Indies in 1667.]

2. This has a twining ſtem like the foregoing, which riſes five or ſix feet high, having at each joint one ternate leaf on a long petiole. The flowers come out ſingly from the axils on long peduncles, encompaſſed about the middle with two ſmall oval leaves; the flowers are very large, the ſtandard being much broader than that of the firſt ſort, and the two wings are larger; the flowers are of a fine blue colour, and make a fine appearance. They appear in July, and in warm ſeaſons the ſeeds will ripen in autumn, ſoon after which the plants decay. Native of Braſil.

There is one with a double flower of this ſort, which I raiſed in the Chelſea garden ſome years paſt, from ſeeds ſent me from India; but the plants did not produce ſeeds here, and being annual, the ſort was loſt. [The leaves of the figure in hort. malab. are obovate.

3. Stem herbaceous, filiform, ſubdivided, ſcandent and twining, round, ſtriated, pubeſcent. Petioles of the leaves longiſh, pubeſcent. Leaflets oblong, acuminate, with a blunt tip, entire, nerved, ſmooth, ſometimes pubeſcent, on ſhort petiolules. Peduncles longer than the petioles, erect, angular, ſtriated, hirſute, bearing three or four whitiſh flowers on pedicels. Perianth double; outer two-leaved; leaflets ovate-acute, concave, keeled, pubeſcent; inner tubular, two-lipped, the two upper teeth ſhorter, approximating, the three lower longer, acute, the middle one three times as long as the others. Corolla reſupinate: ſtandard blue, with oblique purple ſtreaks, at the back part duſky, and tomentoſe. Seeds ſmooth, and of a gray colour[c].

The two membranaceous bractes are ſmaller and leſs conſpicuous in this ſpecies. Leaflets in appearance ſmooth, but roughiſh to the touch. Two flowers uſually come out together. Legumes leſs ſwelling than in the firſt ſpecies. Seeds brown, with duſky red ſpots[d].

This ſpecies being tender, and flowering here with difficulty, the flowers frequently come out ſingly in our ſtoves; which accounts for the difference between Mr. Miller's deſcription and the Linnean character. Dillenius alſo obſerves that the flowers are very apt to fall off. Native of Virginia; alſo of Jamaica, and other iſlands of the Weſt Indies.] Mr. Miller ſays, that the ſeeds were ſent him from the Bahama iſlands.—[Cultivated 1732 by James Sherard, M. D.[e]]

4. The ſeeds of the fourth ſort were ſent me from Carolina, where the plants grow naturally. This riſes with a twining weak ſtalk about five feet high, having trifoliate leaves like the former, whoſe leaflets are narrower, and of a grayiſh colour on their under ſide; the flowers come out by pairs; their calyxes are cylindric. The flowers are ſmall, and of a pale blue colour within, but of a dirty white

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[a] Gærtner. [b] Hort. kew. [c] Swartz. [d] Dillenius. [e] Hort. kew.

on the outſide. This flowers in auguſt, but rarely ripens any ſeeds in England.

[5. Perianth four-toothed, the upper and lower ſegment larger; it is covered with two very ſmall, deciduous bractes. Corolla five-petalled, all the petals oblong and narrow, the ſtandard broader than the reſt, and incumbent. Legume cylindric. Seeds roundiſh. Racemes with two flowers or more[f].

Native of Jamaica, chiefly in the lower hills. It is eaſily diſtinguiſhed by its long reddiſh flowers, milky branches, and ſmooth leaves. It is a weakly climber, and raiſes itſelf by the help of the neighbouring buſhes, to the height of eight or nine feet[g].]

PROPAGATION AND CULTURE.

The ſeeds of theſe plants muſt be ſown upon a good hot-bed early in the ſpring; and when the plants are two inches high, they ſhould be carefully taken up, and each planted in a ſmall pot filled with light freſh earth, and plunged into a hot-bed of tanners bark, obſerving to ſhade them till they have taken freſh root, and refreſh them with water as they may require it. After they are well rooted in the pots, they muſt have air every day in proportion to the warmth of the ſeaſon, to prevent their drawing up weak; their waterings ſhould be repeated two or three times a week, but they ſhould not have too much at each time. As theſe plants have climbing ſtalks, they will ſoon grow too tall to remain under common frames, therefore they muſt then be removed into the ſtove, and plunged into the bark-bed; but if their roots have filled the pots, they ſhould be removed into larger, and afterward they muſt be treated in the ſame manner as other plants from the ſame countries.

All theſe ſorts are annual with us in England, ſo that unleſs the ſeeds ripen, the ſpecies are loſt; and as the two ſorts with double flowers have not formed any pods in this country, ſo far as I have been able to learn, therefore the ſeeds of theſe muſt be procured from the countries where they naturally grow. Indeed theſe are ſuppoſed to be only varieties, which accidentally ariſe from the ſingle. If this be true, I cannot account for the ſucceſs of thoſe plants which grew at Chelſea, for they were all of the ſame double kind, without the leaſt variation; and this was not from a ſingle experiment, but in three different years when I received the ſeeds, the plants did all of them produce double flowers.

[Clitoria. See *Galega.*

Clitorius. See *Clitoria.*

Clivers. See *Galium Aparine.*

Clompanus. See *Sterculia.*

Cloud-Berry. See *Rubus.*

Clove. See *Caryophyllus.*

Clove-Pink. See *Dianthus.*

Clover. See *Trifolium.*

Clown's All-heal. See *Stachys.*

Club-Moss. See *Lycopodium.*

Club-Rush. See *Scirpus.*]

CLUSIA. (*In memory of Carolus Cluſius (Charles de L'Ecluſe) an eminent French Botaniſt.*)

Lin. gen. n. 1154. *Reich.* 1263. *Schreb.* 1584. *Juſſ.* 256. *Plum.* 10. *Jacqu. amer.* 270.
Claſſ. 23. 1. Polygamia Monoecia.
Nat. order of *Guttiferæ.* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four, five, or ſix-leaved, imbricate; *leaflets* concave, permanent, the interior ones gradually ſmaller.

Cor. *Petals* four, five, or ſix, roundiſh, ſpreading, concave, large.

Stam. *Filaments* many, ſimple, ſhorter than the corolla. *Anthers* ſimple, growing to the ſide of the tip.

Pist. *Germ* ovate-oblong. *Style* none. *Stigma* ſtarred, flat, obtuſe, permanent.

Per. *Capſule* ovate, marked with furrows, celled, the valves burſting in a radiate manner.

Seeds numerous, ovate, covered with pulp, affixed to a columnar angulated receptacle.

Obs. *The number in the fruit differs from four to twelve, according to the proportion obſerved in the ſtigma, valves, cells, &c.*

Some of the flowers are ſterile with reſpect to the male organs, and others with reſpect to the female ones.

In the female flowers a nectary is formed by the coalition of the anthers, including the germ. R.

ESSENTIAL CHARACTER.

Male. *Cal.* four or ſix-leaved; leaflets oppoſite, imbricate. *Cor.* four or ſix-petalled. *Stam.* numerous.

Fem. *Cal.* and *Cor.* as in the males. *Nect.* formed by the coalition of the anthers, including the germ. *Capſ.* five-celled, five-valved, ſtuffed with pulp.

SPECIES.

[1. Cluſia roſea. *Roſe-coloured Balſam-tree.*
Lin. ſpec. 1495. *Reich.* 4. 328. *Jacqu. amer.* 270. *pict.* 131. *Pluk. alm. t.* 157. *f.* 2. *Cateſb. car.* 2. *t.* 99. (Cenchramidia.)
Leaves veinleſs; corollas ſix-petalled.

2. Cluſia alba. *White-flowered Balſam-tree.*
Lin. ſpec. 1495. *Reich.* 4. 328. *Jacqu. amer.* 271. *t.* 166. *pict.* 131. *t.* 250. *Plum. gen.* 22. *ic.* 87. *f.* 1.
Leaves veinleſs; corollas five-petalled.]

3. Cluſia flava. *Yellow-flowered Balſam-tree.*
Lin. ſpec. 1495. *Reich.* 4. 328. *Jacqu. amer.* 272. *t.* 167. *pict.* 132. *t.* 251. *Brown. jam.* 236. *Sloan. jam.* 2. 91. *t.* 200. *f.* 1. (Terebinthus). *Raii dendr.* 51. *n.* 4.
Leaves veinleſs; corollas four-petalled.

4. Cluſia venoſa. *Vein-leaved Balſam-tree.*
Lin. ſpec. 1495. *Reich.* 4. 329. *Jacqu. amer.* 273. *pict.* 132. *Plum. gen.* 21. *ic.* 87. *f.* 2.
Leaves veined.

[5. Cluſia pedicellata.
Forſt. flor. auſtr. n. 390.
Leaves oppoſite, obovate, quite entire, veined; cymes axillary; flowers four-petalled.

6. Cluſia ſeſſilis.
Forſt. flor. auſtr. n. 391.
Leaves oppoſite, obovate and elliptic, quite entire, veined; flowers axillary, ſolitary, ſubſeſſile, four-petalled.

DESCRIPTIONS, &c.

Theſe are trees, abounding in a tenacious, glutinous juice. Peduncles ſometimes axillary, but commonly terminating, ſuſtaining one, two or three flowers; on bracted pedicels.

1. Height from twenty to thirty feet. Much reſembling the next ſpecies, but the leaves ſometimes emarginate, and more roundiſh. Flowers large, roſe-coloured and very handſome, but without ſcent. Stigmas, cells and valves ſeven or nine. The whole ſurface of the genitals, and eſpecially of the nectary, is covered with a gelatinous gluten. Fruit green[h]: the ſize of a middling apple, with eight lines running like meridians on a globe, from the ſtalk to the crown of it. When the fruit becomes ripe, it opens at theſe lines, and divides into eight parts, diſcloſing many mucilaginous ſcarlet ſeeds, reſembling thoſe of a Pomgranate; the mucilage being waſhed off, the ſeeds appear white and hard, and contain a kernel: they are contained in the hollow furrows of an octagonal core. The whole tree is exceedingly beautiful, and the ſtructure of the fruit is a moſt exquiſite piece of mechaniſm.

Native of the Bahama iſlands, St. Domingo, and other American iſlands between the Tropicks, on rocks, and frequently on the trunks and limbs of trees, occaſioned by birds ſcattering or voiding the ſeeds, which being glutinous like thoſe of Miſleto, take root in the ſame manner; but the roots, not finding ſufficient nutriment, ſpread on the ſurface of the tree till they find a decayed hole or other lodgment, wherein is ſome ſmall portion of ſoil: the fertility of this being exhauſted, a root is diſcharged out of the hole till it reaches the ground, though at forty feet diſtance; here again it fixes itſelf, and becomes a much larger tree. The reſin is uſed to cure ſores in horſes, and inſtead of tallow for boats [i].

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[f] Linn. ſpec.

[g] Browne.

[h] Jacquin.

Cateſby aſſigns the number eight to the diviſions of the capſule, but Jacquin affirms that they vary from ſeven to nine. Cateſby's figure is a very good one in all reſpects, except that the corolla is repreſented too flat.

2. Height thirty feet, an elegant tree, and paraſitical on other vaſt trees, like the foregoing: the trunk is frequently a foot in diameter, and ſupports a ſpreading head. The whole abounds in a very tenacious, balſamic juice, of a green colour, but becoming of a browniſh red on being expoſed to the air. Leaves obovate, quite entire, obtuſe, ſhining, coriaceous, firm, marked with obliquely tranſverſe parallel nerves, without any connecting veins, on ſhort petioles, oppoſite, placed chiefly at the extremities of the ſmaller branches. Peduncles ſhort, thick, commonly three-flowered, and terminating. Flowers inelegant, and without ſcent, white, all hermaphrodite, but with the anthers more or leſs polliniferous. Fruits when ripe, ſcarlet. Seeds white, involved in a ſcarlet pulp; the birds are very fond of them, and when the capſules burſt open, hang over them on the wing, and pluck out the ſeeds with the pulp adhering.

It is common in the woods of Martinico, where it is called *Aralie*. The Caribbs uſe the juice for paying their boats [k].]

3. The third ſort is pretty common in the Britiſh Iſlands of America, where the trees grow to the height of twenty feet, and ſhoot out many branches on every ſide; with thick, round, ſucculent leaves, placed oppoſite. The flowers are produced at the ends of the branches, each having a thick ſucculent cover: theſe are of different colours in different plants, ſome being red, others yellow, ſome white, and ſome green. After the flowers are paſt, they are ſucceeded by oval fruit, which are alſo of different colours in different plants.

[Browne ſays, that in Jamaica it riſes only to the height of fourteen or fifteen feet, that it grows moſtly on the lower hills, delighting in dry ground, but thriving in moſt light ſoils.

According to Jacquin, it much reſembles the foregoing ſort, the flowers are yellow and inodorous, and ſeem to be ſome female, others hermaphrodite. Browne deſcribes the perianth as conſiſting of ſix or eight roundiſh ſcales, in four rows; the corolla of four thick, oblong-ovate, ſcrew-ſhaped petals; the filaments two, ſometimes three, at each of the interſtices between the petals; the germ thick, roundiſh, obtuſely quadrangular, with twelve diſtinct ſtigmas in a circle round the top of it; the capſule thick, roundiſh, many-valved, twelve-celled, containing many roundiſh ſeeds in a ſaffron-coloured pulp.

Wherever the trunk or larger branches are wounded, they throw out a thick reſinous gum, which is ſometimes uſed as a vulnerary among the inhabitants of Jamaica; but it has not any extraordinary ſmell, or pungent taſte.]

Cultivated by Mr. Miller in 1759. He informs us that there were ſome fine plants in the garden of Mr. Parker, near Croydon in Surry, which were brought over in tubs from Barbadoes: and that there are three varieties differing in the ſize and colour of the flowers and fruit.

4. This tree riſes to the height of twenty (or thirty) feet; it has very large oval ſpear-ſhaped leaves, ending in points, placed alternate on the branches, and having ſeveral ribs, which go off from the midrib alternate, riſing upward to the ſide of the leaves; and alſo a great number of ſmall veins, running horizontally between theſe ribs. The borders of the leaves are ſerrate, and their under ſides are of a ſhining brown colour. The branches are covered with a woolly down, and the flowers are produced in looſe ſpikes at the end of the ſhoots; theſe are ſmaller than thoſe of the foregoing, and are of a Roſe colour.

[According to Jacquin, the corolla is white, and an inch and an half in diameter. The leaves are four inches long. It is a native of the moiſt mountainous woods of Martinico, where it has the name of *Paletuvier de montagne*.] Mr. Miller ſays, it was diſcovered by Dr. Houſtoun at Campeachy, whence he ſent dried ſpecimens and ſeeds.

[5. Native of New Caledonia. Found ſeptember the 9th, 1774.

6. Native of Tongatabu. Found october the 8th, 1774 [l].]

PROPAGATION AND CULTURE.

The beſt method of having theſe plants, is to procure them from the Weſt Indies, to be brought over in tubs; for the ſeeds ſeldom ſucceed, and the young plants grow ſo ſlowly, as not to make any figure for ſome years. In bringing them over, great care ſhould be taken, that they do not receive much wet, for having very ſucculent ſtems, moiſture will cauſe them to rot.

The plants are tender, and muſt be conſtantly kept in the ſtove, otherwiſe they will not live through the winter in England; they muſt alſo be watered very ſparingly, eſpecially in winter, for they naturally grow in thoſe parts of the iſlands, where it ſeldom rains.

They may be propagated by cuttings, which muſt be laid to dry when they are cut off from the plants for a fortnight or three weeks, that the wounded part may be healed over, otherwiſe they will rot. When the cuttings are planted, the pots ſhould be plunged into a hot-bed of tanners bark, and now and then gently refreſhed with water: the beſt time for planting theſe cuttings is in june or july, that they may be well rooted before the cold weather comes on in autumn. In winter theſe plants may be placed upon ſtands in the dry ſtove; but if in ſummer they are plunged into the tan-bed, they will make great progreſs, and their leaves will be large, in which conſiſts the great beauty of theſe plants.

[Clusia. See *Decumaria*.

Clutia. See *Cluytia*.

——— androgyna. See *Andrachne*.]

CLUYTIA. (*Given by Boerhaave, in memory of Augerius Clutius (Dirk Autgers Cluyt) Profeſſor of Botany at Leyden.*)

Lin. gen. n. 1140. *Reich.* 1247. *Schreb.* 1526. *Gærtn. t.* 107. *Juſſ.* 387. *Boerh. p.* 260.

Claſſ. 22. 14. Dioecia Gynandria.

Nat. order of *Tricoccæ*. *Euphorbiæ* Juſſ.

GENERIC CHARACTER.

* Male.

Cal. *Perianth* five-leaved, ſize of the corolla: *leaflets* ovate, obtuſe, concave, ſpreading.

Cor. *Petals* five, ſpreading very much, cordate; *claws* flat, ſhorter than the calyx.

Nectaries exterior five, three-parted, oblong, ſpreading, length of the claws of the petals, placed in a circle within the petals.

Nectaries interior five, glandiform, ſmall, melliferous at the tip.

Stam. *Filaments* five, placed on the middle of the ſtyle, remote from the corolla, ſpreading horizontally. *Anthers* roundiſh, verſatile.

Pist. *Germ* none. *Style* cylindric, truncate, very long, bearing the ſtamens on it's middle.

* Female.

Cal. *Perianth* as in the male, permanent.

Cor. *Petals* as in the male, permanent.

Nectaries exterior five, twin, roundiſh, of the ſame ſize and ſituation as in the male.

Nectaries interior none.

Pist. *Germ* roundiſh. *Styles* three, bifid, reflex, length of the corolla. *Stigmas* obtuſe.

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[i] Cateſby.

[k] Jacquin.

[l] Forſter.

PER. *Capſule* globular, ſix-furrowed, rough, three-celled.

SEEDS ſolitary, roundiſh, even, appendiculated at the tip.

OBS. *There are ſpecies which are decandrous, and androgynous.* R.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* five-petalled.

FEM. *Styles* three. *Capſ.* three-celled. *Seed* one.

SPECIES.

1. Cluytia alaternoides. *Narrow-leaved Clutia.*
Lin. ſpec. 1475. *Reich.* 4. 286. *hort. cliff.* 400. 444. (Croton).
Tithymalus. *Pluk. phyt.* 230. *f.* 1.
Chamælea. *Burm. afr. t.* 43. *f.* 1, 3.
Alaternoides. *Comm. hort.* 2. *t.* 2.
Leaves ſubſeſſile, linear-lanceolate; flowers ſolitary, erect.

[2. Cluytia polygonoides.
Lin. ſpec. 1475. *Reich.* 4. 286.
Chamælea. *Burm. afr. t.* 43. *f.* 3.
Leaves lanceolate; flowers axillary, very many.]

3. Cluytia pulchella. *Broad-leaved Clutia.*
Lin. ſpec. 1475. *Reich.* 4. 287. *Hort. cliff.* 500. 431. *Gærtn. fruct.* 2. 117. *Boerh. lugdb.* 2. 260. *Mill. illuſtr. ic. Comm. hort.* 1. *t.* 91.
Leaves ovate, quite entire; flowers lateral.

[4. Cluytia hirta.
Lin. ſyſt. 897. *ſuppl.* 432. *Vahl ſymb.* 2. 101.
Leaves wedge-ſhaped, ſmooth, flowers lateral, glomerate, hirſute.

5. Cluytia tomentoſa.
Lin. ſyſt. 897. *Reich.* 4. 287. *mant.* 299.
Leaves elliptic, tomentoſe on both ſides.

6. Cluytia retuſa.
Lin. ſpec. 1475. *Reich.* 4. 287. *fl. zeyl. n.* 367. *Burm. ind.* 217. *zeyl.* 29. *Bout. jav.* 103. *Rheed. mal.* 2. 23. *t.* 18. *Raii hiſt.* 1623.
Leaves oval, retuſe, flowers racemed, axillary.]

7. Cluytia Eluteria. *Maritime Clutia,* or *Sea-ſide Balſam.*
Lin. ſpec. 1476. *Reich.* 4. 287. *amœn.* 5. 411. *hort. cliff.* 486. (Elutheria). *Woodv. med. bot. app.* 2. *t.* 211.
Croton. *Brown. jam.* 347. *n.* 4?
C. Eluteria. *Swartz prodr.* 100. *obſ.* 381.
Ricinus. *Pluk. alm. t.* 220. *f.* 5. *Seba theſ.* 1. *t.* 35. *f.* 3. *Burm. ind.* 217.
Leaves cordate-lanceolate.

[8. Cluytia ſtipularis.
Lin. ſyſt. 897. *Reich.* 4. 288. *mant.* 127.
Leaves oval, tomentoſe underneath.

9. Cluytia acuminata.
Lin. ſyſt. 897. *ſuppl.* 432.
Herbaceous; leaves ovate, ſmooth, obtuſe, with a point; flowers axillary, ſolitary.

10. Cluytia lanceolata.
Vahl ſymb. 2. 101. *Forſk. ægypt.* 170.
Leaves elliptic-lanceolate, flowers lateral tomentoſe.]

DESCRIPTIONS, &c.

1. Stem ſhrubby, ſix or eight feet high, putting out many ſide branches which grow erect. Leaves of a grayiſh colour, and entire. The flowers come out from the joints, at the ſetting on of the leaves, towards the upper part of the branches; they are ſmall, and of a greeniſh white, appear from june to auguſt, and make no great appearance.—[Leaves rugged about the edge. Flowers erect, according to Linneus. Cultivated 1692, in the royal garden at Hampton Court[a].]—Mr. Miller informs us, that plants with male flowers had been long in the Engliſh gardens, but that thoſe which bear female flowers were introduced afterwards.

[2. Leaves alternate, linear-lanceolate, gradually narrowed to the end, mucronate, quite entire, even. Flowers uſually two together, pendulous, ſmall. Native of the Cape of Good Hope[b].]

3. This riſes about the ſame height with the firſt, but has a ſtronger ſtem. The leaves are much larger, ſea-green, and on petioles an inch long. The flowers are like thoſe of the firſt ſort in ſhape and colour, but thoſe on the male plants are ſmaller, and grow cloſer together than thoſe of the female, but both are ſuſtained upon ſhort foot-ſtalks. Theſe flowers appear at the ſame time as thoſe of the firſt ſort, and the ſeeds ripen in autumn. I have raiſed ſeveral of theſe plants from ſeeds, which have all proved female, the ſame as the parent plant.

[Capſule, as deſcribed by Gærtner, pedicelled or ſeſſile, globular, rugged, with raiſed dots, with three grooves and tricoccous; the cocci or component parts are of the ſubſtance of paper, gibbous on one ſide, angular on the other, ſemibivalve, the back of the valves ſeparating ſpontaneouſly from the partitions, which are membranaceous, permanent in the axis of the fruit, dark cheſtnut-coloured, ſhining, ſerrulate on the edge. Seeds ovate, dark cheſtnut-coloured, with a two-lobed white umbilical gland immediately below the tip on the inſide.

Cultivated 1739, by Mr. Miller:] who ſays that there were no plants in England with male flowers, till he received one from Dr. Job Baſter of Zirkzee in Holland.

[4. This is a very branching ſhrub. Branches round, ſmooth, tubercled with fallen leaves, uſually ſcattered, but ſometimes coming out three together. Leaves petioled, quite entire, netted-veined, oblong, a little narrowed towards the baſe. The flowers come out towards the ends of the branches and branchlets, and are ſubſeſſile. Calyx hirſute on both ſides, eſpecially without, aſh-coloured, with ſhort hairs; leaflets roundiſh, concave. Petals oblong, minute, ſmooth. Style trifid, involved in aſh-coloured hairs[c].

Found at the Cape of Good Hope by Thunberg.

5. A ſhrub, three feet in height, very branching, erect, tubercled with the ſcars of fallen leaves; branches round, pubeſcent. Leaves crowded, ſeſſile, ſomewhat acute, the ſize of Thyme leaves. Flowers lateral, ſolitary, ſeſſile, longer than the leaves, white: calyx five-toothed, tomentoſe on the outſide. Petals oval, the length of the calyx. Stigma bearded.—Sandy ſhores of the Cape; flowering in may.

6. Leaves on ſhort petioles, alternate, obtuſe or retuſe, the ſize of thoſe of Beech, the edge reflected, with prominent tranſverſe veins or nerves underneath. Racemes axillary, very ſimple, from the ends of the branches divided into three or four alternate peduncles; all filiform, longer than the leaves. Leaflets of the calyx acute. Petals very ſmall, three-toothed. No nectaries, but a ring ſurrounding the receptacle. In the middle a column, with five horizontal filaments, and verſatile anthers. Rheede ſays that the fruit is a berry[d]. Native of the Eaſt Indies.

7. This is a tree with round branches. Leaves alternate, petioled, ovate or cordate-lanceolate, blunt, quite entire, with orbicular ſcales on both ſurfaces. Racemes branched, axillary, and terminating. The male flowers have ten ſubulate ſtamens, the length of the corolla; with erect compreſſed anthers. Petals oblong, obtuſe, ſeſſile, ſpreading. Other flowers have twelve ſtamens, with a piſtil perfectly like that of an Euphorbia[e].]

According to Miller, it riſes with an upright ſhrubby ſtalk, not more than three or four feet high in England; but in places where it grows naturally, it riſes upwards of twenty feet in height, with the branches forming a large ſpreading head. The leaves are ſhaped like thoſe of the Black Poplar.

[On breaking the more tender branches, a large drop of a thick balſamic liquor oozes from the wound, whence it has the appellation of Balſam-tree. It grows frequently to the height of four or five feet. The leaves and tender tops are ſaid to heal ſores, and are frequently uſed in baths and fomentations[f].

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[a] Hort. kew.

[b] Linn. ſpec.

[c] Vahl.

[d] Linn. zeyl.

[e] Linn. amoen. & cliff.

[f] Browne.

Swartz, who makes this a ſpecies of Croton, doubts whether the fourth Croton of Browne be the ſame plant.

Native of both Indies, and cultivated by Mr. Miller.

The *Cortex Caſcarillæ* is ſuppoſed to be the produce of this tree. At the end of the laſt century it was recommended by Stiſſer as a powerful diuretic and carminative, and he uſed it with ſucceſs in calculous, aſthmatic, phthiſical, ſcorbutic, and arthritic complaints. Since that it has been uſed in Germany for the Peruvian bark in intermittent fevers: and the German phyſicians have given it much credit as an aſtringent, and have accordingly uſed it in hæmorrhages and various alvine fluxes[g].

8. Branches flexuoſe, tomentoſe. Leaves ovate or oval, rather large, quite entire, on ſhort petioles. Stipules ovate, acute, the length of the petioles. Flowers axillary, ſubſeſſile, not longer than the ſtipules, dark purple. Calyx one-leafed, bell-form at the baſe, five-parted, acute, permanent. Petals roundiſh, very ſhort, inſerted into the ſinuſes of the calyx. Style columnar, ſcarcely trifid at the end.—Native of the Eaſt Indies[h].

9. Native of the Cape. It reſembles *Andrachne Telephoides*[i].

10. This bears a great affinity to *C. pulchella*, and ſhould be placed next before it. *C. lanceolata* however differs from that, in having the branches purple, and aſh-coloured-villoſe at top. Leaves broad-lanceolate, two inches long and more, without any dots beneath, few only above, and they viſible only with a magnifier. Calyxes villoſe-tomentoſe. Capſules not dotted. Male flowers copious, aggregate, ſubpeduncled, in the axils. Female flowers ſubſolitary, peduncled. Corolla, ſtamens and piſtil as in *C. pulchella*[k].]

PROPAGATION AND CULTURE.

1. 3. Theſe plants are eaſily propagated by cuttings during any of the ſummer months: if the cuttings are planted in ſmall pots, and plunged into a very moderate hot-bed, and ſhaded from the heat of the ſun in the middle of the day, they will ſoon take root, and ſhould then be inured to the open air, otherwiſe they will draw up very weak: afterward theſe plants may be each put into a ſeparate ſmall pot, and placed in a ſheltered ſituation, where they may remain until the middle of october, or later, if the weather continues mild, when they ſhould be removed into the green-houſe, and placed where they may have the free air in mild weather, for they only require to be protected from froſt, therefore require no warmth in winter; but if the green-houſe is ſhut up too cloſe, or the plants are much ſhaded by others, the tender ſhoots are ſubject to grow mouldy, which deſtroys more of theſe plants than the cold. In the ſummer they muſt be placed abroad in a ſheltered ſituation, with other hardy exotic plants.

As theſe plants are always green, they look well in the green-houſe during the winter ſeaſon; and in ſummer, when they are placed in the open air with other exotic plants, they make a pretty variety.

7. This plant will live through the winter in an airy glaſs-caſe, without artificial heat; but in that ſituation ſhould have very little water, for the plants abounding with a milky juice like the Euphorbia, muſt at no ſeaſon of the year have too much wet. If theſe plants, when young, are placed in a very moderate warmth in winter, it will greatly forward their growth, but they muſt not have too much heat, for that will force them too much; and when the plants have obtained ſtrength, they may be treated more hardily. This ſort may be propagated by cuttings during the ſummer ſeaſon; but the cuttings ſhould be laid in a dry place for a few days, when they are taken from the old plants, that their wounded parts may dry and be healed over before they are planted. Theſe muſt be planted in ſmall pots filled with light ſandy earth, and plunged into a moderate hot-bed of tanners bark; and if the ſeaſon is very warm, the glaſſes ſhould be ſhaded in the heat of the day, and raiſed up to admit freſh air to the cuttings every day; theſe muſt be ſparingly watered. When they have taken root, and begin to ſhoot, they muſt have a greater ſhare of air, and by degrees be inured to the open air; and when their roots have filled the pots, they ſhould be carefully parted, and each planted in a ſeparate pot of the ſame light ſandy earth; then they ſhould be placed on the back part of the ſtove, behind the other plants, where they may be ſcreened from the ſun till they have taken freſh root, after which they may be brought forward, and expoſed gradually to the open air. In the ſummer they ſhould have free air conſtantly in warm weather, but they muſt be ſcreened from heavy rain; and in winter placed in an airy glaſs-caſe, where they may enjoy the ſun, and during that ſeaſon have very little wet.

Clymenum. See *Lathyrus* and *Vicia*.

Clypearia. See *Adenanthera*.

CLYPEŎLA. (*Dimin. from Clypeus, a little ſhield: ſo named from the form of the ſilicle.*)

Lin. gen. n. 807. *Reich.* 870. *Schreb.* 1082. *Gærtn. t.*141. *Juſſ.* 240. Jonthlaſpi. *Tourn.* 99.

Claſſ. 15. 1. Tetradynamia Siliculoſa.

Nat. order of *Siliquoſæ*; *Cruciferæ* Juſſ. or *Cruciformes*.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved; *leaflets* ovate-oblong, permanent.

Cor. four-petalled, cruciform. *Petals* oblong, entire; *claws* rather longer than the calyx.

Stam. *Filaments* ſix, ſhorter than the corolla: the two oppoſite ones ſtill ſhorter. *Anthers* ſimple.

Pist. *Germ* roundiſh, compreſſed. *Style* ſimple. *Stigma* obtuſe.

Per. *Silicle* orbiculate, emarginate, flat-compreſſed, erect, deciduous, bivalve. *Valves* orbiculate.

Seeds orbiculate, in the centre of the pericarp.

Obs. Cl. Jonthlaſpi *has the ſtamens marked with a toothlet, above the baſe, as in* Alyſſum. *R.*

ESSENTIAL CHARACTER.

Silicle emarginate, orbiculate, compreſſed, flat, deciduous.

SPECIES.

1. Clypeola Jonthlaſpi. *Annual Treacle-Muſtard*, or *Buckler-Muſtard*.

Lin. ſpec. 910. *ſyſt.* 591. *Reich.* 3. 238. *hort. cliff.* 329. *upſ.* 185. *mant.* 426. *Lamarck encycl.* 2. 55. *Cavan. hiſp.* 22. *n.* 36. *t.* 34. *f.* 2. *Gærtn. fruct.* 2. 183. *Villars dauph.* 3. 295.

Thlaſpi clypeatum, ſerpilli folio. *Bauh. pin.* 107. *Lob. adv.* 74. *ic.* 215.

Jonthlaſpi minimum ſpicatum lunatum. *Col. ecphr.* 1. 281. *t.* 284.

Annual. Silicles orbiculate one-celled one-ſeeded.

[2. Clypeola tomentoſa. *Hoary Treacle-Muſtard.*

Lin. ſyſt. 591. *Reich.* 3. 238. *mant.* 92.

Alyſſum orientale. *Ard. ſpec.* 2. 32. *t.* 15. *f.* 1.

A. creticum ſaxatile, ſerpilli fol. candidiſſimo, capſ. orbic. *Tourn. cor.* 15.

Perennial. Silicles orbiculate two-celled; two-ſeeded leaves ſubtomentoſe.]

3. Clypeola maritima. *Sea Treacle-Muſtard*, or *Churles Muſtard*, Ger.

Lin. ſpec. 910. *ſyſt.* 591. *Reich.* 3. 239. *mant.* 426. *Gmel. ſib.* 3. 252. *n.* 6. *Villars dauph.* 3. 296.

Alyſſum caulibus diffuſis, fol. linearibus. *Ger. prov.* 350.

Thlaſpi montanum perenne, fl. albo. *Barr. ic.* 844.

T. Alyſſon dictum marit. *Bauh. pin.* 107.

T. narbonenſe, centunculi anguſto fol. *Tabern. ic.* 461. *Lob. ic.* 75.

T. narb. Lobelii. *Ger. emac.* 267. *f.* 3. *Raii hiſt.* 829.

Perennial; ſilicles two-celled ovate two-ſeeded.

DESCRIPTIONS, &c.

1. It is a low annual plant, ſeldom more than four inches high: ſtems ſlender, [hardiſh upright, branched at bottom, tinged with red, covered with

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[g] Woodville.

[h] Linn. mant.

[i] Linn. ſuppl.

[k] Vahl.

ſhort whitiſh hairs. Leaves ſpatulate, alternate, ſeſſile, glaucous, with minute ſtars of hairs all over the ſurface. Flowers in terminating ſpikes, and very minute. Corolla yellow, the ſize of the calyx. Style ſcarcely viſible with a magnifying glaſs[a]. Silicle ſuborbiculate, very ſlightly emarginate, leafy-compreſſed, pubeſcent, ſurrounded with a paler or whitiſh, very finely ciliate edge; one-celled, not opening ſpontaneouſly, but eaſily diviſible into two very ſlender membranaceous valves. Seed ſingle, elliptic, compreſſed, ſmooth, tawny-coloured[b].

Villars doubts whether this plant be diſtinct from *Alyſſum minimum* of Linneus.

Native of the South of France, Spain, and Italy. Flowering there from march to may; but with us from may to july. Cultivated 1739, by Mr. Miller[c].

2. Root perennial, woody, branched. Stems ſhrubby, diffuſed, leafy at the end. Leaves hirſutely hoary; the lower ovate-oblong, ſinuate, three inches long, and half an inch broad; the ſtem-leaves alternate, ſeſſile, linear-lanceolate, entire or toothletted. Flowers terminating and axillary, at firſt in a ſort of umbel, but afterwards panicled; calyx very ſmall, hairy on the outſide; petals yellow, emarginate, longer than the calyx. Silicles obcordate, alternate, pedicelled, two-celled with one ſeed in each cell; diſpoſed in a ſpike from two to three inches in length[d].

Firſt obſerved in the Levant by Tournefort.—Arduini had the ſeeds in 1755 from Leonard Seſler, who cultivated this plant many years in his garden at Venice. He and Lamarck agreed with Tournefort in referring this and the next ſpecies to the genus *Alyſſum*, and to make amends they tranſport the *Peltaria* to this genus. In this natural claſs, the diviſion of the genera is frequently arbitrary, and there would be no end to removals.

3. Stems much branching, diffuſed, evergreen. Leaves linear-lanceolate, whitiſh, not ſtiff. Racemes ſtriated. Calyx deciduous. Petals white, obovate, the claws and filaments dark purple. Anthers yellow. Filaments toothleſs; in which circumſtance alone it differs from the *Alyſſums*, with which it might very well be aſſociated[e].

According to Ray; root perennial. Branches ſtriated. Leaves an inch in length, taſting like Creſs. Corollas white, darker in the middle, reſembling thoſe of Water-Creſs.—It has the appearance of Wall-flower, but the branches are weaker, and both they and the leaves are much ſmaller.

Native of the South of France, Spain and Italy; common on the coaſt of the Mediterranean. Cultivated by Mr. Miller in 1759.]

PROPAGATION AND CULTURE.

Theſe are low plants, that have little beauty, and are preſerved chiefly in botanic gardens. The firſt is propagated by ſeeds, ſown on a border of light earth, where they are to remain. If ſown in autumn, the plants will grow larger, flower earlier, and ripen ſeeds with more certainty. If theſe be permitted to ſcatter, the plants will thrive without farther care.

3. The third ſhould be ſown upon a warm border in a dry ſoil, and does not bear tranſplanting well.

[CLYPEOLA. See *Alyſſum, Biſcutella, Peltaria.*]

CNEORUM. (*Cneorum of Pliny.* Κνεωρον, *of Hippocrates and Theophraſtus. Derivation unknown.*)

Lin. gen. n. 48. *Reich.* 52. *Schreb.* 65. *Juſſ.* 369.
Chamælea. *Tourn.* 421. *Gærtn.* 70.
Claſſ. 3. 1. Triandria Monogynia.
Natural order of *Tricoccæ. Terebintaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* very ſmall, three-toothed, permanent.
COR. *Petals* three, oblong, lanceolate-linear, concave, erect, equal, deciduous.
STAM. *Filaments* three, ſubulate, ſhorter than the corolla. *Anthers* ſmall.
PIST. *Germ* obtuſe, triangular. *Style* erect, firm, length of the ſtamens. *Stigma* trifid, ſpreading.
PER. *Berry* dry, globoſe-three-lobed, three-celled: (three-berried drupe, *G.*)
SEED ſolitary, round, (conduplicate, in a two-celled ſhell, *G.*)

ESSENTIAL CHARACTER.

Cal. three-toothed. *Pet.* three, equal. *Berry* tricoccous.

SPECIES.

1. Cneorum tricoccum. *Widow-wail*, or *Spurge-Olive.*
Lin. ſpec. 49. *Reich.* 93. *hort. cliff.* 18. *Mill. fig.* 65. *t.* 98.
Chamælea tricoccos. *Bauh. pin.* 462. *Cluſ. hiſt.* 1. 87. *Camer. epit.* 973. *Bauh. hiſt.* 1. 584. *Raii hiſt.* 1710. *Ger.* 1215. *emac.* 1402. *Park. theat.* 201. 5. fig. 202. 5. *Gærtn. fruct.* 1. 342.

DESCRIPTION, &c.

1. This is an humble ſhrub, which ſeldom riſes more than two feet and a half high in this country, but ſpreads out on every ſide with many lateral branches, ſo as to form a thick buſh. The ſtems ligneous, and almoſt as hard as thoſe of the Box-tree, and the wood is of a pale yellow colour under the bark: the branches are garniſhed with thick ſtiff leaves, of an oblong oval ſhape, about an inch and a half long, and a quarter of an inch broad, of a dark green colour, having a ſtrong vein or rib through the middle. The flowers are produced ſingle from the wings of the leaves, toward the extremity of the branches; they are of a pale yellow colour. After the flowers are fallen, the germ becomes a fruit, compoſed of three ſeeds joined together after the ſame manner as thoſe of Euphorbia or Spurge; theſe are firſt green, afterwards turn of a brown colour, and when ripe are black.

[The fruit is thus deſcribed by the accurate Gærtner. It conſiſts of three ſmall berried drupes, gibbous on one ſide, and angular on the other, joined at a common axis, dark brown when ripe: fleſh thin, herbaceous: ſhell bony, thick, ſubglobular, wrinkled, with a groove and umbilical hole on the belly, two-celled, valveleſs: one of the cells, placed behind the other, both at the ſeat of the radicle, divided by a thin partition, ſo that the upper part of the ſhell appears to be four-celled. In each cell there is a ſingle, ſmall, ovate ſeed, doubled together like a worm, white with a brown caruncle at the inſertion of the navel.]

The flowers begin to appear in may, and are ſucceeded by others during the ſummer months; and, when the autumn proves favourable, theſe ſhrubs will continue in flower till the end of october.

As this is a low evergreen ſhrub, it may be very ornamental, if placed in the front of plantations of evergreen trees and ſhrubs; for as the branches grow pretty compact, and are well garniſhed with leaves, it will hide the ground between the taller ſhrubs better than moſt other plants; and, being durable, will not want to be removed.

[Native of the South of France, Italy and Spain; in hot, dry, barren and rocky ſoils.—Cultivated in 1596, by Gerarde[f].]

PROPAGATION AND CULTURE.

This was formerly preſerved in green-houſes, and thought too tender to live in the open air in England; but it has now long been planted in the full ground, where it reſiſts the cold of our ordinary winters very well, and is ſeldom injured but by extreme hard froſts; nor do theſe kill the plants which grow upon dry, rocky, or rubbiſhing ſoils, where their ſhoots are generally ſhort and firm; but in moiſt rich ground, where the ſhoots are more luxuriant, they are ſometimes injured.

It is propagated by ſeeds, which ſhould be ſown in autumn ſoon after they are ripe, and then the plants will come up the following ſpring; whereas thoſe which are not ſown till the ſpring, will remain a year in the ground, and often miſcarry; theſe ſeeds may be ſown in a bed of common earth, covering them half an inch deep, and will require no other care but to keep the plants clear from weeds the following ſummer; and in the autumn following, the plants may be tranſplanted where they are to remain.

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[a] Cavanilles. [b] Gærtner. [c] Hort. kew. [d] Arduini. [e] Linn. mant.

[f] Hort. kew.

Cneorum. See *Convolvulus, Daphne.*

CNICUS (*of Pliny,* Κνικος *of Hippocr. Theophr. and Dioſcor. from* κνεω, κνῆμι *or* κνίζω, *to cut, prick, or ſcratch: hence* κνηκος *or* κνίκος, *a prickly plant.)*
Lin. gen. n. 926. *Reich.* 1005. *Schreb.* 1255. *Juſſ.* 172. Acarna. *Vaill. A. G.* 1718.
Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.
Nat. order of *Compoſitæ Capitatæ. Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

Cal. *Compound* ovate, guarded with bractes, imbricate: *ſcales* ovate, cloſe, branched-thorny.
Cor. *Compound* tubular, uniform: *corollets* hermaphrodite, equal.
Proper funnel-form, oblong: *border* five-cleft, erect, nearly equal.
Stam. *Filaments* five, capillary, very ſhort. *Anthers* cylindric, tubular.
Pist. *Germ* ſhort. *Style* filiform, length of the ſtamens. *Stigma* oblong, emarginate.
Per. none. *Calyx* cloſed.
Seed ſolitary. *Down* plumoſe.
Rec. flat, villoſe.

ESSENTIAL CHARACTER.

Cal. ovate, imbricate with branch-thorny ſcales, guarded with bractes. *Corollets* equal.

SPECIES.

[1. Cnicus oleraceus. *Pale-flowered Cnicus.*
Lin. ſpec. 1156. *Reich.* 3. 687. *hort. cliff.* 394. *fl. ſuec. n.* 723. *Neck. gallob.* 340. *Pollich pal. n.* 771. *Fl. dan. t.* 860. *Leers herborn. n.* 623. *Willd. berol. n.* 797. *Krock. ſileſ. n.* 1350.
Cirſium. *Hall. helv. n.* 173. *Scop. carn. n.* 998.
Carduus pratenſis. *Lob. ic.* 2. 11.—latifolius. *Bauh. pin.* 376. *Raii hiſt.* 305. *Park. theat.* 958. *f.* 1. —prat. Tragi. *Bauh. hiſt.* 3. 42, 43. *f.* 1.
β. Cirſium latiſſimum. *Bauh. pin.* 377.
Leaves pinnatifid keeled naked; bractes concave entire ſomewhat coloured.]

2. Cnicus Eriſithales. *Clammy Cnicus.*
Lin. ſpec. 1157. *ſyſt.* 727. *Reich.* 3. 687. *Jacqu. obſ.* 1. 28. *t.* 17. *auſtr.* 4. *p.* 5. *t.* 310. (Carduus.)
Carduus Eriſithales. *Krock. ſileſ. n.* 1340.
Cirſium. *Hall. helv. n.* 175. *Comm. gott.* 1. 206. *t.* 8. *Scop. carn. n.* 999. *ann.* 2. 62.
Carduus pratenſis, fol. tenuibus laciniatis. *Bauh. pin.* 376.
Eriſithales. *Dalech. hiſt.* 1094.
Leaves ſtem-claſping pinnatifid awn-ſerrated, peduncles drooping, calyxes glutinous.

[3. Cnicus ferox. *Prickly Cnicus.*
Lin. ſyſt. 727. *Reich.* 3. 688. *mant.* 109. *Gouan. illuſtr.* 63. *Allion. pedem. n.* 565. *t.* 50.
Carduus lanceolatus ferocior. *Bauh. hiſt.* 3. 58. *f.* 2. *Raii hiſt.* 311.
Leaves decurrent ligulate tooth-thorny; ſtem branching erect.

4. Cnicus pygmæus. *Pigmy Cnicus.*
Lin. ſpec. 1156. *Reich.* 3. 688.
Carduus. *Jacqu. vind.* 282. *t.* 8.
Serratula pygmæa. *Jacqu. auſtr.* 5. *t.* 440.
Cirſium pygmæum. *Scop. carn. n.* 996.
Carduus mollis, fol. oblongo, Cirſii capitulo. *Bauh. pin.* 377.
C. mollior humilis anguſtifolius. *Cluſ. hiſt.* 2. 151.
Leaves ſeſſile ſublinear very much crowded, calyx unarmed.]

5. Cnicus Acarna. *Yellow Cnicus.*
Lin. ſpec. 1158. *Reich.* 3. 689. *Gouan. hort. monſp.* 423. *Cavan. hiſp.* 39. *n.* 59. *t.* 53. *Villars dauph.* 3. 35.
Carduus Acarna. *Lin. ſpec. ed.* 1. 820. *Mill. dict. n.* 3.
Acarna major, caule folioſo. *Bauh. pin.* 379. *Raii hiſt.* 315. *n.* 6. *Park. theat.* 966. *f.* 6.
Chamæleon ſalmanticenſis. *Cluſ. hiſt.* 2. 155. *Ger.* 998. *f.* 2. *emac.* 1160. *f.* 2.
β. A. humilis, caule folioſo. *Bauh. pin.* 379. *Raii hiſt.* 315. *n.* 5.
Picnocomon cretæ ſalonenſis. *Dalech. hiſt.* 1456. *Lob. ic.* 2. 14.
Leaves decurrent lanceolate undivided; calyxes pinnate-thorny.

6. Cnicus ſpinoſiſſimus.
Lin. ſpec. 1157. *ſyſt.* 727. *Reich.* 3. 689.
Cirſium. *Hall. helv. ed.* 1. 679. *t.* 20. *ed.* 2. *n.* 172. *t.* 5. *Scop. carn. n.* 1006. *Gmel. ſib.* 2. 64. *t.* 25?
Carlina polycephalos alba. *Bauh. pin.* 380.
Leaves ſtem-claſping ſinuate-pinnate thorny; head ſimple, flowers ſeſſile.

[7. Cnicus Centauroides. *Artichoke-leaved Cnicus.*
Lin. ſpec. 1157. *Reich.* 3. 689. *hort. cliff.* 392. 1. (Carduus.)
Centaurium majus, fol. Cinaræ, Cornuti. *Mor. hiſt.* 3. 131. *ſ.* 7. *t.* 25. *f.* 2.
C. maj. pyrenæum. *Park. theat.* 465, 466. *f.* 2.
Leaves pinnatifid; calyxes ſcarioſe, ſcales acuminate.

8. Cnicus uniflorus.
Lin. ſyſt. 727. *Reich.* 3. 690. *mant.* 572.
Centaurea. *Gmel. ſib.* 2. 86. *t.* 38.
Leaves pinnatifid, calyx ſcarioſe villoſe.]

9. Cnicus cernuus. *Siberian Cnicus.*
Lin. ſpec. 1157. *Reich.* 3. 690. *hort. upſ.* 251. *Mill. fig. t.* 248.
Carduus. *Gmel. ſib.* 2. 47. *t.* 19.
Leaves cordate, petioles curled thorny ſtem-claſping; flowers drooping, calyxes ſcarioſe.

DESCRIPTIONS, &c.

[Some of the ſpecies approach to *Carduus,* others to *Serratula,* and *C. Acarna* to *Carthamus:* hence Lamarck has ſuppreſſed this genus, inſerting ſome of the ſpecies among the *Cardui,* and others among the *Carthami;* from which Linneus ſeparates the *Cnicus* principally becauſe the ſcales of the calyx are ovate and branch-ſpiny; whereas in *Carthamus* they are narrowed at the baſe, and have a leafy, ovate, ſpreading appendicle at the tip[a].

1. Calyxes lateral, ſeſſile, uſually two together, with one between on a ſhort peduncle. A white line runs along the keel of the calycine ſcales[b]. There are very ſmall, bifid appendixes to the anthers, as in *Carlina vulgaris*[c]. The calyx is ſurrounded with bractes, ſcales branch-thorny. Leaves ſmooth, ſtem-claſping[d].—In the woods of Switzerland, near brooks, it grows to the height of ſix feet, with the leaves more thorny, and the branches, in the mature ſtate of the plant, more elongated and leafleſs: it is then very like to *Carduus tataricus Jacqu. auſtr. t.* 90[e]. Flowers pale yellow.

Native of moſt countries of Europe, except the moſt ſouthern; flowering in july and the autumnal months, in moiſt woods, meadows and marſhes.——The Ruſſians boil the leaves in the ſpring, and eat them as Coleworts. No cattle touch it for food, according to *Schreber.*—Cultivated in 1570, by Mr. Hugh Morgan[f].

Mr. Miller's deſcription of *Cnicus Eriſithales* ſeems to belong to this ſpecies.

2. Leaves pinnate-parted, ſeſſile, pubeſcent eſpecially underneath. Peduncles leafleſs. Flowers ſolitary, nodding, yellow; diſk convex, rather long[g].

Stem three feet high and more, angular, ſometimes a little tomentoſe, not branched, unleſs at the top, naked far under the flowers. Flowers three or four, frequently two oppoſite, ſeſſile, never guarded with leaves, ſeldom ſolitary, nodding in a ſtate of maturity: calyxes conic; ſcales lanceolate, awned but not thorny: florets purple, yellow, or white with purple ſtamens and piſtil[h].

Stem from three to five feet high, hairy. Lower leaves a foot in length. Flowers as far as ſix. Calyxes roundiſh, ſmooth; ſcales reflected at the end. Filaments hairy: anthers putting forth two little briſtles behind. Seed two lines long, ancipital, with the angles obtuſe, crowned with a ring, whence ariſe feathered rays, as far as forty. Floſcules pale yellow, varying to red or purple and fleſh-colour.—The geſtation of this ſpecies laſts a month; the leaves on the ſtem ariſe to nine; the terminating ſegment of them is trifid, the lower pinnas are confluent with the ears; the branches bear two or three flowers, are long, and leafy; the leaves are lanceolate [i].

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[a] Juſſieu and Cavan. hiſp. 40.
[b] Linn. ſpec.
[c] Leers.
[d] Willdenow.
[e] De la Chenal, act. helv. 8. 141.
[f] Hort. kew. from Lobel.
[g] Linn. ſyſt.
[h] Haller.

France, Switzerland, Auſtria, Carniola, Sileſia. It begins to flower in june.—Introduced 1787, by Monſ. Vare. Perennial [k].

3. This ſpecies reſembles *Carduus eriophorus*. Stem firm, deeply grooved, covered with a cobwebby pubeſcence. Leaves ſtem-claſping, lanceolate, deeply pinnatifid; pinnas ſimple and two-lobed ending in a ſtrong ſpine; not only the whole margin, but the ſurface of the leaf is ſtrigoſe and ſet with thorns. A large head of white or purple floſcules terminates the branches, and is guarded with linear ſtrigoſe bractes having ſmall ſpines about the edge. Scales of the calyx as in *C. eriophorus*. Biennial [l].

South of France and Piedmont.——It flowers in july and auguſt. Introduced 1775, by Monſ. Thouin [m].

4. Root perennial, black. Stem upright, hollow, from two to five inches high, thickened at top, very cloſely covered with white hairs. Leaves many both at the root and on the ſtem, ſharp, three inches long, ſome quite entire, others toothletted, unarmed, the ſides rolled back, grooved on the upper ſurface where the midrib projects on the under, hairy, eſpecially beneath and near the ſtem, deep green above, pale green underneath. Flower ſolitary, terminating, erect, very large in proportion to the plant, ſeſſile in the uppermoſt ſhorter leaves. Scales of the calyx lanceolate, acuminate, hairy, ciliate, pale green with a purple baſe, the inmoſt erect, the outer patulous at the tip. Corollets purple; tube long and ſlender, ſpread out into a wide and then an ovate form, ſegments linear, obtuſe, equal, ſhort; in the outer florets very much curved in, but in the central ones ſtraight. Anthers violet-coloured. Stigma bifid, purple. Calyx unchanged when in fruit. Hairs on the receptacle white, capillary, the length of the calyx. Seeds oblong, obſcurely angular, ſmooth, browniſh, crowned with a ſeſſile, plumoſe, long egret. It flowers in july and auguſt.

Native of the mountains of Auſtria [n]. Found alſo on mount Grindoviz in 1761, by Scopoli, who ſays that his ſpecimens are leſs villoſe, the leaves fewer and with only a ſingle toothlet or two, the calycine ſcales poliſhed on the inſide, the ſeeds compreſſed, crowned with a pale egret three times as long as the calyx, and the receptacle rough with briſtle-ſhaped chaffs. He refers it to the genus *Cirſium*, and Jacquin to that of *Serratula*.

5. Stem herbaceous, winged by the leaves running down it, hoary, a foot high, but ſometimes much ſmaller. Leaves ſeſſile, ſcattered, extremely acute, hoary, keeled, having a few teeth about the edge, with two or three yellow ſpines in each. Calyx woolly; ſcales linear, ending in pinnate, innocuous, yellow ſpines; and intrenched in leaves that are very prickly, like the ſtem-leaves but ſhorter. Corollets purple. Seeds ovate, ſharp at the baſe, ſomewhat compreſſed, ſhining, yellowiſh white, crowned with a feathered egret, half an inch long, ſpreading out into a ball [o].

This has the habit of *Carlina*, and the appearance of *Carthamus*. Stem ſimple, corymbed at the top. Leaves adnate, becoming hoary, ciliated with tranſverſe, yellow, double ſpines. Flowers terminating, afterwards axillary, ſeſſile. Calyxes oblong, imbricated with ſcales having harmleſs ſpines at the end, but pinnate with five ſpreading ſpinules. Corollas ſmall, purpliſh [p].

It is a native of the South of France and of Spain, and was cultivated in 1683, by Mr. James Sutherland [q].

6. Stem unbranched, twelve to eighteen inches high; the top entirely covered with leaves, angular not winged. Stem-leaves moſt fiercely thorned; pinnas angular, many-lobed, the nerves continued into ſtrong thorns: the leaves on the top of the ſtem form a neſt for the flower, broader, ovate-lanceolate, pinnate, whitiſh yellow, pubeſcent. Calyx connate, with lanceolate ſcales, ending in a ſtout ſpine. Floſcules pale yellow [r].

The ſtem of our plant is twice as long as in Haller's figure, grooved, villoſe. Leaves ſubdecurrent, villoſe above, beneath having thick hairy nerves. Flowering heads as far as eighteen. Calycine ſcales ſmooth, erect [s].

Haller affirms that Gmelin's plant is not the ſame with his.—Native of Switzerland, Auſtria, and Carniola. Perennial. In gardens it riſes to the height of four feet.

7. Leaves large, long, winged, the colour and form of Artichoke leaves, hoary underneath. Stem three feet high, angular, putting forth few branches, and having at the top heads the ſize of a ſmall Artichoke, and of a tawny colour. Corollas purple. Native of the Pyrenees [t].

It flowers in july and auguſt, and was cultivated here in 1640 [u].

8. Stem two feet high, erect, ſubangular, the thickneſs of the little finger, ſcarcely lanuginoſe, one-flowered. Leaves very many, unarmed, ſeſſile, ſomewhat hoary; the upper ſmaller and more entire: root-leaves large, petioled; the ſegments lanceolate, ſerrate. Flower one, terminating, ſeſſile; calyx large, globular, ſcales imbricate, looſe, ovate, gray: corolla large, violet; floſcules ſix-cleft, with linear, acute ſegments; ſtamens and ſtyle longer than the corolla, the former white, the latter violet. There are no barren floſcules.—Native of Siberia. Perennial [x].

9. Root perennial, large, and rough, ſending out many thick, black fibres, which ſtrike deep in the ground. The leaves which riſe immediately from the root are near a foot long, and ſix inches broad in the middle, diminiſhing gradually toward the point, but at the baſe ſwelling out almoſt heart-ſhaped; their petioles are bordered, and the borders are cut and curled, embrace the ſtalks half round, and end in ſpines; they are of a deep green on their upper ſide, but white on their under, and are ſharply ſerrate on their edges. The ſtalks riſe ſix or ſeven feet high, ſending out a few ſmall branches; they are ſtriated, of a brown colour, and at bottom have heart-ſhaped leaves, half-ſtem-claſping; the leaves toward the top of the ſtalk are long and narrow, ending in acute points. Each branch is terminated by one large head of flowers: calycine ſcales imbricate, ending in a ſharp ſpine; florets pale yellow, with an agreeable ſcent. It flowers the ſecond year from ſeed in july, and the ſeeds ripen in the autumn, when the plant decays.—Native of Siberia, whence the ſeeds were ſent to the imperial garden at Peterſburgh, and were communicated to Mr. Miller [y], who cultivated them at Chelſea in 1758 [z].]

The inhabitants of Siberia eat the tender ſtalks, boiled.

PROPAGATION AND CULTURE.

Theſe are perennial plants, which may be propagated by parting the roots: the beſt time for doing this is in autumn, that the plants may get good root in winter; for thoſe which are tranſplanted in the ſpring, do not flower well the firſt year, unleſs they are planted in a moiſt ſoil. As theſe plants grow very large, they are not proper furniture for ſmall gardens, where they will take up too much room; for they ſhould not be planted nearer than four feet from each other, for if they are too near any other plants, they will rob them of their nouriſhment; for the roots of theſe extend to a great diſtance, ſo that two or three for variety, are ſufficient for any garden, and may be planted at a diſtance from choicer plants.

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[i] Scopoli. [k] Hort. kew. [l] Allioni. [m] Hort. kew. [n] Jacquin. [o] Cavanilles. [p] Linn. ſpec. [q] Hort. kew.

[r] Haller. [s] Scopoli. [t] Moriſon. [u] Hort. kew. [x] Linn. mant. [y] Mill. fig. [z] Hort. kew.

They are alſo propagated by ſeeds, which may be ſown in the ſpring on a bed of common ground, and will only require to be thinned, and kept clean from weeds till autumn, when they may be tranſplanted where they are deſigned to remain.

[Cnicus. See *Atractylis*, *Carlina*, *Carthamus*, *Centaurea*.]

Coa. See *Hippocratea*.

[Coanenepilli. See *Paſſiflora*.

Coapoiba. See *Copaifera*.

Cobbe. See *Rhus*.]

[COCCOCYPSELUM. (*From* κοκκος, *a grain or ſeed, and*, κυψελὴ *or* κυψελιὸν, *a cheſt, veſſel or meaſure.*)
Lin. gen. Schreb. n. 1721. *vol.* 2. *p.* 789. *Brown.* 144. *Swartz prodr.* 31. *Juſſ.* 198.
Claſſ. 4. 1. Tetrandria Monogynia.
Nat. order of *Stellatæ*. *Rubiaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, four-parted, ſuperior: *ſegments* acute, erect.

Cor. one-petalled, funnel-form: *tube* longer than the calyx, gradually widening towards the border; which is four-parted, the parts ovate, erect.

Stam. *Filaments* four, the length of the tube, inſerted into the baſe, filiform, erect. *Anthers* erect.

Pist. *Germ* ovate, inferior. *Style* the length of the ſtamens, bifid at the tip. *Stigmas* ſimple.

Per. *Berry* roundiſh, inflated, two-celled, crowned.

Seeds numerous, minute.

ESSENTIAL CHARACTER.

Cal. four-parted, ſuperior. *Cor.* funnel-form. *Berry* inflated, two-celled, many-ſeeded.

SPECIES.

1. Coccocypſelum repens.
Swartz prodr. 31. *Brown. jam.* 144. *t.* 6. *f.* 1.

DESCRIPTION, &c.

This is very like the ſmalleſt ſpecies of *Ruellia* (268. n. 3.) both in leaves and appearance: it grows in ſpreading tufts, each ſtalk creeping eighteen or twenty inches from the root, and ſhooting out a few lateral branches as it runs; the leaves are oppoſite; the flowers and fruits riſe on ſhort divided peduncles from alternate axils.

Native of Jamaica, frequent in the cooler mountains of Liguanea and Mount-Diable[a].]

COCCOLŎBA. (*Named* Coccolobis *by Browne, from the kernel being lobed at bottom, and altered to* Coccoloba *by Jacquin and Linneus.*)
Lin. gen. n. 496. *Reich.* 538. *Schreb.* 678. *Gærtn. t.* 45. *Juſſ.* 82. *Brown. t.* 14. *f.* 3. *Jacqu. amer.* 111. *Gærtn.* 45.
Claſſ. 8. Octandria Trigynia.
Nat. order of *Holoraceæ*. *Polygoneæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted; *diviſions* oblong, obtuſe, concave, ſpreading moſt widely, coloured, permanent.

Cor. none.

Stam. *Filaments* eight, ſubulate, patulous, ſhorter than the calyx. *Anthers* roundiſh, twin.

Pist. *Germ* ovate, trigonal. *Styles* three, ſhort, filiform, ſpreading. *Stigmas* ſimple.

Per. none. *Calyx* berried, thickened, converging, involving the ſeed.

Seed. *Nut* ovate, acute, one-celled.

ESSENTIAL CHARACTER

Cal. five-parted, coloured. *Cor.* none. *Berry* calycine, one-ſeeded.—Drupe. *G.*

SPECIES.

1. Coccoloba Uvifera. *Round-leaved Sea-ſide Grape, or Mangrove Grape-tree.*
Lin. ſpec. 523. *Reich.* 2. 214. *Jacqu. amer.* 112. *t.* 73. *pict.* 57. *t.* 110. *Brown. jam.* 209. *Gærtn. fruct.* 214. *t.* 45.
Uvifera. *Lin. hort. cliff.* 487. *Pluk. alm. t.* 236. *f.* 7.
Guaiabara. *Plum. ic. t.* 145.
Populus rotundifolia americana. *Bauh. pin.* 430.
Prunus. *Sloan. jam.* 2. 129. *t.* 220. *f.* 3, 4, 5. *Rati dendr.* 40. *n.* 5. *Cateſb. car.* 2. *t.* 96.
Leaves cordate-roundiſh ſhining.

2. Coccoloba pubeſcens. *Great-leaved Sea-ſide Grape.*
Lin. ſpec. 523. *ſyſt.* 379. *Reich.* 2. 215. *Brown. jam.* 210. *n.* 2.
C. grandifolia. *Jacqu. amer.* 113. *pict.* 57.
Scortea. *Pluk. phyt.* 222. *f.* 8.
Leaves orbiculate pubeſcent.

3. Coccoloba excoriata. *Oval-leaved Sea-ſide Grape, or mountain Grape-tree.*
Lin. ſpec. 524. *Reich.* 2. 215. *Brown. jam.* 210. 4.
Leaves ovate, branches as it were barked.

[4. Coccoloba nivea.
Jacqu. amer. 115. *t.* 78. *pict.* 58: *t.* 115. *Swartz prodr.* 64.
Leaves elliptic acuminate veined ſhining above; racemes almoſt upright.

5. Coccoloba leoganenſis.
Jacqu. amer. 113. *t.* 178. *f.* 33.
Leaves roundiſh quite entire ſhining flat, racemes of the fruit erect.

6. Coccoloba obtuſifolia.
Jacqu. amer. 114. *t.* 74.
Leaves oblong very obtuſe.

7. Coccoloba flaveſcens.
Jacqu. amer. 114. *t.* 75.
Leaves lanceolate-oblong, blunt with a point.]

8. Coccoloba punctata. *Spear-leaved Sea-ſide Grape.*
Lin. ſpec. 523. *Reich.* 2. 216. *Brown. jam.* 210. 3.
C. coronata. *Jacqu. amer.* 114. *t.* 77. *pict.* 58. *t.* 114.
Leaves lanceolate-ovate.

[9. Coccoloba emarginata.
Lin. ſyſt. 379. *Reich.* 2. 216. *Jacqu. enum. amer.* 37. *obſ.* 1. 18. *t.* 9.
Leaves coriaceous roundiſh gaſh-emarginated.

10. Coccoloba barbadenſis.
Lin. ſyſt. 379. *Reich.* 2. 216. *Jacqu. enum. amer.* 37. *obſ.* 1. 18. *t.* 8.
Leaves cordate-ovate waved.]

11. Coccoloba tenuifolia. *Small Sea-ſide Grape.*
Lin. ſpec. 524. *Reich.* 2. 216. *amœn.* 5. 397. *Brown. jam.* 210. 5. *t.* 14. *f.* 3.
Leaves ovate membranaceous.

[12. Coccoloba auſtralis.
Forſt. flor. auſtr. n. 176.
Leaves cordate-ovate-acute; flowers polygamous.

13. Coccoloba aſiatica.
Lour. cochinch. 239.
Scandent: leaves oblong-ovate veined; racemes terminating.

14. Coccoloba cymoſa.
Lour. cochinch. 240.
Scandent; leaves oblong-ovate, veined; flowers axillary and terminating in ſeſſile cymes.

DESCRIPTIONS, &c.

1. This is a lofty ſpreading branched irregular inelegantly formed tree, but rendered handſome by its leaves and fruits. Bark cinereous, thin, in the younger trees ſmooth, in older ones full of chinks. Timber hard ponderous red, but fit for little uſe except to burn on account of its fibrous texture, unleſs it ſhould be found ſerviceable in dying. Leaves quite entire, ending in a ſhort blunt point, coriaceous thick large alternate deep green, with the midrib and veins connected with it more or leſs ſcarlet, on ſhort petioles ſheathing at the baſe. Racemes ſimple round thick upright terminating ſolitary very long, when in fruit pendulous; the pedicels one-flowered numerous and ſhort. Flowers ſmall whitiſh, ſmelling like thoſe of the Cherry. Style ſingle, or divided deeply into three ſegments, or triple; which variation takes place alſo in the other ſpecies. Baſe of the filaments widening, and they are commonly connected there[b].

The berries are of the ſize of Grapes, having under an outward reddiſh-brown or purpliſh membrane, a ſoft thin pulp, not unpleaſantly aſtringent, covering a large round ſtone, containing a kernel [c].

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[a] Browne.

[b] Jacquin.

Gærtner calls the fruit a ſuperior drupe formed of the berried calyx, obovate, of a purple colour with a bloom becoming black when ripe, and wrinkled: pulp ſoft drying into a thin cruſt. Shell thin like paper, intimately united with the pulp and half-three-celled: partitions membranaceous narrow, to be found only at the bottom of the drupe. Seed ſingle, ſubglobular, acuminate above, deeply umbilicate below, three-lobed, ſtriated and wrinkled, of a ferruginous brown colour.

The fruit is a very great aſtringent, and may be uſed in emulſions, boluſes or electuaries, but its action is not of long continuance: it has all the taſte of Biſtort. The berries have an agreeable flavour, but the pulp is not conſiderable. This tree is common in moſt of the ſugar-colonies, and is generally found near the ſea. It frequently grows to a conſiderable ſize, and is then looked upon as a beautiful wood for all ſorts of cabinet-ware; but it ſeldom riſes ſtraight or regular [d]. The Spaniards call it *Uvero*, and the French *Raiſinier du bord de la mer.*

Introduced 1696, by Mr. Bentick [e].

2. This is an upright tree, ſixty or eighty feet high: the head has frequently no more than two or three thick branches, but little divided and irregular. The bole of the tree is ſometimes forty feet in length, and puts forth a branch or two about the middle. The timber is deep red, heavy, very hard, and alſo incorruptible, but it is brittle; when uſed for poſts, the part under ground becomes hard as ſtone. Leaves roundiſh, cordate, quite entire, very much veined and wrinkled, frequently extremely hirſute, ſometimes however almoſt ſmooth, alternate, few, two feet in diameter, on a ſhort petiole ſheathing at the baſe.

It is common in the thick mountainous woods of Martinico [f]. Browne ſays, that in Jamaica it ſeldom riſes above five or eight feet in height; and that the berries are not eſteemed. Jacquin had not ſeen the flower or fruit, but was informed that the latter is eatable. The French inhabitants call it *Bois a grandes feuilles.* Jacquin cultivated it at Vienna about the year 1755; and Mr. Miller here in 1768.]

3. This grows to a very large ſize, and the leaves, flowers and fruits are all large: the leaves are very ſmooth and of a lucid green.

[Browne informs us that it grows to a conſiderable ſize in Jamaica, and is looked upon there as a fine timber wood.

It was introduced here before 1733, by William Houſtoun, M.D. [g]

4. This tree grows to the height of twenty feet, is upright, and the boughs form a head. Leaves quite entire, wrinkled, petioled, alternate, half a foot long. Racemes terminating, ſolitary, ſimple. Flowers ſmall, yellowiſh. The calyx becomes thick, ſucculent and ſnow-white, covering to the middle a three-ſided, black, ſhining nut. The fruit is ſweet and pleaſant. The French call it *Raiſinier de coude.*— Native of St. Domingo, Jamaica, and Martinico [h].

5. This is a ſmall upright branching tree, ten feet high. Leaves veined coriaceous, only half the ſize of thoſe on the firſt ſort. Native of Port au Prince and Leogane in St. Domingo.

6. This is alſo a ſmall, very branching, irregular tree, about twelve feet high, with ſmooth aſh-coloured branches. Leaves quite entire, ſhining, coriaceous, veined, commonly ſlightly widening at the top, flat, alternate, petioled, numerous. Racemes ſimple, terminating, ſolitary, on alternate diſtich young twigs. Flowers ſmall, white. The leaflets of the calyx increaſe and become ſucculent, cloſely embracing a dark ſhining nut, frequently naked at the end; however they continue permanent, not uniting into a drupe. Whence this ſpecies ſeems nearly allied to *Polygonum*. The fruit is aſtringent. Native of Carthagena. Flowering in auguſt [i].

7. A ſmall branching tree, twelve feet high. Leaves quite entire, coriaceous, ſhining, ſomewhat rigid, almoſt veinleſs, yellowiſh green, petioled, alternate, numerous. Racemes ſimple, terminating, erect. Drupes roundiſh, dark purple, the ſize of a large pea; the pulp ſweet and eatable. Native of Domingo, at Port au Prince.

8. A ſmall upright branched tree, fifteen feet high. Leaves quite entire, ſubcoriaceous, veined, ſhining, alternate, half a foot long, commonly two or three on each flowering branchlet, on petioles ſheathing at the baſe. Racemes terminating, ſimple, ſolitary, erect, ſcarcely an inch and half long. Flowers white. Almoſt the whole receptacle, with a ſmall part only of the calyx, becomes a roundiſh drupe, of a dark red colour, and a ſweetiſh but auſtere taſte. Native of Carthagena.

9. This tree agrees very nearly in habit with *C. leoganenſis*. The leaves are very deeply emarginate at the tip, commonly at an acute angle, and are ſcarcely coriaceous. Native of the Weſt Indies. It is *Guajabaſa foliis rotundioribus* of Houſtoun's catalogue, and is in Mygind's herbarium.

10. This has the habit of *C. uvifera*. The leaves are very coriaceous, five inches long, waved on the edge; the petioles are ſlightly covered with a ferruginous toment. Bark of the branches cinereous. Wood red. It is named in Houſtoun's catalogue G. fol. oblongis, and is alſo in Mygind's herbarium [k].]

11. This is of humbler growth than any of the former: the flowers and fruit are ſmaller than thoſe of the other ſorts. [It recedes from the other ſpecies, in having membranaceous not coriaceous leaves; the petioles ſurrounded with a membrane inſtead of a ſtipule, and not iſſuing from their back; racemes terminating and quite ſimple; flowers ſcattered and pedicelled [l].

The calyx is ſeldom divided into more than three parts, and the nut is triangular. The flowers are ſmall and diſpoſed in ſimple axillary ſpikes in all the ſpecies. The petioles of the leaves are ſtrong and ſheathed at the bottom [m].

Native of Jamaica.

12. Native of New Zealand; found at Charlotte Sound. It ſeems rather to be a *Polygonum* by the drawing in Sir Joſeph Banks's collection.

13. Stem ſuffruticoſe, branching. Leaves ſubacuminate, quite entire, coriaceous, alternate. Flowers white in looſe racemes. Calyx bell-ſhaped. Style cloven half way, nearly equal to the calyx, with three roundiſh ſtigmas. Fruit a roundiſh five-lobed berry, formed from the five ſegments of the calyx, blackiſh, pellucid and ſmall, incloſing one, three-ſided, acuminate ſeed.

Native of Cochinchina, in hedges and among buſhes.

14. This has the ſtem, leaves, and fructification as in the foregoing ſort; but the flowers are more numerous and heaped together in ſeſſile cymes.

In the hedges of Cochinchina [n].

All the ſpecies are either trees or ſhrubs bearing their flowers in racemes or bunches.] except the three laſt, they are natives of the Weſt Indies; ſome on the ſea ſhores, where they form almoſt impenetrable thickets. The fruit of the firſt ſort is frequently eaten by the inhabitants, but eſpecially by the negroes: the other ſorts are chiefly food for birds.

PROPAGATION AND CULTURE.

The plants of all the ſorts are eaſily propagated by ſeeds, when they can be obtained freſh from the places of their natural growth (for none of the ſorts have as yet produced either fruit or flowers in England.) The ſeeds ſhould be ſown in ſmall pots filled with earth from the kitchen-garden, and plunged into a hot-bed. If the ſeeds are good, and the bed of a proper temperature of warmth, the plants will appear in five or ſix weeks, and will be fit to tranſplant in about a month after; when they ſhould be ſhaken out of the pots, ſeparating their roots carefully, and each planted in a ſeparate ſmall pot filled with the like earth, plunging them into a hot-bed of tanners bark, being careful to ſhade them in the day time, until they have taken new root; after which they ſhould be treated as other tender exotic plants, which require to be conſtantly kept in the bark ſtove.

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[c] Sloane. [d] Browne. [e] Hort. kew. [f] Jacquin. [g] Hort. kew. [h] Jacquin.

[i] Jacquin. [k] Ibid. [l] Linn. amoen. [m] Browne. [n] Loureiro.

[Cocconilea. See *Rhus.*
Cocculus. See *Meniſpermum.*
Coccus. See *Cocos.*]
Coccygria. See *Rhus.*

COCHLEARIA. (*From the form of the leaves, which being ſlightly hollowed, reſemble an old-faſhioned ſpoon.*)

Lin. gen. n. 803. *Reich.* 867. *Schreb.* 1079. *Juſſ.* 240. *Tourn.* 101. *Raii meth.* 98.
Claſſ. 15. 1. Tetradynamia Siliculoſa.
Nat. order of *Siliquoſæ*, or *Cruciformes*. *Cruciferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* four-leaved: *leaflets* ovate, concave, gaping, deciduous.
Cor. four-petalled, cruciform. *Petals* obovate, ſpreading, twice the ſize of the calyx: *claws* narrow, ſhorter than the calyx, patulous.
Stam. *Filaments* ſix, ſubulate, length of the calyx: the oppoſite ones ſhorter. *Anthers* obtuſe, compreſſed.
Pist. *Germ* heart-ſhaped. *Style* ſimple, very ſhort, permanent. *Stigma* obtuſe.
Per. *Silicle* heart-ſhaped, gibbous, turgid, emarginate, furniſhed with a ſtyle, two-celled, ſcabrous, valves gibbous, obtuſe.
Seeds about four in each cell.

ESSENTIAL CHARACTER.

Silicle emarginate, turgid, ſcabrous; valves gibbous, obtuſe.

SPECIES.

1. Cochlearia officinalis. *Common Scurvy-graſs.*
Lin. ſpec. 903. *ſyſt.* 588. *Reich.* 3. 226. *fl. ſuec. n.* 577. *lapp. n.* 256. *hort. cliff.* 332. 4. *mat. med.* 160. *Hudſ. angl.* 283. *With.* 677. *Lightf.* 342. *Fl. dan. t.* 135. *Blackw. t.* 227. *Woodv. med. bot.* 89. *t.* 29.
Cochlearia. *Bauh. hiſt.* 2. 942. *Raii hiſt.* 822. *ſyn.* 302. 1. *Dod. pempt.* 594. 1.——rotundifolia. *Ger.* 324. 1. *emac.* 401. 1. *Park. theat.* 285. 2.—fol. ſubrotundo. *Bauh. pin.* 110. *Mor.* 3. 20. 1.
Naſturtium. *Hall. helv. n.* 503.
β. C. minor rotundifolia. *Park.* 286. 3. *Raii ſyn.* 303. 4.
Root-leaves cordate-roundiſh, ſtem-leaves oblong a little ſinuate.

2. Cochlearia danica. *Daniſh Scurvy-graſs.*
Lin. ſpec. 903. *ſyſt.* 588. *Reich.* 3. 227. *fl. ſuec. n.* 578. *mant.* 425. *Fl. dan. t.* 100. *Hudſ. angl.* 284. *With.* 679. *Lightf.* 343.
C. aremorica. *Tourn. inſt.* 215. *Raii hiſt.* 824.
C. marina fol. anguloſo parvo. *Raii ſyn.* 303. 5.
Thlaſpi hederaceum. *Lob. obſ.* 338. 1. *ic.* 1. 615. 2. *Ger. emac.* 271. 5. *Park. theat.* 848. 1. *Bauh. hiſt.* 2. 933. 2. *Pet. brit. t.* 49. *f.* 3. *Mor.* 3. 20. 3.
β. C. danica repens. *Bauh. pin.* 110. *prodr.* 53. *Raii hiſt.* 833.
γ. C. minor erecta. *Bauh. pin.* 110. *prodr.* 53. *Raii hiſt.* 833.
Leaves haſtate-angular, all deltoid.

3. Cochlearia anglica. *Engliſh* or *Sea Scurvy-graſs.*
Lin. ſpec. 903. *Reich.* 3. 227. *Hudſ. angl.* 284. *With.* 679. *Lightf.* 344. *Fl. dan. t.* 329. *Blackw. t.* 218.
C. fol. ſinuato. *Bauh. pin.* 110. *Raii hiſt.* 833. *ſyn.* 303. 3. *Mor.* 3. 20. 2.
C. britannica ſ. anglica. *Lob. obſ.* 157. 1. *ic.* 1. 294. 1. *Ger.* 324. 2. *emac.* 401. 2.
C. vulgaris. *Park. theat.* 285. 1.
All the leaves ovate-lanceolate.

4. Cochlearia groenlandica. *Greenland Scurvy-graſs.*
Lin. ſpec. 904. *Reich.* 3. 227. *hort. cliff.* 498. *Lightf.* 344. *Barth. act.* 3. 143. *t.* 144.
C. offic. γ. *Hudſ.* 283. *With.* 678.
Leaves kidney-form entire fleſhy.

[5. Cochlearia Coronopus. *Wild Scurvy-graſs*, or *Swine's-Creſs.*
Lin. ſpec. 904. *Reich.* 3. 227. *hort. cliff.* 331. *fl. ſuec. n.* 579. *Hudſ. angl.* 284. *With.* 680. *Lightf.* 345. *Scop. carn. n.* 860. *Neck. gallob.* 276. *Pollich pal. n.* 613. *Fl. dan. t.* 202.
Naſturtium ſupinum capſulis verrucoſis. *Raii ſyn.* 304.
Coronopus *Ruellii*, 373. *Hall. helv. n.* 502. *Blackw. t.* 120. *Gærtn. fruct.* 2. 293. *Ger.* 346. 2. *emac.* 427. 2. *Park.* 502. *f.* 2. *Pet. brit. t.* 50. *f.* 6. *Mor.* 3. 19. 9. *Bauh. hiſt.* 2. 919. 2. *Raii hiſt.* 843.
Ambroſia campeſtris repens. *Bauh. pin.* 138.
Lepidium ſquamatum. *Forſk. ægypt.* 117. *n.* 69.
Leaves pinnatifid; ſtem depreſſed.]

6. Cochlearia Armoracia. *Horſe Radiſh.*
Lin. ſpec. 904. *Reich.* 3. 228. *hort. cliff.* 332. 2. *fl. ſuec. n.* 580. *mat. med.* 160. *Woodv. med. bot.* 406. *t.* 150. *Hudſ. angl.* 284. *With.* 681. *Relh. cant. n.* 475. *Blackw. t.* 415.
Naſturtium. *Hall. helv. n.* 504.
Rhaphanus ruſticanus. *Bauh. pin.* 96. *Ger.* 187. 1. *emac.* 241. 1. *Park. theat.* 860. *Pet. brit. t.* 49. *f.* 11. *Mor.* 3. 7. 2. *row.* 3. *Raii hiſt.* 818. *ſyn.* 301.
R. magna. *Dod. pempt.* 678. 1. *Lob. ic.* 1. 320. 1. *Matth.* 442.
Root-leaves lanceolate crenate; ſtem-leaves gaſhed.

7. Cochlearia glaſtifolia. *Woad-leaved Scurvy-graſs.*
Lin. ſpec. 904. *ſyſt.* 588. *Reich.* 3. 228. *hort. cliff.* 332. 3. *upſ.* 184. *Villars dauph.* 3. 297.
Lepidium glaſtifolium. *Bauh. pin.* 97. *Mor. hiſt.* 2. 312. *ſ.* 3. *t.* 21. *f.* 3. *Raii hiſt.* 828. 2. & 840.
L. annuum. *Dalech. hiſt.* 1297. *Lob. obſ.* 153. *ic.* 321. *Bauh. hiſt.* 2. 941. *f.* 2.
Stem-leaves cordate-ſagittate ſtem-claſping.

[8. Cochlearia Draba.
Lin. ſpec. 904. *ſyſt.* 588. *Reich.* 3. 228. *Jacqu. auſtr.* 4. 8. *t.* 315. *Villars dauph.* 3. 298.
Lepidium. *Lin. hort. cliff.* 331. 2.
Draba 1. vulgaris. *Cluſ. hiſt.* 2. 124.—umbellata ſ. major, capitulis donata. *Bauh. pin.* 109. *Mor.* 3. 21. 1.
Leaves lanceolate ſtem-claſping toothed.

DESCRIPTIONS, &c.

1. Root perennial. Stem angular, branching. Root-leaves kidney-ſhaped, entire, veined, ſmooth, fleſhy, obtuſe, with ſeven callous obſcure crenules, ſometimes ſlightly angular, on long petioles. Stem-leaves oblong, ſeſſile or claſping, the lower ones ſometimes on broad petioles, deep green, ſlightly toothed, or with a few large angular dents on the edges. Petals fleſhy, clear white with greeniſh claws. Silicles oval, gibbous, ſmooth, either not emarginate or ſcarce ſenſibly ſo, on long ſlender peduncles, ſpreading and ſometimes bent back: partition double, in each cell four rough ſeeds[a].

Sea ſhores of the north of Europe: alſo on mountains. With us on the coaſt of Norfolk near Lynn and Yarmouth; near Hull, Boſton, Whapload, Holbeach; in Cornwall, Cumberland, Lancaſhire, Wales: and at a great diſtance from the Sea near Caſtleton in Derbyſhire, Penigent, Ingleborough, and Stanemore in Yorkſhire; near Settle, on the highlands of Scotland, and mountains of Wales.

Cochlearia officinalis, or Common Scurvy-graſs, has long been held in very high eſtimation as an antiſcorbutic and purifier of the blood. It has a ſomewhat unpleaſant ſmell, and a warm, bitter taſte. Its active matter is extracted by maceration both in watery and ſpirituous menſtrua, and accompanies the juice obtained by expreſſion. The moſt conſiderable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling in the drying of the herb, and in the evaporation of the liquors. Its principal virtue reſides in an eſſential oil, ſeparable in a very ſmall quantity by diſtillation with water. Scurvy-graſs is antiſeptic, attenuant, aperient and diuretic, and is ſaid to open obſtructions of the viſcera and remoter glands, without heating or irritating the ſyſtem. It has been long conſidered as the moſt effectual of all the antiſcorbutic plants, of which we have the teſtimonies of the moſt celebrated phyſicians, and it has been obſerved that it naturally grows moſt in thoſe high latitudes where the ſcurvy is moſt prevalent. In rheumatic pains of long continuance, accompanied with fever, this plant, combined with Arum and Wood-ſorrel, is highly commended by Sydenham and Lewis. A remarkably volatile and pungent ſpirit, prepared from this herb, and called *Spiritus antiſcorbuticus*, was found by Werlhof to be a uſeful remedy in Palſy and other diſorders requiring an active ſtimulant, given in the doſe of thirty drops ſeveral times a day; but no preparation ſeems ſo beneficial by way of an antiſcorbutic as the freſh plant eaten as a ſalad, or its expreſſed juice drank. If the green herb be infuſed in ale or beer, and put into a bottle well corked, it will communicate to it all its antiſcorbutic virtue or volatile ſpirit in three or four days time. Mr. Ray from his own experience, recommends this ale to ſuch as are troubled with the ſcurvy, to be taken for their ordinary drink. He ſays that it is not ſo good if the Scurvy-graſs has been long infuſed in it; for thereby the earthy and fixed parts are forced from the herb, and communicated to the ale, and the volatile parts either fly away, or being jumbled with the more fixed parts, loſe a great deal of their virtue. The juice of ſcurvy-graſs with the bruiſed herb applied to the face has been recommended as a coſmetic, and ſhould be afterwards waſhed off with a decoction of bran.

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[a] Linn. Woodw. Mſſ. Withering. Lightf. Haller.

2. Stem not branching. Runners procumbent. Both root and ſtem leaves haſtate or ovate, with an angle on both ſides of the baſe. Petiole not toothed or claſping at the baſe. Capſules ovate[b].

Mr. Lightfoot obſerves that the root-leaves are often rounded, as in the preceding, but they are ſmaller; the ſtalks are weak, and commonly trail upon the ground; the ſtem-leaves are haſtate, with an angle or dent on each ſide near the baſe, and ſtand on ſhort peduncles. He is diſpoſed to conſider this only as a variety, having obſerved the limits between it and the *officinalis* to vaniſh inſenſibly into one another.

Sea coaſts of Denmark, Sweden, and Britain, Portland, and about Plymouth. *Lobel.*—Wells in Norfolk. Iſle of Walney, Lancaſhire. Near Llanbadrick church, Angleſea, and in Scotland.

3. Leaves ſucculent, often reddiſh; all oval-lanceolate, many having no ſinuſes, but only ſuch an angle as Linneus deſcribes. Ray affirms that even the loweſt leaves are angular or indented. Dr. Stokes ſays that in his ſpecimens the root-leaves are oval and very entire; the ſtem-leaves ſlightly angular.—According to Mr. Woodward, the ſtem-leaves are arrow-ſhaped at the baſe and ſtem-claſping. Silicles roundiſh, fleſhy, much larger than in the firſt ſpecies, and terminated by a longer ſtyle[c].—Mr. Hudſon doubts whether this may not be a variety of the firſt ſort. Mr. Woodward thinks it to be out of all doubt diſtinct from that; and affirms that at Yarmouth, where it grows abundantly, and elſewhere, it never appears to vary. Mr. Miller ſays that it flowers later in the ſeaſon.

Sea coaſt in muddy ſoils. Brims of the river Thames; Portſmouth, Briſtol, &c. *Ger.*—In the ſalt marſhes of Kent and Eſſex. Iſle of Wight. King's Weſton. Rocks of Inch Columb.

4. Root-leaves very ſmall, underneath very convex and fleſhy, veinleſs, very entire, on long petioles[d]. Stem-leaves haſtate, angular, on ſhort petioles. Not above two inches high. Only a ſtarved variety of the firſt ſort[e]. Mr. Hudſon alſo gives it as a variety: and Mr. Woodward thinks that this and the *officinalis* are certainly the ſame.]

Sea coaſts of Muſcovy and Davis's Straits. [Mountains of Caernarvonſhire, about Llanberys. Near Settle. On the highlands, and in the Orknies.

Theſe three are ſaid to be biennial plants, whereas the firſt or common Scurvy-graſs is perennial. This ſeems ſcarcely probable.

5. Stems and leaves ſmooth, and lie flat upon the ground all round the root: the flowers grow in ſhort axillary tufts, are very ſmall, and have white petals[f].

Nectary of ſix glands, upright, green, blunt, as long as the anthers; four of them oblong, compreſſed, at the baſe of the petals; the other two cylindric, narrower, between the longer ſtamens. Anthers ſhed their duſt before the flower opens. Silicle kidney-heart-ſhaped, terminated by a ſhort conical ſtyle, depreſſed on the ſides, with furrows and ſharp ridges tending towards the edge, where they run out into ſharpiſh points; one of the cells not unfrequently empty, in which caſe the fertile ſeeds expand, filling up almoſt the whole of the ſeed-veſſel, and the ſtyle is bent down towards the empty cell. In this laſt reſpect it accords with *Myagrum*[g]. Lamarck regards the *Myagrum ſaxatile* as belonging to the genus *Cochlearia*. On the contrary the *Coronopus* recedes from the other ſpecies in its decumbent ſtems, pinnatifid leaves, glomerate flowers, and wrinkled creſted ſilicle.

By road-ſides, on rubbiſh, dunghills, &c. Annual; flowering from june to auguſt.

It is acrid, and taſtes like garden Creſs. The aſhes were an ingredient in Mrs. Stephens's once celebrated medicine for the ſtone[h].

6. Root perennial, creeping. Leaves very large, varying much, ſometimes deeply pinnatifid, ſometimes entire, and only crenated[i]. Flowering ſtem a foot or eighteen inches high, branching at top, almoſt naked. Flowers white, in looſe panicles. Silicle nearly ovate[k].—Sides of ditches, among rubbiſh, and in paſtures; flowering in may.

Horſe-radiſh is poſſeſſed of a volatile and pungent quality, which flies off in drying. It impregnates both water and ſpirit by infuſion or by diſtillation, very richly with its active matter. Horſe-radiſh is a moderate, ſtimulating, aperient, and antiſeptic medicine; it ſenſibly promotes perſpiration, urine, and the expectoration of viſcid phlegm, and excites appetite when the ſtomach is weakened or relaxed. It is principally uſed in paralytic and rheumatic complaints, in ſcurvies and impurities of the humors, in cachectic diſorders and in dropſies, particularly thoſe which follow intermitting fevers. Taken in conſiderable quantities, it provokes vomiting. Thomas Bartholin extols the virtues of horſe-radiſh in the ſtone from experience: he affirms that the juice of horſe-radiſh diſſolved a calculus or ſtony concretion that was taken out of a human body.

The ſcraped root is uſed for many culinary purpoſes. An infuſion of it in cold milk, makes one of the ſafeſt and beſt coſmetics.]

7. This ſort is a biennial plant, which uſually grows about a foot and a half high, with upright ſtalks; the flowers are produced in looſe ſpikes at the end of the branches; they are very ſmall, white, and are ſucceeded by ſhort oval pointed ſwelling pods, having no ſtyle at the end, and filled with round ſeeds. It flowers in may, and the ſeeds ripen in july and auguſt. [According to Linneus, it has the ſtature of Turritis.

Native of Germany, and the South of France. Flowering from may to july. Cultivated 1683, by Mr. James Sutherland[l].

8. Root perennial, ſtriking deep. Stems ſeveral, upright, round below, ſomewhat angular at top, herbaceous, annual, ſlightly villoſe, about a foot in

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[b] Linn.
[c] Woodw. Mſſ.
[d] Linn.
[e] Lightf.
[f] Ibid.
[g] Stokes in Withering.
[h] Lightf.
[i] Ray.
[k] Haller.
[l] Hort. kew.

height. Branches ſtrike up from the axils of the upper leaves to the ſame height with the ſtem, ending in corymbed racemes, and all together forming a cloſe compound corymb. Proper peduncles ſlender. Leaves acute, with a very ſhort pile of hairs on both ſides and hoary, irregularly alternate. Calycine leaflets oblong, patulous, blunt, pale, half the length of the petals; which are white, very blunt, from a narrow claw ſpreading very much into an oblong lamina, and caducous. Silicle cordate, ſubdidymous, acuminate with the ſtyle, ſmooth; having only a ſingle ſeed in each cell. Abundant about Vienna, even in the ſuburbs, flowering from may to july[m]. Alſo in ſeveral parts of Germany, Italy and France.]

PROPAGATION AND CULTURE.

1. This ſort is propagated in gardens for medicinal uſes, by ſowing the ſeeds in july, ſoon after they are ripe, in a moiſt ſhady ſpot of ground; and when the plants are come up, they ſhould be thinned, ſo as to be left at about four inches diſtance each way. The plants that are taken out may be tranſplanted into other ſhady borders, if there is occaſion for them, otherwiſe they may be hoed out (as is practiſed for Onions, Carrots, &c.) and at the ſame time all the weeds may be hoed down, ſo as to clear the plants entirely from them, that they may have room to grow ſtrong. In the ſpring theſe plants will be fit for uſe; and thoſe that are ſuffered to remain will run up to ſeed in may, and perfect their ſeeds in june. If this plant is ſown in the ſpring, the ſeeds ſeldom grow well; therefore the beſt time is ſoon after they are ripe. The plants rarely live after producing ſeeds, ſo that it ſhould be ſown every year, to have it for uſe.

The Sea Scurvy-graſs (n. 3) growing in ſalt marſhes, and being overflowed with ſea water almoſt every tide, can hardly be made to grow in a garden, or at moſt to laſt longer there than one year.

6. The Horſe-radiſh is propagated by cuttings or buds from the ſides of the old roots. The beſt ſeaſon for this work is in october or february; the former for dry lands, the latter for moiſt; the ground ſhould be trenched at leaſt two ſpits deep, or more, if it will allow of it. The manner of planting it is as follows: provide yourſelf with a good quantity of offsets, which ſhould have a bud upon their crowns, but it matters not how ſhort they are; therefore the upper part of the roots which are taken up for uſe, may be cut off about two inches long with the bud to it, which is eſteemed the beſt for planting. Then make a trench ten inches deep, in which you ſhould place the offsets at about four or five inches diſtance each way, with the bud upward, covering them up with the mould that was taken out of the trench: then proceed to a ſecond trench in like manner, and continue the ſame till the whole ſpot of ground is planted. After this, level the ſurface of the ground even, obſerving to keep it clear from weeds, until the plants are ſo far advanced, as to be ſtrong enough to overbear and keep them down. With this management the roots of the Horſe Radiſh will be long and ſtraight, and free from ſmall lateral roots, and the ſecond year after planting will be fit for uſe. 'Tis true, they may be taken up the firſt year, but then the roots will be but ſlender; therefore it is the better way to let them remain until the ſecond year. The ground in which this is planted ought to be very rich, otherwiſe the roots will make but a ſmall progreſs.

7, 8. Theſe may be propagated by ſeeds, which if ſown in autumn will more certainly ſucceed than in the ſpring.

[COCHLEARIA. See *Draba* and *Myagrum*.

COCHLEATA. See *Medicago*.

COCKLE. See *Agroſtemma*.

COCK'S-COMB. See *Celoſia*.

COCK'S-FOOT GRASS. See *Dactylis*.

COCK'S-HEAD. See *Hedyſarum*.

COCOA NUT. See *Cocos*.

COCOA PLUM. See *Chryſobalanus*.]

COCOS. (*The fruit is called by the Portugueze Coco and Coquen, from the three holes at the end of the ſhell, giving it the appearance of a monkey's head. Caſp. Bauh.*)

Lin. gen. n. 1223. *Reich.* 1338. *Schreb.* 1692. *Muſ. Cliff.* 11. *Juſſ.* 38. Tenga. *H. M.* I. t. 1—4. *Brown.* 341. Coccos. *Gærtn. t.* 4, 5, 6.

Claſſ. 25. Appendix. Palmæ.—Monoecia Hexandria.

Nat. order of *Palms.*

GENERIC CHARACTER.

* *Male flowers* in the ſame ſpadix with the females.

CAL. *Spathe* univerſal, univalve. *Spadix* branching. *Perianth* three-parted, (ſix-leaved. *G.*) very ſmall: *diviſions* ſubtriquetrous, concave, coloured.

COR. *Petals* three, ovate, acute, patulous. (none. *G.*)

STAM. *Filaments* ſix: ſimple, length of the corolla. *Anthers* ſagittate.

PIST. *Germ* ſcarce manifeſt. *Styles* three, ſhort. *Stigma* obſolete.

PER. abortient.

* *Female flowers* on the ſame ſpadix with the males.

CAL. *Spathe* common with the hermaphrodites, as likewiſe the ſpadix. *Perianth* three-parted: (ſix-leaved. *G.*) *diviſions* roundiſh, concave, converging, coloured; permanent.

COR. *Petals* three, permanent, like the calyx, but rather larger. (none. *G.*)

PIST. *Germ* ovate, (three-celled. *G.*) *Style* none. *Stigma* three-lobed.

PER. *Drupe* coriaceous, very large, roundiſh, obſcurely triangular: (ſuperior, berried, one-celled. *G.*)

SEED. *Nut* very large, ſubovate, acuminate, one-celled, valveleſs, obtuſely three-cornered, the baſe perforated by three holes. *Kernel* hollow.

ESSENTIAL CHARACTER.

MALE. *Cal.* three-parted. *Cor.* three-petalled. *Stam.* ſix.

FEM. *Cal.* five-parted. *Cor.* three-petalled. *Stigmas* three. *Drupe* coriaceous.

SPECIES.

1. Cocos nucifera. *Cocoa-nut tree.*

Lin. ſpec. 1658. *Reich.* 4. 633. *Jacqu. amer.* 277. *t.* 169. *pict.* 135. *Mill. dict. Gærtn. fruct.* 1. 16. *Lour. cochinch.* 566.

Coccus. *Lin. hort. cliff.* 483. *fl. zeyl. n.* 391. *Beſl. muſ.* 19. *t.* 5.

Palma Cocos. *Mill. dict. n.* 2.

Palma 1. *Brown. jam.* 341.—indica coccifer anguloſa. *Bauh. pin.* 508. *Raii hiſt.* 1356. *Sloan. jam.* 2. 8.—ind. nucifera. *Bauh. hiſt.* 1. 375. *fig.*

Inaja guacuiba. *Marcgr. braſ.* 138.

Maron. *Hern. mex.* 71. fig.

Calappa. *Rumph. amb.* 1. *t.* 1, 2.

Tenga. *Rheed. mal.* 1. *t.* 1—4.

Unarmed; fronds pinnate, leaflets folded back, enſiform.

[2. Cocos butyracea.

Lin. ſyſt. 985. *ſuppl.* 454.

Pindova. *Piſ. braſ.* 62. *fig.*

Unarmed; fronds pinnate, leaflets ſimple.]

3. Cocos guineenſis. *Prickly Pole.*

Lin. ſyſt. 985. *Reich.* 4. 634. *mant.* 137. *Swartz obſ.* 409.

Bactris minor. *Jacqu. amer.* 279. *t.* 171. *f.* 1. *pict.* 135. *t.* 256.—minima. *Gærtn. fruct.* 2. 269. *t.* 139.

Palma gracilis. *Mill. dict. n.* 5. *Sloan. jam.* 2. 121. *Brown. jam.* 343. 4.—americana ſpinoſa. *Bauh. pin.* 507. *Pluk. alm. t.* 103. *f.* 1. *Raii hiſt.* 1363.—ſee 1355. 2? *Park. theat.* 1596. *Ger.* 1338. *emac.* 1522.

The whole ſpiny, ſpines briſtle-ſhaped; fronds diſtant; root creeping.

4. Cocos aculeata. *Great Macaw-tree.*

Swartz prodr. 151. *Jacqu. amer.* 278. t. 169? *Brown. jam.* 344. *n.* 7. *Sloan. jam.* 2. 119. t. 214.

Bactris globoſa minor. *Gærtn. fruct.* 1. 22. t. 9.

Palma. *Mill. dict. n.* 3. *Grew. muſ.* 203. *t.* 16.

Aculeate-ſpiny, trunk fuſiform, fronds pinnate, ſtipes and ſpathes ſpiny.

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[m] Jacquin.

[5. Cocos Nypa.
Lour. cochinch. 567.
Nypa. *Rumph. amb.* 1. 69. *t.* 16.
Unarmed; fronds pinnate; ſpadixes to the male flowers round, to the females roundiſh; drupe grooved.

DESCRIPTIONS, *&c.*

1. [This uſeful tree is common almoſt every where within the Tropics, and is cultivated in both Indies. It is ſuppoſed however to be originally a native of the Eaſt Indies, and is found in a wild ſtate in the Maldives and Ladrones, &c. as alſo in the iſlands of the South ſeas.

The roots are very ſlender, ſimple and flexile; they ariſe ſeparately from the bottom of the trunk, and ſpread in all directions; ſome running to a great depth, while others creep almoſt parallel to the ſurface [a].] The trees grow to a great height; their ſtems are compoſed of ſtrong fibres like net-work, which lie in ſeveral laminas over each other, out of which come the branches, or rather leaves, which grow twelve or fourteen feet long. The mid-rib has ſword-ſhaped leaflets, whoſe borders fold backward: the firſt leaves which puſh out from the nut when planted, are very different from thoſe which are afterward produced; for they are very broad, and have many folds in each: whereas the after leaves have a ſtrong midrib, twelve or fourteen feet long, on which the leaflets are placed alternately; theſe are from ſix to eight or nine inches long, and are almoſt triangular, having very ſharp points, and are very ſtiff. The flowers come out round the top of the trunk of the tree in large cluſters; they are incloſed in a large ſpathe or ſheath, and the nuts afterwards are formed in large cluſters, ten or twelve together.

[When all the parts of the flowers have gained a due degree of perfection, the ſpathe ſplits on the under ſide, from the bottom upwards, and expoſes the common bunch, with all its flowers, to the open air: moſt of theſe are males, and fall off gradually as the ſpathe withers, leaving the embryo fruit, which is generally fixed to the lower and ſtronger part of the ſtalk, to increaſe and ripen gradually [b].

This fruit is properly a berried Drupe, ſuperior, very large, ovate, rounded-three-cornered, umbilicate both ways, tawny or reddiſh, becoming finally of a very pale red or browniſh colour: the ſkin is thin and very tough, the ſubſtance under this inveſting the ſhell is extremely fibrous. The ſhell itſelf is of a bony ſubſtance, ovate-three-ſided and acuminate, marked with three raiſed ſpurious ſutures, and having three holes at the baſe cloſed with a black membrane; it is one-celled, valveleſs, and of a dark brown colour. The kernel adheres all round the inner wall of the ſhell, and the cavity is filled with a milky liquor [c].

The kernel in ſome nuts is near an inch thick, and the hollow contains about a pint of a ſweet, delicate, wholeſome, refreſhing liquor. While the nut is growing, all the inſide is full of this liquor; but as the nut grows towards maturity, the kernel begins to ſettle round the inſide of the ſhell, and is ſoft like cream; as the nut ripens, it increaſes in ſubſtance, and becomes hard. The ripe kernel is ſweet enough, but very hard to digeſt, therefore ſeldom eaten, unleſs by ſtrangers; but while it is young and ſoft like pap, ſome will eat it, ſcraping it out with a ſpoon, after they have drunk the liquor [d].

The liquor is very pleaſant, while the nuts are young; as they grow old, it becomes more ſharp and cooling, and far more agreeable to over-heated habits. The kernel is very nouriſhing, is much uſed in making ſoups, curries, &c. and may be ſubſtituted for almonds, in emulſions and apozems, where it can be had freſh [e]. A pure ſweet oil is extracted from it, fit both for the table and medicinal uſes: in the Society iſles they ſcent it with Santal wood and other perfumes, in order to anoint their hair and ſkin with it [f].

Beſide the liquor in the fruit, there is a ſort of wine drawn from the tree called Toddy, which looks like whey. It is ſweet and very pleaſant, but it is to be drunk within twenty-four hours after it is drawn, for afterwards it grows ſour. They who have a great many trees draw a ſpirit from the ſour wine, called *Arack*. It is alſo diſtilled from Rice, &c. but none is ſo much eſteemed for making punch, as this ſort made of Toddy, or the ſap of the Cocoa-nut Tree; but it muſt have a daſh of brandy to hearten it, becauſe this Arack is not ſtrong enough to make good punch of itſelf. This ſort of liquor is chiefly uſed about Goa; and therefore it has the name of Goa Arack [g].

In order to make Arack, the tree muſt be kept from bearing fruit: for this purpoſe, the ſprout which produces the nut, and which ſhoots every month, is cut, and jars faſtened to it to receive the liquor; or the body is bored, and a plug put into the orifice, which is occaſionally taken out when the liquor is wanted: this liquor is ſuffered to ferment, and is diſtilled into the ſpirit called Arack, which far exceeds what is drawn from Rice. If this liquor is expoſed to the ſun, it ſoon turns to vinegar [h].

The coat or huſk of the ſhell is compoſed of ſtrong fibres, and is two or three inches thick. With theſe fibres, after ſoaking them in water, they make ſail-cloth, cables and cordage even for their largeſt ſhips; as alſo oakam, and a variety of yarns, uſed in the conſtruction of ſhips, boats, houſes, &c. The ſhell ſerves for a variety of houſhold veſſels; and when theſe are worn out, they are burnt to make lamp-black for painting, &c [i].

The trunk is formed into gutters, and occaſionally employed for incloſing, and roofing out-houſes, and, being nailed cloſe, is ſo hardy as to reſiſt the weather for many years [k]. The Indians make boats, rafters, and the whole frames of their houſes from the body of this tree. The leaves are uſed for thatching them, and are wrought into mats, baſkets, and many other things for which oſiers are employed in Europe.

The tender ſhoots at the top afford a pleaſant green, or cabbage, but for this the tree is deſtroyed [l]. Cultivated 1739, in Chelſea garden [m].

2. *Univerſal ſpathe* an oblong cylinder, drawn to a point at each end, woody, ſmooth within, marked on the outſide with numerous woody parallel ribs, uniting towards the end it opens longitudinally, falls off after the burſting of the ſpadix, and is from four to ſix feet long. *Spadix* of the ſame length: branchlets very ſimple, a foot in length, very much crowded, ſparſe: bent down by its weight, one or two only in each palm have male flowers; the remaining ſix or eight have male and female flowers together. The *male ſpadix* has the flowers ſupported by a ſmall, ſubovate, rigid bracte: the proper perianth conſiſts of three very ſmall, oblong, flattiſh ſcales, ſubcoaleſcent at the baſe, almoſt upright: petals linear, inclining to columnar, drawn to a point at each end, ſix or eight lines long, bent in different ways above the middle, very white, ſucculent, ſlightly connected at the baſe, alternate with the calycine ſcales, ſmooth and even: filaments one third of the length of the corolla, inſerted into the receptacle, ſubcoaleſcent; anthers linear, the length of the filament, verſatile, bifid at the baſe, two-celled; pollen very white and ſmall, ſhaped like ſaw-duſt. Theſe male flowers fall off with the leaſt touch, making a great heap under the tree.—The *androgynous ſpadixes* have male flowers like the former, but more permanent: a few only are mixed with the females; but above, where there are no females, they are crowded cloſe together: petals thinner than the former; filaments ſhorter; anthers horned.—Female flowers crowded, imbricate, ſup-

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[a] Browne. [b] Ibid. [c] Gærtner. [d] Dampier. [e] Browne.

[f] Forſter eſcul. [g] Dampier in his account of Guam. [h] Long's Jamaica 3. 738. [i] Ives's voyage to India. [k] Long. [l] Browne. [m] Hort. kew.

ported with a triple bracte, looſer than the other, and very flat. Proper perianth none, unleſs the bracte or outer petals be taken for it: petals ſix, the three outer larger, ovate, concave, broad at the baſe, roundiſh, covering moſt of the inner part of the flower, more rude, cartilaginous; the three inner ſhorter, white, fleſhy, thinner: Nectary corollaceous, tubular, very thin, one third of the length of the petals, ſurrounding the greater part of the germ, very white: Germ ſubacuminate, very ſmooth, the height of the inner petal: Stigmas three, longiſh, ſmooth on the outſide, roughiſh on the inſide, almoſt upright. *Drupe* obovate, one-celled, ſucculent, very ſmooth, having a point at the end, ſurrounded at the baſe with the hardened permanent corolla. *Nut* covered with a cartilaginous ſkin and fibrous pulp; when dry very hard, a little ſtriated, convex on one ſide, almoſt flat on the other, oblong, ſomewhat acute at both ends, perforated at the baſe with three oblique holes. *Kernel* cartilaginous, very hard, but having the ſame taſte as in the common Cocoa nut.

The pulp of the nut is very mucilaginous, and is uſed for fatting hogs. An oil or butter prepared from it is in conſtant uſe among the Indians in South America, both in food and medicine [n].

3. Root knotty, round, thicker than the trunk, ſhort, horizontally bent in directly below the ſurface, creeping, and preſently putting out another trunk, ſo as to make a thicket, whilſt it fixes itſelf firmly in the ſoil by ſlender fibrous roots. Trunk erect, armed with very numerous prickles, and furniſhed with ſome ſemilacerate withering ſtipes; it is about an inch in diameter, and in open ſituations ſeldom exceeds twelve feet in height; in woods it grows ſomewhat higher. The bark is browniſh. Leaves ſubfrondoſe, few, claſping at the baſe, and pinnate; rib prickly; leaflets enſiform, acuminate, ſhining, flat, very ſlightly folded back at the baſe, ſerrate-prickly, unarmed, or with a few prickles only on both ſides, commonly alternate, ſometimes oppoſite, inconſtant in number. Spathes axillary, ſolitary, ſpreading, permanent a long time after the ripening of the fruits, ſo that two or three withered leaves are frequently ſeen below the frond, with a ſpathe and ſpadix in their axils. Flowers with a very ſlight tinge of yellow, and without ſcent [o]. Calyx ſometimes three-leaved: leaflets lanceolate, acuminate, many times ſmaller than the petals. Corolla triquetrous, frequently three-parted almoſt to the baſe, like a three-petalled corolla [p]. Fruits dark purple, the ſize of a common Cherry, containing an acid juice, of which the Americans make a ſort of wine: they are eatable, but not pleaſant [q]. However, they furniſh the wild hogs with abundance of food in Jamaica [r]. Gærtner deſcribes them as roundiſh drupes, flatted a little; the ſkin coriaceous; the nut ſubglobular, of a ſtony conſiſtence, very thick, roughened all over with little holes and tubercles, perforated by three holes in the middle of the circuit, ſtriated in rays at their mouths: the two ſmaller holes are blind, but the third is pervious, and leads to the central cell. Seed conoid, lying down horizontally, tubercled; the embryo placed in a very prominent papilla at the baſe of the cone.

Canes are made of the trunk deprived of its bark; they are black, ſhining, jointed, and very light: the French call them *Cannes de Tobago*, and they are ſometimes brought to Europe. From this uſe of them for walking canes Jacquin has named this Palm *Bactris*, απο του βακτρου [s]. The outward part is extremely hard and elaſtic, and looks much like whalebone; it is fit for bows and rammers [t].

Native of Carthagena in South America.

4. The great Macaw Tree has a trunk the thickneſs of the human body, riſes to thirty feet in height, has an aſh-coloured bark, and is very thick ſet with ſharp black prickles, of different lengths, placed uſually in rings. The pinnas of the fronds are very long, and the whole is thick ſet with prickles. The fruit is as large as a Crab, and of the ſame ſhape: under a green ſkin it has a thin ſweetiſh aſtringent pulp; and within that a nut full of a white ſweet eatable kernel [u].

The fruit is thus more particularly deſcribed by Gærtner. It is globular, flatted a little, about an inch in diameter, terminated by three acuminate ſeſſile ſtigmas, and retaining the ſix-leaved calyx at the baſe: ſkin thick, coriaceous: pulp fibrous, ſucculent, finely fungoſe and coriaceous, adhering to the nut; which is globular, ſublenticular, of a ſtony ſubſtance, thick, one-celled, with three holes on the ſide, two of which are blind, and the third pervious. Seed ſingle, ſubglobular, flattiſh or ſlightly depreſſed near the hole of the ſhell, netted all over with arched ſtreaks, of a brown bay colour. It differs from the Cocoa in the horizontal ſituation of the embryo.

According to Jacquin, it differs from the other Cocoas in having a thicker trunk with fewer prickles, and the ribs prickly on both ſides. But it is not certain that his C. aculeatus or *Grougrou* is the ſame with ours.

Browne ſays, that the huſks both of this and the ſmall Macaw-tree are full of oil, and the nut black and ſhining. The Negroes ſay that it yields the true Palm-oil. The outſide of the trunk is made into laths, bows and darts.

It is common in the Caribbee iſlands: and was cultivated by Mr. Miller in 1731 [x].

5. This is a very thick Palm, only four feet high, frequently ſhorter, or even without any ſtem. Fronds fifteen feet long, almoſt upright, irregularly pinnate, with a ſubcylindric rachis or midrib. Leaflets four feet long, ſubulate-enſiform, with a long point; they are ſimply plaited, diſtant at the baſe, ſmooth, coriaceous. Flowers terminating, on a long erect thick branching bracted peduncle: the ſpadixes of the male lateral, round, reflex, covered all over with floſcules; of the female, roundiſh, ſurrounded with floſcules. Spathe none, except the bractes, which are ſubacute, ſhort and diſtant. Drupe ovate-turbinate, compreſſed and lobed, having ſeveral grooves on it, and being three or four inches in length: ſkin fibrous thick ſmooth brown: ſhell bony roundiſh, two inches in diameter. It is ſuppoſed to be a different ſpecies from C. nucifera: the fronds and fruits agree, but the ſpadixes are different.

It is very frequent in ſalt-marſhes, and at the muddy mouths of rivers in Cochinchina, Cambodia, the Philippine iſlands, the ſtraits of Malacca, &c. [y]]

PROPAGATION AND CULTURE.

1. This tree is propagated by planting the nuts in places where they are deſigned to remain; for it will not bear tranſplanting, unleſs the operation is performed while the trees are very young, for their roots ſhoot deep and wide; ſo that if theſe are cut or broken, the plants ſeldom ſurvive it; which is generally the caſe with moſt of the Palms.

Where any perſons are deſirous of having a plant or two of this ſort, they ſhould procure ſome freſh nuts from the neareſt place of their growth, which, on their arrival in England, ſhould be buried in a warm bed of tanners bark, laying them on one ſide, that the young ſhoot which comes out from one of the three holes may not be injured by wet, covering them about ſix inches deep with the tan. In this ſituation, if the nuts are good, they will put out ſhoots in ſix weeks or two months, ſo ſhould be then carefully taken up, and each planted in a ſeparate pot filled with kitchen-garden earth, and plunged into the tan-bed in the ſtove, where the plants ſhould always remain, for they are too tender to thrive in any other ſituation; but as the plants advance in their growth, they ſhould be ſhifted into larger pots or tubs, being careful not to cut or tear their roots in the operation.

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[n] Mutis in Linn. ſuppl.
[o] Jacquin.
[p] Swartz.
[q] Jacquin.
[r] Browne.
[s] Jacquin. See Bactris minor.
[t] Browne.
[u] Sloane.
[x] Hort. kew.
[y] Loureiro.

Few of the nuts that are brought to England are ripe, being commonly gathered in an unripe ſtate, that they may keep during their paſſage. The beſt way to bring them for planting, is to put ſome that are fully ripe in dry ſand in a tub, where vermin cannot come to them. Theſe will often ſprout in their paſſage, which is an advantage, becauſe they may be immediately planted into pots of earth, and plunged into the bark-bed.

Theſe trees make conſiderable progreſs in the Weſt-Indies, but in Europe they are many years before they advance to any conſiderable height; the young leaves however being pretty large, they make a good appearance among other tender exotic plants in two or three years.

The other ſorts muſt be propagated by ſeeds in the ſame way. For the farther management of them ſee the article Phoenix.

[Cocoxihuitl. See *Bocconia.*

Codagam. See *Hydrocotyle.*

Codaga-pala. See *Nerium.*

Codaga-pilava. See *Morinda.*

Codda-panna. See *Corypha.*

Coddam-pulli. See *Cambogia.*

Codded Corn-violet. See *Campanula hybrida.*

CODIA. (*From* Κωδια, *globulus, a little ball; the flowers growing in a ſmall head.*)

Forſt. gen. n. 30. *Lin. ſuppl.* 33. *Schreb.* 675. *Juſſ.* 430.

Claſſ. 8. 2. Octandria Digynia.

GENERIC CHARACTER.

Cal. *common,* four-leaved; *leaves* reflected below the head: *proper* four-leaved; leaflets elliptic, erect.

Cor. *Petals* four, linear.

Stam. *Filaments* eight, filiform, two, each growing to the baſe of a petal, longer than the corolla. *Anthers* ovate-angulate.

Pist. *Germ* very ſmall, ſuperior, extremely villoſe. *Styles* two, fubulate, the length of the ſtamens. *Stigmas* ſimple.

Recept. common villoſe.

Obs. *It has a very great affinity to* Brunia. *The fruit, when known, muſt determine whether it be a ſeparate genus. Many of the* Brunias *have two ſtyles.*

ESSENTIAL CHARACTER.

Cal. four-leaved. *Pet.* four. *Common receptacle involucred.*

SPECIES.

1. Codia montana.

Lin. ſyſt. 376. *ſuppl.* 228. *Forſt. fl. auſtr. n.* 175.

DESCRIPTION, *&c.*

Leaves oppoſite, petioled, elliptic, very ſmooth, entire, obtuſe. Heads globular, terminating and axillary, very ſhort, peduncled.—Perhaps a ſpecies of Brunia. A ſhrub, native of New Caledonia *. Found there the 8th of ſeptember 1774.

Codiæum. See *Croton.*

Codi-Avanacu. See *Tragia.*

Codlin-tree. See *Pyrus Malus.*

Codlins and Cream. See *Epilobium.*

CODON. (*From* Κωδων, *tintinnabulum, a little bell. So called from the form of the flower.*)

Auctore Dav. Royeno. *Lin. gen. Reich.* n. 563. *Schreb.* 715. *Juſſ.* 422. *Gærtn. t.* 95.

Claſſ. 10. 1. Decandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ten-parted; *leaflets* ſubulate, permanent, ſomewhat erect; alternately ſhorter.

Cor. one-petalled, bell-ſhaped, toruloſe at the baſe: *Border* ten-parted, equal.

Nectary ten-celled, conſiſting of ten ſcales inſerted into the claws of the ſtamens, converging, covering the receptacle.

Stam. *Filaments* ten, length of the corolla. *Anthers* thick.

Pist. *Germ* ſuperior, conic. *Style* ſimple, length of the ſtamens. *Stigmas* two, long, ſetaceous, divergent.

Per. two-celled.

Seeds ſeveral, roundiſh, echinate, with ſoft papillæ, ſituated in a juiceleſs, coloured pulp.

ESSENTIAL CHARACTER.

Cal. ten-parted, permanent; leaflets alternately ſhorter. *Cor.* bell-ſhaped, ten-cleft. *Nect.* ten-celled, compoſed of ten ſcales. *Peric.* two-celled, containing ſeveral ſeeds.

SPECIES.

1. Codon Royeni.

Lin. ſyſt. 397. *Reich.* 2. 264.

C. aculeatum. *Gærtn. fruct.* 2. 88.

DESCRIPTION, *&c.*

Stem herbaceous, firm, eighteen inches in height, round, with riſing branches. Leaves alternate, petioled, cordate-ovate, ſubrepand, undivided, acuminate, ſubcoriaceous, ſmooth, without veins on the upper ſurface. Flowers ſupra-axillary, ſolitary, peduncled, having the appearance of the corolla of *Atropa Belladonna,* whitiſh, with ten purple ſtreaks on the outſide. The whole herb is ſtriated †.

The fruit is a capſule, contained within the ſegments of the calyx, which are linear, keeled, converging and prickly; it is of an ovate-acuminate ſhape, terminated by the compreſſed forked ſtyle, and marked along both ſides with a ſharp ſuture; in other parts it is ſmooth; it has two valves, and within is divided into two cells: the partition is contrary to the valves, is cloven and ſpongy next the axis. Seeds numerous, ſmall, variouſly angular, of a ſhining blood-red, and covered with ſoft papillæ of the ſame colour ‡.

Coeli Rosa. See *Agroſtemma.*

Coelit Lawan. See *Laurus.*]

COFFEA. (*So named from the Kingdom of Caffa in Africa, where it grows abundantly.*)

Lin. gen. n. 230. *Reich.* 247. *Schreb.* 314. *Gærtn. t.* 25. *Juſſ.* 204. Coffe *Raii Juſſ. A. G.* 1713. *t.* 7. *Jacqu. Amer.* 67.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Stellatæ γ. Rubiaceæ.* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-toothed; very ſmall, ſuperior.

Cor. one-petalled, ſalver-ſhaped. *Tube* cylindric, ſlender, many times longer than the calyx. *Border* flat, five-parted, longer than the tube: *diviſions* lance-ſhaped: ſides rolled back.

Stam. *Filaments* five, ſubulate, placed on the tube of the corolla. *Anthers* linear, incumbent, length of the filaments.

Pist. *Germ* roundiſh, inferior. *Style* ſimple, length of the corolla. *Stigmas* two, reflected, ſubulate, thickiſh.

Per. *Berry* roundiſh, umbilicated by a one or two-celled puncture.

Seeds one or two, ſolitary, elliptically-hemiſpherical, gibbous on one ſide, flat on the other, where it is furrowed longitudinally; involved in an aril.

Obs. Occidental Coffee Jacqu. *differs in having a four-cleft flower, and ſingle ſeed four-lobed at bottom.*

ESSENTIAL CHARACTER.

Cor. ſalver-ſhaped. *Stam.* upon the tube. *Berry* inferior, two-ſeeded. *Seeds* arilled.

SPECIES.

1. Coffea arabica. *Eaſtern Coffee-tree.*

Lin. ſpec. 245. *ſyſt.* 215. *Reich.* 478. *amœn.* 6. *mat. med.* 62. *hort. cliff.* 59. *upſ.* 41. *Gærtn. fruct.* 1. 118. *Elliſ. monogr. Dougl. monogr. Blackw. t.* 337. *Moſeley monogr. Plenck, ic. t.* 130. *Lour. cochinch.* 144.

Jaſminum arabicum. *Juſſieu act. par.* 1713. *p.* 388. *t.* 7. *Till. piſ. t.* 32.

Euonymo ſimilis, &c. *Bauh. pin.* 428. *Pluk. phyt. t.* 272. *f.* 1.

Bon. *Alp. Ægypt. t.* 36. *Bauh. hiſt.* 1. 422. *Raii hiſt.* 1691. *Park. theat.* 1622.

Flowers five-cleft, berries two-ſeeded.

[2. Coffea occidentalis. *Weſtern Coffee-tree.*

Lin. ſpec. 246. *Reich.* 479. *Jacqu. amer.* 67. *t.* 47.

Pavetta. *Brown. jam.* 142. *t.* 6. *f.* 1.

Jaſminum arboreſcens. *Plum. ſpec.* 17. *ic.* 156. *f.* 2. *Sloan. jam.* 2. 97. *n.* 19. not *f.* 205. *f.* 1.

Flowers four-cleft, berries one-ſeeded.

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* Linn. ſuppl.

† Royen in Linn. ſyſt.

‡ Gærtner.

3. Coffea racemoſa.
Lour. cochinch. 145.
Very much branched, leaves rugged, racemes terminating.

4. Coffea Zanguebariæ.
Lour. cochinch. 145.
Corollas ſix-cleft, fruit angular-nerved.

5. Coffea guianenſis.
Aublet. guian. 150. *t.* 57.
Flowers four-cleft, berries ſmall violet-coloured, two-ſeeded.

6. Coffea paniculata.
Aublet. guian. 152. *t.* 58.
Branches quadrangular, leaves ovate-oblong, acute, corollas four-cleft, berries two-ſeeded.

7. Coffea ſambucina.
Forſt. flor. auſtral. n. 92.
Leaves oblong-lanceolate, acute, cymes corymbed, terminating.

8. Coffea opulina.
Forſt. flor. auſtral. n. 93.
Leaves ovate-lanceolate, cymes contracted, globular, terminating.

9. Coffea odorata.
Forſt. flor. auſtral. n. 94.
Leaves ovate, acute, cymes corymbed, axillary.

10. Coffea triflora.
Forſt. flor. auſtral. n. 95.
Leaves ovate-lanceolate, acuminate, peduncles terminating three together, one-flowered.]

DESCRIPTIONS, *&c.*

1. The Coffee-tree ſeldom riſes more than ſixteen or eighteen feet high in its native country, or more than ten or twelve in Europe. The main ſtem grows upright, and is covered with a light brown bark. Branches horizontal, oppoſite, brachiate at every joint, [long, ſimple or undivided, ſlender, ſmooth, lax, and inclined to bend downwards;] the lower ones longeſt, the others gradually decreaſing to the top, ſo as to form a pyramid. Leaves oppoſite, when fully grown four or five inches long, and an inch and half broad in the middle, ovate-lanceolate, the borders waved, the ſurface of a lucid green, [ſmooth, beneath paler. Petiole only two or three lines in length; from the ſides of the midrib, which is a continuation of it, iſſue twenty or more ſecretory punctures. The leaves generally continue three years[a].] The flowers are produced in cluſters (two to four) at the baſe of the leaves, ſitting cloſe to the branches: they are of a pure white, with a very grateful odour, but of ſhort duration: they are ſucceeded by berries, which are firſt green, but turn red when fully grown, and change to black when ripe. [They are of an oblong ſpheroidal form, with a little circular area at the top, within which is a callous dot; the pulp is pale, inſipid and gelatinous; within it is two-celled; and the partition is fleſhy and vaſcular: this is the only receptacle, and penetrates the cleft of the ſeeds. In each cell is one ſeed only, of an elliptic form, convex on one ſide, flat on the other, with a longitudinal cleft, of a pale glaucous colour, looſely covered with an elaſtic, diaphanous aril, the ſubſtance of paper[b].

The liquor which we call Coffee, or Coffea, prepared from the berry of this tree, is ſaid to have been drunk in Ethiopia from time immemorial[c].

The Galla, a wandering nation of Africa, in their incurſions on Abyſſinia, being obliged to traverſe immenſe deſerts, and being alſo deſirous of falling on the Abyſſinians without warning, that they may be encumbered as little as poſſible with baggage, carry nothing with them to eat, but Coffee roaſted till it can be pulverized, and then mixed with butter into balls, and put into a leathern bag. One of theſe about the ſize of a billiard ball, keeps them, they ſay, in ſtrength and ſpirits during a whole day's fatigue, better than a loaf of bread, or a meal of meat[d]. It was introduced into Aden in Arabia from Perſia, by Gemaleddin, only about the middle of the fifteenth century. Not long after, it reached Mecca, Medina, &c. and Grand Cairo. Hence it continued its progreſs to Damaſcus and Aleppo; and in 1554 became known at Conſtantinople; being introduced there by two perſons whoſe names were *Shems* and *Hekin*; one from Damaſcus, the other from Aleppo. Each of theſe men opened a public Coffee-houſe in that city.

It is not certain at what time the uſe of Coffee paſſed from Conſtantinople to the weſtern parts of Europe; but it is probable that the Venetians, on account of the proximity of their dominions, and their great trade to the Levant, were the firſt acquainted with it; and Pietro della Valle, a Venetian, in a letter from Conſtantinople written in 1615, tells his friend, that upon his return he ſhould bring with him ſome Coffee, which he believed was a thing unknown in his country.

M. Thevenot, the French traveller into the Eaſt, at his return in 1657, brought with him to Paris ſome Coffee for his own uſe. It was known ſome years ſooner at Marſeilles, namely in 1644. Monſ. Du Tour, who wrote on Coffee in 1685, ſays that the French knew nothing of it until 1645.—Monſ. La Roque, who publiſhed his journey into Arabia Felix in 1715, contends that his father, having been with Monſ. de la Haye, the French ambaſſador at Conſtantinople, did, when he returned to Marſeilles in 1644, drink Coffee every day. He allows notwithſtanding that Thevenot was the firſt who taught the French to drink it[e]. However, till the year 1660, it was drunk only by ſuch as had been accuſtomed to it in the Levant; but that year ſome bales were imported from Egypt; and in 1671 a coffee-houſe was opened at Marſeilles.

Before the year 1669, Coffee was not known at Paris, except at M. Thevenot's, and ſome of his friends. This year it was effectually introduced by Solyman Aga, ambaſſador from Sultan Mahomet IV.; and two years after Paſcal, an Armenian, ſold it publicly at the Foire St. Germain, and afterwards ſet up a coffee-houſe on the Quai de l'Ecole; but meeting with little encouragement, he left Paris, and came to London. However, not long after, ſpacious rooms were fitted up at Paris in an elegant manner, for ſelling Coffee and other refreſhments; and in a ſhort time the number of coffee-houſes increaſed to three hundred.

The uſe of Coffee was introduced into London ſome years earlier: for in 1652, Mr. Daniel Edwards, a Turkey merchant, brought home with him a Raguſian Greek ſervant, whoſe name was Paſqua Roſſee, and who underſtood the roaſting and making of Coffee. This ſervant was the firſt who ſold Coffee, and kept a houſe for this purpoſe in George yard, Lombard ſtreet. Or rather, according to Mr. Houghton, in a ſhed in the church-yard of St. Michael's Cornhill, which is now, ſays he, (1701) a ſcrivener's brave houſe. Mr. H. adds, that one Raſtall, whom he knew, went to Leghorn in 1651, and there found a coffee-houſe: that he met Mr. Daniel Edwards there, with his Greek ſervant, and that Mr. E. was the firſt who brought the uſe of Coffee here, except it was the famous Dr. Harvey, who ſome ſay did frequently uſe it. Paſqua, being no freeman, the ale-ſellers petitioned the Lord Mayor againſt him. This made Alderman Hodges, whoſe daughter Mr. E. married, join his coachman *Bowman,* who was free, Paſqua's partner. And thus Mr. Raſtall found them in 1654. But Paſqua, for ſome miſdemeanor, was forced to run the country, and Bowman by his trade, and a contribution of 1000 ſix-pences, turned the ſhed to a houſe. Bowman's apprentices were firſt John Painter, then Humphry, from whoſe wife Mr. H. had this account[f]. The firſt mention of Coffee in our ſtatute books was in 1660. 12 Car. II. cap. 24[g].

In 1688, Mr. Ray affirms, that London might rival Grand Cairo, in the number of its Coffee houſes, and that they were to be found not only in the capital, but in every town of note in England. Probably the ill-judged proclamation of Charles II. in 1675 againſt Coffee-houſes, contributed much to eſtabliſh them.

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[a] The paſſages between crotchets are from Linneus's *hortus Cliffortianus.*
[b] Gærtner.
[c] Ellis.
[d] *Bruce Abyſſ.* 2. 226.
[e] Moſeley.
[f] Collections, 3. 125.
[g] Ellis.

The firſt European author who has made any mention of Coffee, is Rauwolff, who was in the Levant in 1573; but the firſt who has particularly deſcribed it is Proſper Alpinus, in his Medicina Ægyptiorum, 1591, and in his hiſtory of Egyptian plants, publiſhed at Venice in 1592.

Fauſtus Naironus Baineſius wrote the firſt treatiſe expreſsly on Coffee. It was printed at Rome in 1671, and intituled, *De ſaluberrima potione Cahu, ſeu Cafe, nuncupata*[h].

Two Engliſh travellers notice this beverage at the very beginning of the 17th century. Biddulph about 1603, and William Finch in 1607. The former ſays—"the Turks have for their moſt common drink *Coffa*, which is a black kind of drink, made of a kind of pulſe like peas, called *Coava*." The latter, "that the people in the iſland of Socotora have, for their beſt entertainment, a China diſh of *Cobo*, a black bitteriſh drink, made of a berry like a bay berry, brought from Mecca, ſupped off hot[i]."

Lord Bacon makes mention of it in 1624.

Mr. Ray, in his hiſtory of plants, publiſhed in 1688, ſpeaking of it as a drink very much in uſe, ſuppoſes that the Arabs deſtroyed the vegetable quality of the ſeeds, in order to confine their commodity within themſelves; and adds, that he wondered the neighbouring nations did not contrive to bring away ſome ſound ſeeds or living plants, in order to ſhare in ſo lucrative a trade.

This was ſoon done: for Nicholas Witſen, burgomaſter of Amſterdam, and governor of the Eaſt-India Company, deſired Van Hoorn, governor of Batavia, to procure from Mocha, in Arabia Felix, ſome berries of the Coffee-tree, to be ſown at Batavia; which he having accordingly done, and about the year 1690 having raiſed many plants from ſeeds, ſent one over to governor Witſen, who preſented it to the garden at Amſterdam: it there bore fruit, which in a ſhort time produced many young plants[k]. From theſe the Eaſt Indies, and moſt of the gardens in Europe have been furniſhed; and ſo early as the year 1696, the Coffee-tree was cultivated at Fulham by Biſhop Compton[l].

In 1714, the magiſtrates of Amſterdam preſented Louis XIV. with a Coffee-tree, which was ſent to the royal garden at Marly, under the care of M. de Juſſieu, who had written a memoir, printed in the hiſtory of the academy of ſciences for 1713, deſcribing the characters of the genus, with a figure of it, from a ſmaller tree, which he had received from M. Pancras, burgomaſter of Amſterdam, and director of the botanic garden there.

In 1718, the Dutch colony at Surinam began firſt to plant Coffee; and in 1722, M. de la Motte Aigron, governor of Cayenne, contrived by an artifice to bring away a plant from Surinam, which in the year 1725 had produced many thouſands.

Rochon in his account of Madagaſcar aſſerts, that in 1718, the inhabitants of the iſle of Bourbon ſent to Moka and Aden for ſome young plants of the Coffee-tree, which being cultivated with care, became in a few years very productive, and the iſland ſoon afforded the French Eaſt India Company a very important article of trade[m].

In 1727, the French, perceiving that this acquiſition might be of great advantage in their other colonies, conveyed ſome of the plants to Martinico. Monſ. Fuſee Aublet indeed affirms, that Monſ. Clieux carried the firſt Coffee plant to Martinico in 1720; and that the French Eaſt India Company ſent ſome plants to the iſle of Bourbon in 1717; that one plant only ſurvived, which bore fruit in 1720, and many were produced from it[n]. From Martinico it moſt probably ſpread to the neighbouring iſlands: for in the year 1732, it was cultivated in Jamaica, and an act was paſſed to encourage its growth in that iſland[o].

The firſt plant which appeared in Jamaica, was carried there by Sir Nicholas Laws, and placed in the garden of Townwell, at preſent called Temple Hall, the property of Mr. Lutterell. But he dying in 1731, did not ſee the cultivation of it make any conſiderable progreſs[p].

In the year 1752 the export of Coffee from Jamaica was rated at 60,000 pounds weight. In 1775 it was 440,000 pounds.

The Abbé Raynal ſays, that 12,550,000 pounds weight is annually exported from Arabia Felix[q].

Dr. Patrick Browne, who reſided many years in Jamaica, informs us that the Coffee-tree thrives beſt in a rich ſoil, and cool ſhaded ſituation, where it produces ſo great a quantity of fruit, that the branches can hardly ſuſtain the weight, and even the very trunk yields to the load. This fruit is large and ſucculent, and the berries lax and clammy: they are gathered when only half ripe; and inſtead of being ſtripped of their pulp, and the ſeeds being carried down to the low lands to be dried, they are left ſoaking in their clammy juices, to dry ſlowly in a damp air. This alone will ſufficiently account for the inferiority of the Jamaica Coffee to the Arabian, which grows in a ſandy, dry, hot ſoil, where the berries have but little pulp, and are ſoon dried, ſpread upon mats and expoſed to the ſun.

Dr. Browne however is of opinion that the Weſt India iſlands might furniſh Coffee equal in quality to the Turkey, if the following remarks were attended to.

1. New Coffee will never parch or mix well, from the natural clammineſs of the juices.

2. The ſmaller the grain, and the leſs pulp the berry has, the better the Coffee, and the ſooner it will parch, mix, and acquire a flavour.

3. The drier the ſoil, and the warmer the ſituation, the better the Coffee it produces will be.

4. The larger and more ſucculent the grain, the worſe it will be.

5. The worſt Coffee produced in America will, in a courſe of years, not exceeding ten or fourteen, be as good as the beſt we now have from Turkey; due care being taken to keep it in a dry place, and to preſerve it properly.

6. Small-grained Coffee, or that which is produced in a dry ſoil and warm ſituation, will in about three years be as good, as that which is commonly uſed in the coffee-houſes at London.

Theſe, the doctor tells us, are facts founded on repeated experiments.]

Mr. Miller adviſes thoſe who cultivate the Coffee tree in the Weſt Indies, firſt, to make choice of a ſoil rather dry than moiſt. Secondly, to permit the berries to remain upon the trees, till the ſkin ſhrivels and turns black. Thirdly, to gather them, or rather ſhake them from the trees when they are perfectly dry, ſpreading them upon cloths or mats in the ſun to dry, as they do in Arabia Felix, carrying them every evening under cover; and when they are perfectly dry, deprived of their huſks and winnowed, to pack them up carefully in bags, and when they are ſhipped, not to ſend them with rum or other goods from which they may imbibe any diſagreeable flavour.

[Dr. Browne recommends ſuch as poſſeſs large Coffee-walks to have a convenient platform to dry the ſeeds on; and he thinks it would be worth while to try whether ſweating would deſtroy the clammineſs of the large berries. They ſhould however be pulped and dried as ſoon as poſſible; then huſked and cleared from all the outward coverings. This is generally done in Jamaica by pounding the dried berries lightly in a large wooden mortar; they are then winnowed, cleared, expoſed afreſh to the ſun for ſome days, and then caſked for the market. If it be not well dried, it is apt to heat on board ſhips, and then it loſes all its flavour[r].

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[h] Moſeley.

[i] Purchas, p. 1340, 1351, and 419 in Moſeley.

[k] Ellis.

[l] Hort. kew. from Douglas.

[m] Rochon's Madagaſcar, introd. p. xix. engl. edit.

[n] Moſeley, p. 34.

[o] Ellis.

[p] Literary Magazine for april 1790, and Moſeley.

[q] Moſeley.

Long, in his hiſtory of Jamaica (1774) obſerves, that the berries ought never to be gathered until the pulp is exhaled, and the coat ſuffered to become thoroughly dry and ſhrivelled, ſo that they appear ready to drop off, and actually fall upon a ſlight touch. In confirmation of this, he affirms, that he has experienced the beſt flavoured Coffee to have been collected from under the trees, where it had recently fallen, quite dry, black and ſhrivelled. He adds, that the trees ſhould be planted at diſtances proportioned to their growth, which in the lowlands is five feet, in the mountains ten feet or more: and that the produce of a good tree is from one pound and a half to two pounds weight.

He thinks that the mountain Coffee might be improved by ſending the berries to the lowlands, where the heat is greater, and the air more dry; and by having a drying-houſe under a roof, with one or more platforms, admitting a free current of air, and excluding the rain and ſunſhine.

He informs us that the huſk is no longer beat off in mortars, but by rollers turned by mules, that wooden ones are preferable to ſtone or iron, and that the moſt approved machine, invented by Mr. Latham, will clean one hundred hogſheads in a day.

Dr. Fothergill ſuggeſts very reaſonably that the removal of the Coffee-tree from the dry, ſterile, ſandy ſoil of Arabia, into the rich deep ſtaple of Batavia, where the quantity of wet that falls in the rainy ſeaſon is exceſſive; its removal thence into Holland and France, and its tranſportation afterwards to a climate much more abounding with moiſture than that of which it was a native, may ſo far have altered the quality of the fruit, as that it may not be eaſily brought back to its original excellence. This however he thinks may be done, by making the plantations in ſoils as ſimilar to its natural one as poſſible. He alſo hints, that the fruit of young trees is in general more inſipid, or has a leſs refined taſte, than at a more advanced age; that probably this may be the caſe in the Coffee-tree; and he affirms that in old trees the fruit is ſmaller. The French, both in the Eaſt and Weſt Indies, cultivate Coffee with great attention, and accordingly theirs is much ſuperior to ours, and is even thought by ſome to be nearly equal to the beſt Turkey. They are alſo more careful in ſhipping it home, not mixing it, as we do, with cargoes of Rum and coarſe Sugars, which communicate a taſte ſcarcely to be driven off by fire. But it ought to be obſerved, that whilſt the induſtry and genius of the French Coffee planters have been cheriſhed; ours have been reſtricted by a duty, which leſſens the conſumption[s].

Dr. Fothergill alſo thinks it probable that our plantation Coffee is uſed too ſoon; and that one part of the excellence of the Mocha Coffee may ariſe from the intervention of between two and three years between its growth and conſumption. In confirmation of this, the doctor found that ſome raw Coffee which was ſent him from the Weſt Indies, and was ſo ill-taſted as to be unfit for uſe, being laid in a very dry cloſet, was tried again the year after, and found to be greatly amended. He therefore recommends the importing it without other goods; and the keeping it in dry, airy places, till ſuch a quantity is got together, as may be ſufficient to load a veſſel[t].]

This ſcheme, ſays Mr. Miller, of keeping the American Coffee-berries ſeveral years, is contrary to all the experience I have had, and the information I can obtain from thoſe who have ſeen the whole management of Coffee in Arabia. Two gentlemen who had lived there ſome years aſſured me, that the berries, when firſt gathered, were much better than thoſe which are kept any time. And a curious gentleman who reſided in Barbadoes two years alſo told me, that he never drank better Coffee in any part of the world, than what he made from the freſh berries which he gathered himſelf, and roaſted as he had occaſion for them. This account is confirmed by trials with berries produced in our Engliſh ſtoves, which make a better flavoured liquor, than the beſt Arabian Coffee berries that can be procured in England.

[The difficulties attending the keeping Coffee any length of time to the planter are alſo apparent. His profit is not ſufficient to enable him to keep it ſo long as is propoſed: and a tree in a rich ſoil producing almoſt twice as much as one in a light one, whereas the difference in price in the European markets between ſmall well-prepared Coffee, and that which is of the worſt kind is only from fifteen to twenty *per cent.* the planters find their account in making their Coffee-walks in the richeſt ſoil; where alſo the trees laſt a much longer time. The dampneſs of the climate in the iſlands is ſuch, that it is very difficult to dry the berries well; and the negroes being lazy, ignorant, and frequently ill-diſpoſed, will not attend properly to the gathering of them perfectly ripe: beſides the ſeaſon for this being near the winter, the rains, which are then very frequent, often make the berries fall before they are perfectly ripe[u].]

It appears however that the Jamaica planters, after a multitude of experiments, and the moſt laudable exertions, have diſcovered the art of cultivating, picking and curing the berries, ſo as to make their Coffee equal to the growth of Arabia. Some ſamples have been produced, which were pronounced by the London dealers even ſuperior to the beſt brought from the Eaſt. Two of them were equal to the beſt Mocha Coffee; and two more were ſuperior to any that could be had at the grocer's' ſhops in London, unleſs the price of *picked* Coffee be paid, which is two ſhillings the pound more than what they call the beſt Coffee. The other ſamples were little, if at all inferior to what the grocers call beſt Coffee[x].

The Coffee-tree having been tranſported to Europe, and to the poſſeſſions of Europeans both in the Eaſt and Weſt Indies from Arabia, has been commonly ſuppoſed to be indigenous of that country. It ſeems however, according to Mr. Bruce, to have been brought originally from the kingdom of Caffa, the ſouth province of Narea in Africa. It is the wood of the country, produced ſpontaneouſly every where in great abundance, from Caffa to the banks of the Nile. The foot of the mountains, or edge of the marſhes neareſt Narea, is thick overgrown with Coffee-trees, which if not the only, is the largeſt tree known there[y].

[Coffee is named by the Perſians *Cahwa* and *Coho*; by the Turks *Chaube* and *Cahvey*; by the Arabians *Cachua*, *Caoua*, and *Cahouah*. The Egyptians call it *Eleave*.

2. The Weſtern Coffee-tree is upright branching, and ſix feet high. Leaves lanceolate-ovate, ending in a blunt point, quite entire, ſhining, petioled, oppoſite, only on the young twigs, four inches long. Stipules alternate with the petioles, ſubulate, acuminate, upright and oppoſite. Racemes trichotomous, ſometimes panicled, uſually terminating, but ſometimes axillary. Corolla white, very ſweet-ſcented.

Native of St. Domingo, about Cape Francois, where it flowers in december[z].

It is alſo pretty common in the lower woods of Jamaica. *Browne* names it the *wild Jeſſamine*, the flowers having much of the ſhape and ſmell of our white Jaſmin.

3. This is a ſmall tree, only four feet high, with many diffuſed round branches. Leaves ovate-lanceolate, quite entire, beſet with many tubercles, oppoſite, on ſhort petioles. Flowers ſubterminating, in erect brachiate racemes: the common peduncle long, quadrangular; the partial ſhorter, round, op-

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[r] Hiſtory of Jamaica, p. 161, &c.

[s] Moſeley.

[t] Ellis, p. 29, &c. ſee alſo p. 44. and 49.

[u] Ellis. p. 42, &c.

[x] Fuller's letter to the Committee of Correſpondence in Jamaica, 1783.—Moſeley's treatiſe on Coffee, edit. 5. 1792.

[y] Abyſs. vol. 2. p. 226, 313.

[z] Jacquin.

poſite or ſtellate. Berry roundiſh, ſmall, red, watery, one-celled with two hemiſpherical ſeeds[a].

It agrees with C. occidentalis of Linneus, and paniculata of Aublet in the panicle being brachiate; but it differs in having irregular branches, rugged tubercled leaves, and round berries with two ſeeds in them.

Native of the iſland of Mozambique.

4. This is a ſmall upright tree, ſix feet high, with thick ſhort ſpreading branches. Leaves ovate-lanceolate, ſmooth, oppoſite. Flowers white, axillary, ſeveral together, on ſhort one-flowered peduncles; border ſix or ſeven-parted. Berries red, oblong-ovate, angular with longitudinal nerves, having two ſeeds.

Native of Africa on the coaſt of Zanguebar: and cultivated near Mozambique with the foregoing ſort[b].

5. Stem branching, from one to two feet in height; branchlets quadrangular, knotty. Leaves oppoſite, diſpoſed in form of a croſs, ſmooth, ſhining, entire, ovate-oblong, acute, on a very ſhort petiole. Stipule long, pointed, ſtiff: beneath which is a rib running down to the next joint. The largeſt leaves are two inches long, and nine lines wide. Flowers axillary, ſeveral together, ſmall and white. Calyx divided into four ſharp ſegments: corolla the ſame. Stamens four. Berry ſpherical, violet-coloured.

Native of Guiana, in the great foreſts of Orapu; flowering and fruiting in ſeptember.

6. Trunk ſeven or eight feet high, and five or ſix inches in diameter, covered with a gray, wrinkled, cloven bark. Boughs oppoſite, branched, knotty, quadrangular. Leaves oppoſite, diſpoſed in form of a croſs, entire, ſmooth, ſhining; the largeſt eight inches and a half long, three and a half broad; on a ſhort petiole. On each ſide between the two petioles at their baſe is a wide ſharp ſtipule, which is deciduous. Flowers terminating, panicled. Calyx four-toothed. Corolla white, four-parted, very ſweet-ſcented. Stamens four. Berry blueiſh, containing two ſeeds, one of which is frequently abortive.

Native of Guiana; flowering and fruiting in april[c].

7, 8, 9, 10. Theſe were found by our late circumnavigators in the iſlands of the South Seas. The 7th in the Friendly Iſlands; the 8th in New Caledonia; the 9th in Tanna and the Friendly Iſlands; and the 10th in Otaheite[d].]

PROPAGATION AND CULTURE.

As the Coffee-tree is an Evergreen, it makes a beautiful appearance at every ſeaſon in the ſtove, but particularly when it is in flower; and alſo when the berries are red, which is generally in the winter; as they continue a long time in that ſtate, there is ſcarce any plant that more deſerves a place in the ſtove than this.

It is propagated by the berries, which muſt be ſown ſoon after they are gathered from the trees, for if they are kept out of the ground a ſhort time they will not grow. I have frequently ſent the berries abroad by the poſt, but when they have been a fortnight in their journey they have all failed; and this has conſtantly happened every where, for the berries which were ſent from Holland to Paris did not grow, nor did thoſe which were ſent from Paris to England; ſo that wherever theſe trees are deſired, the young plants muſt be ſent, if it be at any diſtance from the place where they grow.

The berries ſhould be planted in ſmall pots, filled with light kitchen-garden earth, and plunged into a hot-bed of tanners-bark; they muſt be watered gently once or twice a week, but the earth muſt not be too moiſt, leſt it rot the berries. If the bed be of a proper temperature of warmth, the plants will appear in a month or five weeks time, and in about two months more will be fit to tranſplant. For as many of the berries will produce two plants, ſo the ſooner they are parted, the better their roots will be formed; for when they grow double till they have made large roots, they will be ſo intermixed and entangled, as to render it difficult to ſeparate them without tearing off their fibres, which will greatly prejudice the plants. When theſe are tranſplanted, they muſt be each put into a ſeparate ſmall pot, filled with the ſame earth as before, and plunged into the tan-bed again; which ſhould be ſtirred up to the bottom, and if required, ſome new tan ſhould be mixed with it, to renew the heat. Then the plants ſhould be gently watered, and the glaſſes of the hot-bed muſt be ſhaded every day till they have taken new root; after which the plants ſhould have free air admitted to them every day, in proportion to the warmth of the ſeaſon: during the ſummer they will require frequently to be refreſhed with water, but they muſt not have it in too great plenty: for if their roots are kept too moiſt, they are very ſubject to rot, then the leaves will ſoon decay and drop off, and the plants become naked; when this happens, they are ſeldom recovered again. The firſt ſign of theſe plants being diſordered, is, their leaves ſweating out a clammy juice, which attracts the ſmall inſects, that too frequently infeſt the plants in ſtoves; when they are not in health, theſe inſects cannot be deſtroyed, till the plants are recovered to vigour: for although the plants are ever ſo carefully waſhed and cleaned from them, yet they will be ſoon attacked by them again, if they are not recovered to health, for theſe inſects are never ſeen upon any of the plants while they are in perfect vigour; but when they are diſordered, they ſoon ſpread over all the leaves and tender parts of the plants, and multiply exceedingly; ſo that upon the firſt attack, the plants ſhould be ſhifted into freſh earth, and all poſſible care taken to recover them, without which all the waſhing and cleaning of the plants will be to little purpoſe. The diſorders attending the Coffee-trees, generally proceed from either being put into pots too large for them, nothing being of worſe conſequence than over potting them; or from the earth being too ſtiff, or from their being overhung by other plants, or being over watered. If theſe are properly taken care of, and the ſtove kept always in a proper temperature of heat, the plants will thrive, and produce plenty of fruit.

I have made trial of ſeveral compoſitions of earth for theſe plants, but have found none of them equal to that of a kitchen-garden, where the ſoil is naturally looſe, and not ſubject to bind; and if it has conſtantly been well wrought and properly dunged, this without any mixture is preferable to any other.

The plants ſhould not be too often tranſplanted, for that will greatly retard their growth. If they are new potted twice a year at moſt, it will be ſufficient; though unleſs the plants make great progreſs, they will not require to be removed oftener than once in a year, which ſhould be in ſummer, that they may have time to get good roots again before winter. During the warm weather in ſummer, theſe plants ſhould have a large ſhare of air, but they muſt not be wholly expoſed abroad at any ſeaſon; for although they may have the appearance of thriving in the open air during the heat of ſummer, yet when they are removed into the ſtove again, their leaves will fall off, and the plants will make but an indifferent appearance the following winter, if they ſhould ſurvive it: therefore it is the better method to keep them conſtantly in the ſtove, and admit a proportionable ſhare of air to them every day, according to the heat of the ſeaſon; they will require water two or three times a week in warm weather, but in the winter they muſt have it more ſparingly; and the ſtove in which they are placed, ſhould be kept to the heat aſſigned for the Ananas upon the botanical thermometers.

This tree has been propagated by cuttings, and alſo from layers; but theſe are long before they make roots, and the plants ſo raiſed, are never ſo ſtrong and thriving as thoſe which ariſe from berries;

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[a] Loureiro. [b] Ibid. [c] Aublet. [d] Forſter.

ries; therefore where the berries can be procured, it is much the beſt method to propagate the plants by ſeeds.

When they are tranſplanted, their roots ſhould not be too much cut or trimmed; the decayed or rotten fibres ſhould be pruned off, and thoſe which are cloſely matted to the ſide of the pots ſhould be trimmed, but not cut too near to the ſtem; for the old fibres do not put out new roots very kindly, eſpecially thoſe which are become tough, ſo that there ſhould always be a ſufficient number of young fibres left to ſupport the plants, till new ones are produced.

The plants raiſed from the berries, produce fruit in two years from planting, and in hot climates ſooner; plantations of theſe trees may therefore be ſoon made in any of thoſe countries, where the temperature of the air is proper for their production, but the trees will not grow in the open air any where if there is a winter; ſo that in all countries without the tropics, they cannot be expected to grow abroad.

[In Arabia Felix the Coffee-tree is raiſed from ſeed, ſown in nurſeries, and planted out as there is occaſion. The plantations are in a moiſt ſhady ſituation, on a ſmall eminence, at the foot of the mountains, whence little rills of water are conducted in ſmall channels to the roots of the trees, to ſecure the production and ripening of the fruit. When they remove or tranſplant a tree, they make a trench three feet wide and five feet deep, which they line or cover with ſtones, that the water may the more readily ſink deep into the earth, and thus be kept from evaporating. When the fruit is nearly ripe the water is turned off, leſt the fruit ſhould be too ſucculent.

In places much expoſed to the ſouth, the Coffee-trees are planted in regular lines, ſheltered by a kind of Poplar tree, which affords a thick ſhade. Without this precaution they ſuppoſe that the bloſſoms would be ſo parched by the exceſſive heat of the ſun, as not to be ſucceeded by fruit.

Coilantha. See *Gentiana.*

Coilophyllum. See *Sarracenia.*

Coilotapalus. See *Cecropia.*]

COIX. (Κοιξ *is a name of Theophraſtus, one of his* καλαμοφυλλοι, *or reed-leaved plants, and allied to the Palms.*)

Lin. gen. n. 1043. *Reich.* 1135. *Schreb.* 1405. *Juſſ.* 34. Lacryma Job. *Tourn.* 306. Lithagroſtis. *Gærtn. t.* 1.

Claſſ. 21. 3. Monoecia Triandria.

Nat. order of *Graſſes.*

GENERIC CHARACTER.

* *Male flowers* diſpoſed in a looſe ſpike.

Cal. *Glume* two-flowered, two-valved; *valves* oblong-ovate, obtuſe, awnleſs, the outer thicker.

Cor. two-valved; *valves* ovate-lanceolate, length of the calyx, very thin, awnleſs.

Stam. *Filaments* three, capillary. *Anthers* oblong, four-cornered.

* *Female flowers* fewer, at the baſe of the male ſpike, on the ſame plant.

Cal. *Glume* two-flowered, two-valved; *valves* rounded, thick, ſhining, hard; the outer larger; ſhining.

Cor. *Glume* two-valved, outer valve ovate, larger; inner narrower, ſmaller: both awnleſs.

Pist. *Germ* ovate, very ſmall. *Style* ſhort, two-parted. *Stigmas* two, horned, longer than the flower, pubeſcent on every ſide.

Per. none: the outward calycine glume grows cloſely (to the ſeed,) increaſes, grows ſhining, falls, does not gape.

Seed ſolitary, roundiſh, covered by the oſſified calyx.

ESSENTIAL CHARACTER.

Males in remote ſpikes. *Cal.* Glume two-flowered, awnleſs. *Cor.* Glume awnleſs.

Fem. *Cal.* Glume two-flowered. *Cor.* Glume awnleſs. *Style* two-parted. *Seed* covered by the calyx oſſified.

SPECIES.

1. Coix Lacryma. *Job's Tears.*
   Lin. ſpec. 1378. *Reich.* 4. 97. *hort. cliff.* 457. *upſ.* 281. *fl. zeyl.* 330. *Gron. virg.* 143. *Lour. cochinch.* 551.
   Lithagroſtis Lacryma Jobi. *Gærtn. fruct.* 7. *t.* 1.
   Lithoſpermum arundinaceum. *Bauh. pin.* 258.
   Lacryma Jobi. *Cluſ. hiſt.* 2. 216. *Beſl. eyſt. æſtiv.* 13. *t.* 6. *f.* 1.
   Salee. *Rumph. amb.* 5. 193. *t.* 75. *f.* 2.
   Catriconda. *Rheed. mal.* 12. 133. *t.* 70.
   Seeds ovate.
2. Coix angulata.
   Mill. dict. n. 2. *Lin. hort. cliff.* 438.
   Lacryma Jobi americana altiſſima, arundinis fol. & facie. *Plum. cat.*
   Seeds angular.

[3. Coix agreſtis.
   Lour. cochinch. 551.
   Salee Utan. *Rumph. amb.* 6. 22. *t.* 9. *f.* 1.
   Lachryma Jobi paludoſa minor. *Burm. zeyl.* 138.
   Culm entirely ſimple, leaves ſmooth and even, ſeeds roundiſh.

DESCRIPTIONS, &c.

1. Culm ſix feet high, perennial, ſubcylindric, ſolid, jointed, erect, branched. Leaves lanceolate, quite entire, long, wrinkled underneath, reflex, claſping. Flowers axillary, on a long, ſlender, ſub-erect common peduncle: at the top many males in a ſubovate ſpikelet; and at the baſe a ſolitary female. The two ſtyles are capillary and entirely diſtinct, with long villoſe ſtigmas[a].

From the ſheaths of the upper leaves come out one or two peduncles, compreſſed, ſheathed at the baſe, ending at top in a coriaceous ovate involucre, hollow within, perforated at top, containing one (or two) covered ſeſſile female flowers, ſurrounded on one ſide with an exterior glumaceous valve, and having on the other a ſingle groove with two fiſtuloſe cloſed appendicles: a ſtipe is put forth from the bottom of the involucre between the appendicles, ending in a ſhort few-flowered male ſpike. The involucre is permanent, hard, ſhining, ſmooth[b].

There is only a ſingle ſeed produced in each involucre, the other being conſtantly abortive: it is large, ſubglobular, gibboſe on one ſide, with a broad deep groove on the other, beaked at top with the permanent ſtyle, and having at bottom a black umbilical hole: the female involucre, which covers it and does not quit it, is thick, ſtony, ovate-conical, perforated at top and bottom, ſmooth, ſhining, of a livid or purpliſh colour[c].

Gærtner objects to the name of *Coix*, becauſe that is a ſort of Palm, or a plant nearly allied to the Palms, mentioned both by Theophraſtus and Pliny; he therefore changes it to *Lithagroſtis.*

Native of the Eaſt Indies. Cultivated in 1596, by Gerarde[d].]

2. This will grow to the height of ſeven or eight feet, whereas the foregoing is ſeldom ſo high as three feet in Europe; the ſtems become hard, like the Reed, or Indian Corn, they branch out, and produce ſeveral ſpikes of flowers. [Linneus ſays, this is perennial, and the foregoing ſpecies annual.

Native of America.

3. Culms three feet high, ceſpitoſe, quite ſimple, round, ſolid, jointed, ſmooth, riſing from a perennial, creeping root. Leaves lanceolate-linear, acuminate, quite entire, ſuberect, alternate, claſping. Peduncles long, erect, axillary, many-flowered; males and female from the ſame axil. Seed roundiſh, brown, ſhining, ſmall[e].

Native of Amboina, Ceylon, Cochinchina.]

PROPAGATION AND CULTURE.

1. Thoſe who are deſirous to cultivate this plant in England, may procure the ſeeds from Portugal, theſe ſhould be ſown on a moderate hot-bed in the ſpring, to bring the plants forward, and afterward

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[a] Loureiro. [b] Juſſieu. [c] Gærtner. [d] Hort. kew. [e] Loureiro.

tranſplant them on a warm border, allowing each two feet room at leaſt, and when the plants have taken root, they will require no farther care, but to keep them clean from weeds. Theſe will flower about midſummer, and in warm ſeaſons, the ſeeds will ripen at michaelmas. There is a variety of this with much broader leaves, which I received from Smyrna ſome years paſt, which did not perfect ſeeds here, ſo I cannot ſay whether it is only a variety, or a different ſort from this.

2. This will not bear the open air in England, but muſt be plunged into the bark-bed, where it will flouriſh, and produce ripe ſeeds the ſecond year: it may be continued longer, if deſired.

COLCHICUM. (*So called from Colchis, a city of Armenia; where this plant is ſuppoſed to have been very common.*)

Lin. gen. n. 457. *Reich.* 492. *Schreb.* 621. *Gærtn. t.* 18. *Tourn.* 181. 182. *Juſſ.* 47.
Claſſ. 6. 3. Hexandria Trigynia.
Natural order of *Spathaceæ. Junci* Juſſ.

GENERIC CHARACTER.

Cal. none, (except ſcattered ſpathes.)
Cor. ſix-parted. *Tube* angulated, rooted; *diviſions* of the border lance-ovate, concave, erect.
Stam. *Filaments* ſix, ſubulate, ſhorter than the corolla. *Anthers* oblong, four-valved, incumbent.
Pist. *Germ* buried within the root. *Styles* three, thread-form, length of the ſtamens. *Stigmas* reflex, channelled.
Per. *Capſule* three-lobed, connected internally by a future, obtuſe, three-celled, ſutures gaping inwardly.
Seeds many, nearly globular, wrinkled.

ESSENTIAL CHARACTER.

Spathe. Cor. ſix-parted, with a rooted tube. *Capſ.* three, connected, inflated.

SPECIES.

1. Colchicum autumnale. *Common Meadow Saffron.*
Lin. ſpec. 485. *Reich.* 2. 129. *hort. cliff.* 140. 1. *upſ.* 90. *mat. med.* 100. *Hudſ. angl.* 175. *With.* 379. *Lightf.* 192. *Fl. ruſt. t.* 60. *Sowerby, engl. bot.* 133. *Hall. helv. n.* 1255. *Scop. carn. n.* 448. *Pollich pal. n.* 366. *Leers herborn. n.* 271. *Allion. pedem. n.* 433. *Krock. ſileſ. n.* 577. *Villars dauph.* 2. 246. *Stork. monogr. Black. t.* 566. *Berg. phyt. t.* 177. *Plenck, ic. t.* 279. *Woodv. med. bot.* 483. *t.* 177.
C. commune. *Bauh. pin.* 67. *Fuchſ. hiſt.* 356, 357. *Dod.* 460. 2. *Camer. epit.* 845. *Ger.* 127. 1, 2. *emac.* 157. 1, 2. *Park. parad.* 153. *Pet.* 67. 2. *Mor. ſ.* 4. *t.* 3. *f.* 1. *Bauh. hiſt.* 2. 649. *Raii hiſt.* 1170. *ſyn.* 373.
Leaves flat lanceolate erect.

2. Colchicum montanum.
Lin. ſpec. 485. *Reich.* 2. 129. *Hall. helv. n.* 1256. *Allion. pedem. n.* 434. *t.* 74. *f.* 2. *Villars dauph.* 2. 246. *Cluſ. hiſp. t.* 267. *hiſt.* 1. 200. *Ger.* 128. *emac.* 159. *Park. parad.* 157. 11.
C. mont. anguſtifolium. *Bauh. pin.* 68. *Raii hiſt.* 1172. *Mor. ſ.* 7.
Leaves linear ſpreading very much.

3. Colchicum variegatum. *Variegated Meadow Saffron.*
Lin. ſpec. 485. *Reich.* 2. 130. *hort. cliff.* 140. 2.
C. chionenſe, flor. fritillariæ inſtar teſſulatis, fol. undulatis. *Mor.* 341. *n.* 4. *ſ.* 4. *t.* 3. *f.* 4. *Park. parad.* 156. *n.* 8. *t.* 155. *f.* 5. *Ger. emac.* 161. *Raii hiſt.* 1172. *n.* 8.
β. C. teſſulatum.
Mill. dict. n. 4.
C. flor. frit. inſt. teſſul., fol. planis. *Mor.* 340. *n.* 3. *ſ.* 3.
Leaves waved ſpreading.

DESCRIPTIONS, &c.

1. This has a bulbous root, about the ſize and ſhape of the Tulip, but not ſo ſharp-pointed at the top, the ſkin or cover is alſo of a darker colour. Theſe bulbs are renewed every year, for thoſe which produce the flowers decay, and new roots are formed above. The flowers come out in autumn; theſe ariſe with long ſlender tubes from the root, about four inches high, ſhaped like thoſe of the Saffron, but larger; the number of flowers is generally in proportion to the ſize of the roots, from two to ſeven or eight: in march the green leaves appear, theſe are commonly four to a full grown root; they are folded over each other below, but ſpread open above ground, ſtanding croſs-ways: they are of a deep green, and when fully grown, are five or ſix inches long, and one and a half broad. The ſeed-veſſel comes out from between the leaves in april, and the ſeeds ripen in may, ſoon after which the leaves decay.

[With the other leaves one or two generally ariſe, of the ſame length, but only one-fourth of the width, which are a kind of bracteal leaves to the ſeed-bud. The ſeed-veſſel, which ariſes with the leaves, is ſeſſile at their baſe, large, ſomewhat ovate, but with three very blunt angles[a].

The ſeeds lie buried all winter within the bulb, in ſpring they grow up on a fruit-ſtalk, and are ripe about the time of hay harveſt. May not the very great length of the ſtyles account in ſome meaſure for the delay in the ripening of the ſeeds? As this plant bloſſoms late in the year; and probably would not have time to ripen its ſeeds before winter; providence has contrived its ſtructure ſuch, that it may be performed at a depth within the earth, out of the reach of the uſual effects of froſt: and as ſeeds buried at ſuch a depth are known not to vegetate, a no leſs admirable proviſion is made to raiſe them above the ſurface when they are perfected, and to ſow them at a proper ſeaſon[b].

Monſ. de Juſſieu entertains a ſingular opinion, that *Colchicum*, although it have the habit of *Crocus*, yet bears a nearer affinity to *Veratrum*. His accurate account however of its propagation by the root, may ſerve to explain that of bulbous plants in general, and alſo of the Orchideæ[c].

From the permanent ſtriated dilated tuber of the old root, ſinuated on one ſide, and cloathed with the coats of the preceding root-leaves, a new plant ſprings from the ſide from the ſame coats, which is tuberous at the baſe, throws out fibres at bottom like other bulbs, and is received into the boſom of the former tuber which embraces it half round. This has an outer radical ſpathe, which is cylindric and tubular, cloven at top on one ſide, and half under ground. From two to ſix flowers half emerge from this ſpathe without leaves. In the mean time the fruits, much later than the flowers, ſit on the ſtem riſing out of the ſpathe. As the plant advances the new tuber increaſes, the old one, deprived of its nutriment, periſhes, and at the ſame time the former puſhes forth from its baſe the gem of a ſucceeding plant. There are commonly two lateral gems from the ſame tuber; one lower juſt deſcribed bearing the flower and ſeed; the other ſuperior, cauleſcent like the former, but more ſlender and ſcarcely floriferous[d].

It is a native of moſt parts of Europe.] Mr. Miller obſerved it in England, in great plenty, in the meadows near Caſtle-Bromwich in Warwickſhire, the beginning of ſeptember; and ſays that the country people call the flowers Naked Ladies, becauſe they come up without any leaves. [They give the ſame name to the Hepatica, and indifferently to any plant, which has flowers on naked ſcapes, appearing at a different time from the leaves.

It is found alſo with us in many other places; as near Derby and Northampton; Bury in Suffolk. Orchards on the borders of Malvern-chace, and meadows under Malvern-hills in Worceſterſhire—Meadows bordering the Severn, Worceſterſhire—Wallington and Hales Owen, Shropſhire—About Bath, Briſtol, Warminſter, Shepton-Mallet—Southgate.—Near Comb in Oxfordſhire, with a double flower, and ſome varieties of colour.—In Scotland, but not common.]

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[a] Woodw. Mſſ.

[b] Withering.

[c] Engl. bot.

[d] Gen. p. 47.

The varieties moſt commonly propagated by the floriſts are the following:

The Meadow Saffron with white flowers.
Meadow Saffron with ſtriped flowers.
Broad-leaved Meadow Saffron.
Striped-leaved Meadow Saffron.
Many flowered Meadow Saffron.
Meadow Saffron with double purpliſh flowers.
Meadow Saffron with double white flowers.
Meadow Saffron with many white flowers.

[No cattle eat it. In a paſture where there were ſeveral horſes, and which was eaten down pretty bare, the graſs was cloſely cropped even under the leaves, but not a leaf of the Meadow Saffron was bitten[e].

This is one of thoſe plants which upon the concurrent teſtimony of ages has been condemned as poiſonous: but Dr. Störck of Vienna has taught us that it is an uſeful medicine. The roots have much acrimony. An infuſion of them in vinegar, formed into a ſyrup, by the addition of ſugar or honey, is found to be a very uſeful pectoral and diuretic. It ſeems in its virtues very much to reſemble Squill, but it is leſs nauſeous and acrimonious, though more ſedative[f]. +

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Allioni relates, that he has experienced the Squill to be more ſafe and efficacious than the Meadow Saffron.]

2. This has a ſmaller root, with a darker coat. The leaves come up ſoon after the flowers decay, and continue green all the winter, like the Saffron; they are long, narrow, and ſpread on the ground: they decay in june. The flowers are of a reddiſh purple colour, and appear in auguſt and ſeptember.

[This flowers earlier than the common ſort; the root is globular, and the ſheathing leaves burſt forth with the flower. Theſe are at firſt broadiſh and ovate, then almoſt linear and a little ſhorter than the flower. The ſegments of this are lanceolate, purple marked with lines. Stamens half the length of the ſegments. Style very deeply trifid. The whole plant is little more than a finger's height[g].

Native of Spain and Portugal, Italy, the South of France and Switzerland. Cultivated here in 1629.

3. Leaves ſmaller than thoſe of the common ſort, for the moſt part three in number, and of a paler and freſher green colour, lying cloſe upon the ground, broad at the bottom, a little pointed at the end, waved about the edges. Root not ſo large as that of the common ſort. Flowers ſmaller, but very beautiful, whitiſh, with deep blue or purple ſpots. It flowers late, frequently not till october or november, and is ſomewhat tender[h].

Native of the Greek iſlands.

Cultivated (1629) by Parkinſon, Tuggie, *&c.* Alſo among Queen Henrietta Maria's flowers at Edgecombe in Surry, in the garden of Sir John Tunſtall, gentleman uſher to her Majeſty[i].]

PROPAGATION AND CULTURE.

Theſe are all very pretty varieties for a flower-garden, producing their flowers in autumn, when few other plants are in beauty. The leaves begin to decay in may; ſoon after which time, is the proper ſeaſon to tranſplant their roots; for if they are ſuffered to remain in the ground till auguſt, they will ſend forth freſh fibres; and after that it will be too late to remove them. The roots may be kept above ground until the beginning of auguſt; at which time, if they are not planted, they will produce their flowers as they lie out of the ground, but this will greatly weaken their roots. For the manner of planting their roots, ſee TULIPA. And for ſowing the ſeeds, ſee XIPHIUM.

Thoſe who are deſirous of obtaining varieties in the flowers muſt propagate them from ſeeds.

COLCHICUM. See *Bulbocodium.*

COLDENIA. (*So named by Linneus, in honour of C. Colden, of North America; a very curious botaniſt who diſcovered ſeveral new plants: theſe are printed in the Upſal acts for* 1743.)

Lin. gen. n. 173. *Reich.* 185. *Schreb.* 233. *Gærtn.* 68. *Juſſ.* 130.

Claſſ. 4. 3. Tetrandria Tetragynia.

Nat. order of *Aſperifoliæ. Borragineæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved (four-parted); *leaflets* lanceolate, erect, length of the corolla.

COR. one-petalled, funnel-form (with the opening pervious); *border* patulous, obtuſe, (four-lobed).

STAM. *Filaments* four, inſerted into the tube. *Anthers* roundiſh.

PIST. *Germs* four ovate; (Germ four-lobed, *Juſſ.*) *Styles* as many, capillary, length of the ſtamens. *Stigmas* ſimple, permanent.

PER. none. *Fruit* ovate, compreſſed, ſcabrous, acuminate, terminated by four beaks; (four-capſuled, capſules approximating one-ſeeded, *Juſſ.*)

SEEDS two, muricate, two-celled, (ſolitary, *G.*)

OBS. *Very nearly allied to the Aſperifoliæ. Adanſon; but differing in having fewer parts in the flower.*

ESSENTIAL CHARACTER.

Cal. four-leaved. *Cor.* funnel-form. *Styles* four. *Seeds* two, two-celled. (*Style* one, with a bifid *ſtigma. Nuts* four, with a fungous rind, *Gærtn.*)

SPECIES.

1. Coldenia procumbens.

Lin. ſpec. 182. *ſyſt.* 168. *Reich.* 355. *fl. zeyl. n.* 69. *Gærtn. fruct.* 329. *t.* 68.

Teucrii facie, &c. *Pluk. alm. t.* 64. *f.* 6. *Raii ſuppl.* 281. *Mor. hiſt.* 3. 423.

DESCRIPTION, *&c.*

1. This is an annual plant, whoſe branches trail on the ground, they extend near a foot from the root, and divide into many ſmaller branches. Leaves ſhort and ſeſſile, deeply crenate, have ſeveral longitudinal nerves, and are of a glaucous colour. Corolla cut into four ſegments at the top, of a pale blue colour, and very ſmall. The ſtigmas are hairy. Fruit compoſed of four cells, and wrapped up in the calyx; with a ſingle ſeed in each cell.

[Branches alternate. Leaves alternate, ſubpetioled, obovate, ſublunate on the upper ſide, plaited along the deep ſerratures, tomentoſe except in the plaits. Flowers axillary, few, ſeſſile. Seeds flat on the inner ſide, muricate and angular on the outer*.

According to Gærtner, they conſiſt of four nuts, united into a rounded-four-cornered mucronate fruit: the rind fungous, very thick on the back, but becoming gradually thinner and almoſt membranaceous on the ſides: ſhells bony, hard, convex on one ſide, rounded; on the other ſide compreſſed into an acute angle; one-celled. Seeds ſolitary, ovate-acuminate, rufeſcent: they have only a ſingle, membranaceous, thin covering; the albumen is of the ſame form with the ſeed; the embryo is a little ſmaller and inverted; the cotyledons are doubled.

Native of the Eaſt Indies. Cultivated in 1759, by Mr. Miller.]

PROPAGATION AND CULTURE.

This plant is propagated by ſeeds, which muſt be ſown upon a hot-bed in the ſpring; and when the plants are fit to remove, they ſhould be each put into a ſeparate ſmall pot, plunged into a hot-bed of tanners-bark, obſerving to ſhade them till they have taken freſh root; after which they ſhould have air admitted to them every day in proportion to the warmth of the ſeaſon, and gently watered two or three times a week in warm weather, but they muſt not have too much moiſture. Theſe plants muſt remain in the hot-bed, where they will flower in june, and the ſeeds will ripen in ſeptember.

COLETTA-VEETLA. See *Barleria.*

COLEWORTS and COLESEED. See *Braſſica.*

COLLIFLOWER. See *Braſſica.*

COLLINSONIA. (*This plant is ſo named in honour of Peter Collinſon, F. R. S. a moſt diſtinguiſhed promoter*

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[e] Woodw. in With.
[f] Withering.
[g] Allioni.
[h] Park. parad.
[i] Ger. emac.

* Lin. ſyſt.

of botanical ſtudies, and the firſt who introduced this plant, among many others, to the Engliſh gardens. Miller.)

Lin. gen. 40. *Reich.* 43. *Schreb.* 51. *Gærtn.* 66. *Juſſ.* 112.

Claſſ. 2. 1. Diandria Monogynia.

Nat. order of *Perſonatæ? Labiatæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, two-lipped; *upper lip* three-cleft, reflex, wider; *lower lip* two-parted, more erect, ſubulate; permanent.

Cor. one-petalled, unequal, (ringent, *G.*) *Tube* funnel-form, many times longer than the calyx. *Borders* five-cleft; *upper diviſions* obtuſe, very ſhort; the two upper ones reflex. *Lower lip* longer, many-cleft, capillary.

Stam. *Filaments* two, briſtle-form, erect, very long. *Anthers* ſimple, incumbent, compreſſed, obtuſe.

Pist. *Germ* four-cleft, obtuſe, with a larger glandule lying below the germ. (Germs four, *G.*) *Style* briſtle-form, length of the ſtamens, inclined to one ſide. *Stigma* bifid, acute.

Per. none. Calyx cheriſhes the ſeed in its bottom, and is ringent with an irregular mouth.

Seed ſingle, globoſe.

Obs. *The quaternary number of ſeeds ſeems to be the natural one from the germs, though one only grows to ripeneſs.*

ESSENTIAL CHARACTER.

Cor. unequal. *Cal.* of the fruit one-leafed, toothed—of the flower bifid. *Seed* one under the calyx of the flower.

SPECIES.

1. Collinſonia canadenſis. *Nettle-leaved Collinſonia.*
Lin. ſpec. 39. *Reich.* 73. *hort. cliff.* 14. *t.* 5. *mat. med.* 40. *Cold. noveb.* 8. *Kalm. it.* 2. 317. *ed. angl.* 1. 197. *Ait. hort. kew.* 1. 47. *Gærtn. fruct.* 317. *t.* 66. *Plenck, ic. t.* 24.
Leaves ovate, both they and the ſtems ſmooth.

[2. Collinſonia ſcabriuſcula. *Rough-ſtalked Collinſonia.*
Ait. hort. kew. 1. 47.
Leaves ovate ſubcordate ſomewhat hairy, ſtem ſomewhat hairy ſcabrous.]

DESCRIPTIONS, &c.

1. This has a perennial root. In America it uſually riſes to the height of four or five feet, but in England it ſeldom grows above three feet high. The ſtalks decay in the autumn, and freſh ſhoots come out in the ſpring. The ſtalks are ſquare, with heart-ſhaped leaves, oppoſite, and ſerrate. The flowers are produced at the extremity of the ſtalks in looſe ſpikes; they are of a purpliſh yellow, and appear in july; the ſeeds ripen in autumn.

[One ſeed only generally comes to maturity, the others being almoſt always abortive; this is globoſe, aſh-coloured obſcurely reticulated with duſky veins [a].

Native of North America, in Penſylvania and that latitude, in little woods and among buſhes, in a rich ſoil; not farther to the ſouth, nor to the north above 43° 15′. Mr. Bartram was the firſt who diſcovered it, and ſent it to Europe. It has a peculiar ſcent, which is agreeable, but very ſtrong. It is reputed to be an excellent remedy againſt pains in the limbs and a cold, if the parts affected be rubbed with it: a decoction of it is alſo ſaid to have cured the bite of the rattle-ſnake. In New York, &c. they call it *Horſeweed*, becauſe the horſes eat it in the ſpring, before any other plant comes up [b].

Introduced 1735, by Peter Collinſon [c].

2. Native of Eaſt Florida. Found there by Mr. John Bartram. Cultivated 1776, by John Fothergill, M.D. Perennial [d].]

PROPAGATION AND CULTURE.

1. This plant may be eaſily propagated by parting the roots in october. Theſe roots ſhould be planted at three feet diſtance, for they require much nouriſhment, otherwiſe they will not thrive. It will live in the open ground, if it is planted in a ſheltered ſituation. But unleſs it is kept warm, and is duly watered, it rarely flowers well: therefore many perſons keep the plants in large pots: but theſe ſeldom produce good ſeeds; whereas thoſe which are planted in the full ground, and are conſtantly watered, will ripen ſeeds very well in good ſeaſons.

[2. This ſpecies is more tender, and requires the protection of the green-houſe. It may be increaſed in the ſame manner with the other.

Collococca and Collococcus. See *Cordia.*]

Colocasia. See *Arum.*

Colocynthis. See *Cucumis* and *Trichoſanthes.*

Colpoon. See *Euonymus.*

Columbine. See *Aquilegia.*

COLUMNEA. (*This name was given by Plumier, in honour of Fabius Columna, as he is commonly called, or Fabio Colonna, of the noble family of Colonna in Italy.*)

Lin. gen. n. 792. *Reich.* 856. *Schreb.* 1064. *Juſſ.* 121. *Plum.* 33. Achimenes. *Brown.* 270. *t.* 30. *f.* 3.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ. Scrophulariæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-parted, ſubventricoſe at the baſe: *diviſions* erect, equal, lanceolate, permanent.

Cor. one-petalled, ringent, villoſe. *Tube* long, gibbous above at the baſe. *Border* two-lipped. *Upper lip* ſtraight, emarginate. *Lower lip* three-parted; lateral diviſions lanceolate, the intermediate longer and more deeply ſeparated, lanceolate.

Stam. *Filaments* four, of which the two longer are hid under the upper lip. *Anthers* ſimple, connected into a little crown.

Pist. *Germ* ovate. *Style* filiform, length of the upper lip. *Stigma* bifid, obtuſe.

Per. *Capſule* two-celled, (one-celled, *Sw.*) ovate.

Seeds numerous, ſmall, lying on a very large receptacle.

ESSENTIAL CHARACTER.

Cal. five-parted. *Cor.* ringent, upper lip three-parted, the middle part vaulted, emarginate; gibbous above at the baſe. *Anthers* connected. *Capſ.* two-celled, (one-celled.) *Seeds* neſtling.

SPECIES.

1. Columnea ſcandens. *Climbing Columnea.*
Lin. ſpec. 891. *Reich.* 3. 201. *Jacqu. hort.* 3. *p.* 27. *t.* 48. *amer. pict.* 88. *t.* 170. *Plum. gen.* 28. *ic.* 89. *f.* 1. *Swartz. obſ.* 249.
β. C. ſcandens, fl. luteſcente, fructu albo. *Plum. gen.* 28.
Leaves ovate acute entire ſubvilloſe, leaflets of the calyx entire, corollas and calyxes pubeſcent, upper lip undivided.

[2. Columnea longifolia. *Long-leaved Columnea.*
Lin. ſyſt. 579. *Reich.* 3. 202. *mant.* 90.
Achimenes ſeſamoides. *Vahl. ſymb.* 2. 71.
Babel-Tſiuli. *Rheed. mal.* 9. *t.* 87.
Seſamum javanicum. *Burm. ind.* 133.
Leaves lanceolate very long ſubſerrate ſmooth.

3. Columnea hirſuta. *Hairy Columnea.*
Swartz prodr. 94. *Ait. hort. kew.* 2. 366.
Achimenes. *Brown. jam.* 270. 1. *t.* 30. *f.* 3.
Rapunculus. *Sloan. jam.* 1. 157. *n.* 20. *t.* 100. *f.* 1.
Leaves ovate acuminate ſerrate roughly hairy on the upper ſurface, calycine leaflets toothletted lanceolate; they and the corollas hirſute, the upper lip bifid.

4. Columnea hiſpida.
Swartz prodr. 94.
Leaves ovate obtuſe toothletted hiſpid-hirſute, leaflets of the calyx lanceolate entire hairy, ſtem hairy rugged.

5. Columnea rutilans.
Swartz prodr. 94.
Leaves ovate-lanceolate villoſe toothletted, leaves of the calyx jagged, corollas villoſe, the upper lip two-parted.

6. Columnea ſtellata.
Lour. cochinch. 384.
Leaves ſtellate, flowers ſolitary, ſtem creeping.

DESCRIPTIONS, &c.

1. Stem ſcandent, rooting, angular, ſubquadrangular, ſtriated, ſucculent, brittle, ſomewhat hirſute.

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[a] Gærtner. [b] Kalm. [c] Hort. kew. [d] Ibid.

Leaves petioled, oppoſite, ſmall, ſcarcely nerved. Flowers peduncled, ſolitary, axillary, blood-red, ſomewhat villoſe. Calyx ſubpentaphyllous. Tube of the corolla elongated, curved inwards: upper lip three-parted; the middle ſegment large, half-vaulted, entire; the two ſide ones broad-lanceolate, blunt, ſhorter, ſpreading: lower lip more deeply divided, lanceolate, obtuſe, ſpreading. Filaments the length of the corolla, two ſhorter: anthers ſquare, connected above the ſtigma. Capſule white, ſoftiſh, one-celled, reſembling a berry, but opening. Seeds neſtling.

Native of the Caribbee iſlands, Martinico, and Guiana, in moiſt parts of woods at the foot of the mountains. It is ſubparaſitical[a].]

Mr. Miller received ſeeds of this plant with ſcarlet flowers from Carthagena in New Spain.

β. The Columnea with a yellowiſh flower is only a ſeminal variation.

[2. Stem herbaceous. Leaves oppoſite, ſeſſile. Racemes terminating, elongated, ſtraight, with the flowers oppoſite. Calyx five-leaved, ovate. Corolla irregular; upper lip more oblong, lower three-cleft. Stamens twin; anthers parted at the baſe, with divaricated lobes, faſtened together ſo as to form a croſs. Style the length of the ſtamens. Capſules ovate, two-valved. Receptacle of the ſeeds globular, in which very many of the ſeeds are immerſed[b].

Stem erect, two feet high, four-cornered, the thickneſs of an eagle's quill, ſmooth. Branches axillary, quite ſimple, oppoſite. Leaves three inches long, ſubſeſſile, the upper ſurface rugged backwards, the under ſmooth and paler. Flowers in a raceme, all except the loweſt axillary ones oppoſite, ſolitary, ſpreading; the floral leaves lanceolate, quite entire[c].

Vahl has made this a ſeparate genus, adopting Browne's name of *Achimenes*. It differs from *Columnea* in having the corolla almoſt regular, not ringent: from *Seſamum* in having a two-celled capſule.

Native of the Eaſt Indies.

3. This beautiful vegetable is a native of the cooler mountains of Jamaica. It is very ſucculent, and grows luxuriantly in every rich and ſhady ſoil; throwing its branches frequently to the height of four or five feet, and higher, when ſupported. The ſtem is pretty thick: the leaves oppoſite and alternately larger. The flowers are large, beautifully variegated, and hairy on the outſide, like the other parts of the plant. The diviſions of the calyx are pinnated, ſomewhat like thoſe of the garden roſe. It has an uncommon appearance, and deſerves to be cultivated[d].

Introduced 1780, by the Marquis of Rockingham. It flowers in november[e].

4, 5. Natives of Jamaica[f].

6. Stem herbaceous, perennial, creeping, round, ſlender, whitiſh; branches ſubereet, four inches long, very tender. Leaves ovate, three lines long, ſerrate, ſtellate in threes, pale green, odoriferous, petioled. Flowers white ſtriped with red, hirſute, axillary, peduncled. Tube of the corolla ſcarcely gibbous; upper lip arched and trifid, lower bifid. Filaments curved inwards by pairs: anthers ovate, connected, ſeparable with difficulty. Capſule ſubulate, two-celled. The whole, except the capſule, hairy. It is an aquatic plant, of a very pleaſant appearance and ſmell, and being emollient and cooling, is uſed as a waſh by the women.

Native of Cochinchina, and cultivated there in pots and tubs filled with water, having earth at the bottom[g].]

PROPAGATION AND CULTURE.

All theſe plants being natives of hot countries, and moſt of them of the Weſt Indies, are too tender to live in England, out of a ſtove.

They are propagated by ſeeds ſown in a good hot-bed; and when the plants come up, they muſt be treated in the ſame way as other tender exotic plants which are kept in the bark-ſtove.

[COLUPPA. See *Illecebrum.*]

COLUTEA. (κολουτέα, *Theophraſti: derivation uncertain.*)

Lin. gen. n. 880. *Reich.* 954. *Schreb.* 1196. *Gærtn. t.* 154. *Tourn.* 481. *Juſſ.* 359.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ*, or *Leguminoſæ*.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, bell-ſhaped, five-cleft, erect, nearly equal, permanent.

COR. Papilionaceous.

Standard, *wings*, and *keel* differ in figure and various proportion.

Wings preſſed cloſe together, lanceolate.

STAM. *Filaments* diadelphous, (ſingle and nine-cleft) aſcending. *Anthers* ſimple.

PIST. *Germ* oblong, compreſſed, attenuated to each end. *Style* aſcending. *Stigma* is a bearded line extended from the middle of the ſtyle to its tip, from the upper part.

PER. *Legume* very large, very broad, inflated, tranſparent and membranaceous, the upper ſuture erect, the lower gibbous, one-celled, gaping on the upper ſuture at the baſe.

SEEDS ſeveral, kidney-ſhaped.

OBS. *The fruit conſtitutes the eſſence of the genus.*

C. fruteſcens *has the ſtandard ſhorter than the keel, and the wings far ſhorter than the ſtandard.*

ESSENTIAL CHARACTER.

Cal. five-cleft. *Legume* inflated, gaping on the upper ſuture at the baſe.

SPECIES.

1. Colutea arboreſcens. *Common Bladder-Senna.*
Lin. ſpec. 1045. *Reich.* 3. 488. *hort. cliff.* 365. *upſ.* 228. *Ait. hort. kew.* 3. 55. *Hall. helv. n.* 400. *Scop. carn. n.* 881. *Curtis magaz. t.* 81. *Allion. pedem. n.* 1234. *Krock. ſileſ. n.* 1188. *Gærtn. fruct.* 2. 342. *Villars dauph.* 3. 434.
Colutea. *Dod. pempt.* 784. *Camer. epit.* 540. *Riv. tetr. t.* 20. *Ger.* 1116. *emac.* 1299.
C. veſicaria. *Bauh. pin.* 396. *Bauh. hiſt.* 1. 380. *Raii hiſt* 1720.—vulgaris. *Park. theat.* 227. *f.* 1. *parad.* 440. *Duham. arb.* 1. *t.* 72.
Leaflets oval-obcordate, ſtandard gibbous abbreviated.

2. Colutea cruenta. *Oriental Bladder-Senna.*
L'Herit. ſtirp. nov. 2. *t.* 41. *Ait. hort. kew.* 3. 55.
C. ſanguinea. *Pallaſ. roſſ.* 1. 88.
C. orientalis. *Mill. dict. n.* 3. *Lamarck encycl.* 1. 353.
C. humilis. *Scop. inſubr.* 2. 23. *t.* 12.
Shrubby; leaflets wedge-form obcordate; ſtandard gibbous obtuſe very ſmall.

3. Colutea Pocockii. *Pocock's Bladder-Senna.*
Ait. hort. kew. 3. 55.
C. procumbens. *L'Herit. ſtirp. nov.* 2. *t.* 42.
C. Iſtria. *Mill. dict. n.* 2. *fig. t.* 100.
C. halepica. *Lamarck encycl.* 1. 353.
Shrubby; leaflets ovate; ſtandard gibbous elongated, aſcending.

4. Colutea fruteſcens. *Scarlet Bladder-Senna.*
Lin. ſpec. 1045. *ſyſt.* 669. *Reich.* 3. 488. *hort. cliff.* 366. 2. *upſ.* 228. *Berg. cap.* 216. *Mill. fig. t.* 99. *Breyn. cent.* 70. *t.* 29. *Raii hiſt.* 1720. *n.* 3. *Curt. magaz. t.* 181. *Seba theſ.* 1. *t.* 17. *f.* 4.
Shrubby; leaflets ovate-oblong.

[5. Colutea perennans. *Perennial Bladder-Senna.*
Lin. ſyſt. 668. *Jacqu. hort.* 3. 5. *t.* 3. *Murr. in comm. gott. nov.* 5. 38. *t.* 7. *Ait. hort. kew.* 3. 56.
Herbaceous; leaflets ovate-oblong pubeſcent.]

6. Colutea herbacea. *Annual Bladder-Senna.*
Lin. ſpec. 1045. *Reich.* 3. 489. *hort. upſ.* 266. *Comm. hort.* 2. 87. *t.* 44. *Volk. norib. t.* 118. *Gærtn. fruct.* 342.
C. annua. *Murr. in comm. gott.* 5. 40. *t.* 7. *f.* 12, 13.
Herbaceous; leaflets linear ſmooth.

[7. Colutea

[a] Swartz.
[b] Linn. mant.
[c] Vahl.
[d] Browne.
[e] Hort. kew.
[f] Swartz.
[g] Loureiro.

[7. Colutea fiſtuloſa.
Retz. obſ. 3. 40.
Herbaceous; leaflets ovate complicate pubeſcent underneath.]

8. Colutea americana.
Mill. dict. n. 5. *Houſt. mſs.*
C. Veræ Crucis veſicaria. *Pluk. alm.* III. *t.* 165. *f.* 3.
Shrubby; leaflets ovate, emarginate; legumes oblong compreſſed acuminate.

9. Colutea procumbens.
Mill. dict. n. 7.
Stems trailing; leaflets ovate-oblong tomentoſe; flowers axillary on very long peduncles.

DESCRIPTIONS, *&c.*

[Moſt of the Coluteas are ſhrubs, with pinnate leaves, and ſtipules diſtinct from the petiole. Peduncles ſometimes two-flowered, but more frequently many-flowered in ſpikes, both axillary and terminating. They are in general eaſily diſtinguiſhed by their membranaceous inflated pod. Lamarck refers *Phaca auſtralis* and *alpina* of Linneus to this genus, both having the pod one-celled [a].]

1. This has ſeveral woody ſtems, which grow to the height of twelve or fourteen feet, ſending out many woody branches, with winged leaves, compoſed of four or five pairs of oval lobes, placed oppoſite, terminated by an odd one; theſe are indented at the top in form of a heart, and are of a grayiſh colour. The flowers come out from the wings of the leaves upon ſlender peduncles about two inches long, each ſuſtaining two or three yellow flowers, whoſe ſtandard is reflexed and large, with a dark-coloured mark on it. [Racemes ſhorter than the leaf: flowers from five to ſeven; calyx as thick as it is long; keel obtuſe longer than the wings; ſtyle bearded on the inſide; ſtigma bent down [b]. Legume membranaceous, ſubtranſparent, ſemiovate, inflated, ending at bottom in a longiſh peduncle, at top in a ſhort point. Seeds as far as twenty, or even more [c].

South of France, Italy, warmer parts of Switzerland, Carniola. Mr. Ray obſerved it about Montpellier, and in many parts of Italy, eſpecially on mount Veſuvius even in the aſcent to the crater, where there were ſcarcely any other plants. It flowers with us from june to auguſt.

The leaves are recommended as anſwering all the purpoſes of Senna, and Allioni has given particular directions for the preparation of them. A larger doſe ſeems to be required to produce the ſame effect. The ſeeds, in a quantity of a dram or two, excite vomiting. It is ſaid to afford food grateful to cattle [d].

Cultivated in 1570 [e].]

2. This has a woody ſtem, which ſends out many branches on every ſide, and do not riſe above ſeven or eight feet high; theſe are not ſo ſtrong as thoſe of the firſt ſort, and the leaves are compoſed of five or ſix pairs of ſmall heart-ſhaped leaflets, terminated by an odd one. The flowers proceed from the ſide of the branches, ſtanding upon peduncles, each ſuſtaining two or three flowers, ſhaped like thoſe of the firſt ſort, but ſmaller; they are of a dark red colour, marked with yellow; appear in june, and the ſeeds ripen in autumn.

[The Oriental Bladder-Senna, beſides that it is never arboreſcent, differs from the foregoing ſort in the ſhape, ſize, and number of the leaflets, which are quite ſmooth, glaucous, and more fleſhy; on very ſhort petioles or even ſubſeſſile: with ſcarcely conſpicuous ſtipules. The corolla is not only of a different colour and ſmaller, but the wings are perceptibly ſhorter than the keel, whereas in the common ſort they are nearly equal; the keel alſo is erect, and cut off at the end; and the marks on the ſtandard are very different. The legume opens below the tip into a wide oval hole.

It was diſcovered by Tournefort in the Levant.—Cultivated 1731, by Mr. Miller [f].]

3. This ſhrub ſeldom grows more than ſix or ſeven feet high, in this country. The branches are very ſlender, and much more pliant than thoſe of the common ſort, and therefore it grows leſs erect. The leaves are compoſed of nine pairs of leaflets, and are much ſmaller. The flowers are of a brighter yellow, appear a month earlier than in the common ſort, and there is a ſucceſſion of them till late in the autumn, which renders this much more valuable; and the branches not ſhooting ſo luxuriantly, nor ſo upright; this is in leſs danger of being broken by ſtrong winds in ſummer.—Native of the Levant. The ſeeds were brought to England firſt by the Rev. Dr. Pocock, who gathered them in Turkey. Dr. Ruſſel, who reſided many years at Aleppo, reports that this ſhrub is very common about that city.

[Cultivated 1752, by Mr. Miller [g].

4. A hoary ſhrub, with tomentoſe leaflets, ſmooth on the upper ſurface. Standard of the corolla ſhorter than the keel; wings very minute [h].]

Height from two to four feet; in favourable ſeaſons and in a warm ſituation, plants of three years ſtanding will be ſix feet high, with large heads, and all the branches covered with flowers, making a very fine appearance. Thoſe plants however which are expoſed to the open air ſeldom are of longer duration than two years, and are generally deſtroyed in ſevere winters; but they make much ſtronger plants while they laſt, and produce a greater number of flowers than thoſe which are houſed; theſe being of a fine ſcarlet colour, intermixed with the ſilvery leaves, afford an agreeable variety.—The ſtem is weak; the ſide branches grow erect; and the leaves have ten or twelve pairs of leaflets. The peduncles are axillary, towards the upper part of the ſtem, and ſuſtain three or four flowers; theſe are very long, and not reflex. The legumes are very large. It flowers in june; but when the ſeeds are ſown forward in the ſpring, they will produce flowers in auguſt, and ſometimes perfect ſeeds in october [i].

[It is a native of the Cape of Good Hope, and was cultivated in 1683, by Mr. James Sutherland [k]. It was not however generally known in our gardens till the time of Miller.

5. The whole of this plant is ſlightly pubeſcent. Root perennial. Stems erect, round, ſtriated, pale green, annual, quite ſimple or with almoſt barren branchlets. Leaves alternate, frequent, ſpreading; leaflets from ſix to eight pairs, blunt, on very ſhort petioles, quite entire. Racemes axillary, ſolitary, ſimple, erect, longer than the leaves. Flowers ſmall and without ſcent. Calyx pubeſcent on the outſide. Corolla fleſh-coloured: ſtandard wide, roundiſh, emarginate, ſpreading very much, marked with deep purple ſtreaks; wings ſhorter than the keel, blunt and oblong; keel dark purple, aſcending at the end, almoſt as long as the ſtandard. Style ſmooth; ſtigma blunt, with white villoſe hairs, but bearded only at the tip. Legume ovate-roundiſh, acuminate at both ends, compreſſed-flat, little inflated, ſmooth, membranaceous-ſubpellucid, not opening of itſelf. Seeds very few, compreſſed and black [l].

Native of Africa. Introduced in 1776, by Joſ. Nich. de Jacquin, M.D.—It flowers in auguſt [m].

6. Annual, ſeldom perennial in the ſtem, ſmooth. Corollas dark blood red, with a ſtriated ſtandard, the length of the wings and keel. Legumes compreſſed [n], ſmall, membranaceous, very thin, ovate, pedicelled, obliquely mucronate. Seeds two or four, rather large, compreſſed, of a dirty cheſtnut colour [o].]

Stem a foot and half high and ſlender, dividing at top into three or four branches. Leaflets five or ſix pairs, very narrow, an inch long, a little hoary. Flowers ſmall, three together, on ſlender peduncles; appearing in july. The ſeeds ripen in autumn.

Native of the Cape of Good Hope.

[Cultivated 1731, by Mr. Miller [p].

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[a] Juſſieu. [b] Scopoli. [c] Gærtner. [d] Haller and Ray. [e] Hort. kew. from Lobel.

[f] Hort. kew. [g] Ibid. [h] Linn. ſpec. [i] Mill. dict. and fig. [k] Hort. kew. [l] Jacquin. [m] Hort. kew. [n] Linn. ſpec. [o] Gærtner. [p] Hort. kew.

7. Stems angular, ſtriated, fiſtulous, flowering the ſecond year. Stipules narrow, acuminate, ſubfalcate. Leaflets from ſeven to ſeventeen, nearly oppoſite, ſcarcely emarginate, ending with a ſmall point, quite entire. Peduncles axillary, elongated, racemed, many-flowered, pubeſcent, with ſmall ſubulate bractes. Calyx pubeſcent: corollas ſmall, whitiſh or red, with blood-red ſtreaks. Style naked; ſtigma pubeſcent, toothletted. Legumes compreſſed, ovate[q]. It was ſent to Retzius under the title of *C. herbacea*, of which he affirms there are ſeveral ſpecies.]

8. The eighth ſort was ſent me from La Vera Cruz, in New Spain, in the year 1730, by Dr. Houſtoun. This has a ſhrubby ſtalk, which riſes to the height of twelve or fourteen feet, ſending out many branches; the leaves are compoſed of three pairs of oval leaflets, terminated by an odd one; theſe are indented at the top, and are of a light green. The flowers are of a bright yellow, and ſtand two or three upon each peduncle, and are ſucceeded by compreſſed winged pods near four inches long, which end in long points.

9. This has many ſlender woody ſtems, which trail on the ground, and are divided into many ſmaller branches; the leaves are compoſed of twelve or fourteen pairs of ſmall, narrow, oval leaflets, terminated by an odd one; theſe, and alſo the ſtalks, are covered with a whitiſh down. The flowers are very ſmall, of a purple colour, and ſtand upon very long ſlender peduncles, each ſuſtaining three or four flowers; theſe are ſucceeded by compreſſed pods little more than half an inch long, which are a little bent like a ſickle, each containing a ſingle row of ſmall kidney-ſhaped ſeeds. It flowers in june and july, and the ſeeds ripen in autumn. This is a perennial plant, which, if ſheltered in the winter, will continue ſeveral years; but the branches do not extend more than a foot in length; and unleſs they are ſupported, always trail upon the ground.

The ſeeds were ſent to Mr. Miller from the Cape of Good Hope in 1753.

PROPAGATION AND CULTURE.

1, 2, 3. The three firſt mentioned ſorts are very hardy ſhrubs, which thrive in the open air extremely well, and are generally propagated for ſale in the nurſery-gardens; but the firſt ſort having been longer in England, is more generally known and propagated than either of the other, which have been but few years in the Engliſh gardens, nor had the third ſort been long known in this country in Mr. Miller's time; but as the ſeeds ripen here very well, it is now in as great plenty as the firſt ſort.

Theſe are all propagated by ſowing their ſeeds any time in the ſpring, in a bed of common earth; and when the plants are come up, they muſt be kept clear from weeds; and the Michaelmas following they ſhould be tranſplanted either into nurſery rows, or in the places where they are deſigned to remain; for if they are let grow in the ſeed-bed too long, they are very ſubject to have downright tap-roots, which render them unfit for tranſplantation; nor ſhould theſe trees be ſuffered to remain too long in the nurſery before they are tranſplanted, where they are to remain for the ſame reaſon.

The firſt ſort growing to the height of twelve or fifteen feet, is very proper to intermix with trees of a middling growth in wilderneſs quarters; or in clumps of flowering trees, where the oddneſs of their flowers and pods will make a pretty variety, eſpecially as theſe trees continue a long time in flower; for they uſually begin flowering by the end of may, and from that time to ſeptember they are ſeldom deſtitute of flowers, but eſpecially the ſecond ſort.

Theſe ſhrubs make great ſhoots annually, which are frequently broken down by ſtrong winds in the ſummer; ſo that if they are not ſheltered by other trees, their branches ſhould be ſupported, otherwiſe they will be broken and ſplit off, whereby the trees will be rendered unſightly.

The third ſort does not grow ſo tall as the common, but makes a more regular ſhrub, and is leſs liable to ſplit. The flowers of this ſort being of a duſky red colour, ſpotted with yellow, it makes a very pretty variety, and is as hardy as the common ſort, therefore may be propagated by ſeeds in the ſame manner.

[Mr. Curtis has learned by experience, that a very wet ſoil proves fatal to the common Bladder-Senna.—The ear-wigs finding a commodious retreat within the bladders, are great deſtroyers of the ſeeds: Mr. Miller therefore recommends the hanging lobſter-claws, or bowls of tobacco pipes on the ſhrubs, to entice theſe inſects[r].

The third ſort ſends forth many ſuckers, by which alſo it may be propagated; but the plants thus raiſed never grow ſo ſtrong, and are ſubject to produce many ſuckers[s].

4. The fourth ſort is tender, and will not live through the winters, when they are ſevere, in the open air in England; but in mild winters, if it be planted in a dry ſoil, and a warm ſituation, it will thrive very well; and thoſe plants which live abroad will flower much ſtronger, and make a finer appearance than thoſe which are preſerved in the green-houſe; for theſe plants require a large ſhare of air, otherwiſe they are apt to draw up weak, and not to produce their flowers in plenty; therefore when any of the plants are ſheltered in winter, they muſt be placed as near the window as poſſible, that they may have all the advantages of air; and in the ſpring they muſt be hardened, to bear the open air as ſoon as poſſible.

This ſort is propagated by ſeeds as the former. If the ſeeds are ſown early in the ſpring upon a warm border of light earth, the plants will flower in auguſt; and, if the autumn proves favourable, they will ſometimes ripen their ſeeds very well; but there are ſome perſons who ſow the ſeeds upon a moderate hot-bed in the ſpring, whereby they bring their plants ſo forward as to flower in july, whereby the ſeeds are generally perfected from theſe plants. When the plants are tranſplanted, it ſhould always be done while they are young, for they do not bear removing when they are large. This ſort will ſometimes live in the open air for three or four years, when the plants ſtand in a well ſheltered ſituation; and theſe will grow to have large heads, and make a very fine appearance when they are in flower; they will alſo continue much longer in beauty than thoſe plants which are treated more tenderly.

6. The ſixth ſort is a low annual plant, which ſeldom grows more than a foot and a half in height; the flowers being ſmall, and having little beauty, it is ſeldom preferved but in botanic gardens. The ſeeds of this ſort muſt be ſown upon a moderate hot-bed in the ſpring, and the plants muſt be put into ſmall pots, and brought forward in another hot-bed. In july they will flower, when they may be expoſed in the open air, in a warm ſituation, where the ſeeds will ripen in ſeptember, and the plants will ſoon after decay.

8. The eighth ſort growing naturally in hot countries, is too tender to thrive in the open air in England. It is propagated by ſeeds, which muſt be ſown on a hot-bed in the ſpring; and when the plants are two inches high, they ſhould be each tranſplanted into a ſeparate ſmall pot filled with light earth, and plunged into a hot-bed of tanners bark, obſerving to ſhade them till they have taken freſh root; after which they muſt be treated in the ſame way as other plants from the ſame climate, always keeping them in a ſtove, which ſhould be of a moderate temperature of heat.

9. The ninth ſort may be raiſed on a moderate hot-bed in the ſpring, and afterward expoſed to the open air in ſummer; but in winter the plants muſt be ſheltered under a frame, otherwiſe the froſt will deſtroy them.

[COLUTEA. See *Coronilla*, *Indigofera*, *Pſoralea*, *Sophora*.
COMA AUREA. See *Athanaſia*, *Chryſocoma*, *Gnaphalium*.
COMAROIDES. See *Potentilla*.]

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[q] Retzius.

[r] Mill. fig.

[s] Ibid.

COMARUM. (*Κομαρος of Theophraſtus, is an evergreen tree.*)

Lin. gen. n. 638. *Reich.* 694. *Schreb.* 869. *Gærtn.* 73. *Juſſ.* 338.

Claſſ. 12. 5. Icoſandria Polygynia.

Nat. order of *Senticoſæ. Roſaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, ten-cleft, very large, ſpreading, coloured: *alternate diviſions* ſmaller, inferior; permanent.

COR. *Petals* five, oblong, acuminate, three times ſmaller than the calyx on which they are inſerted.

STAM. *Filaments* twenty, ſubulate, inſerted into the calyx; length of the corolla, permanent. *Anthers* lunular, deciduous.

PIST. *Germs* numerous, roundiſh, very ſmall, collected into a head: *Styles* ſimple, ſhort, from the ſide of the germ. *Stigmas* ſimple.

PER. none. *Common receptacle of the ſeeds* ovate, fleſhy, very large, permanent. (globular, villoſe. *Gærtn.*)

SEEDS numerous, acuminate, covering the receptacle, (naked, ſmooth. *G.*)

ESSENTIAL CHARACTER.

Cal. ten-cleft. *Pet.* five, ſmaller than the calyx. *Recept.* of the ſeeds ovate, ſpongy, permanent.

SPECIES.

1. Comarum paluſtre. *Marſh Cinquefoil.*

Lin. ſpec. 718. *Reich.* 2. 554. *fl. lapp. n.* 214. *ſuec. n.* 463. *hort. cliff.* 195. *Hudſ. angl.* 227. *With.* 540. *Lightf.* 276. *Relh. cant. n.* 280. *Hall. helv. n.* 1128. (Fragaria.) *Scop. carn. n.* 617. (Potentilla.) *Pollich. pal. n.* 502. *Leers herborn. n.* 399. *Gærtn. fruct.* 349. *t.* 73. *Fl. dan. t.* 636. *Villars dauph.* 3. 579. *Krock. ſileſ. n.* 811. *t.* 14.

Quinquefolium paluſtre. *Beſl. eyſt. æſtiv.* 10. *t.* 9. *f.* 1.—rubrum. *Bauh. pin.* 326.—quartum. *Dod. pempt.* 117.

Pentaphyllum paluſtre. *Cord. hiſt.* 95.—rubrum. *Lob. ic.* 691. 1. *Ger.* 836. 4. *emac.* 987. 4. *Raii hiſt.* 611.

Pent. vel potius heptaphyllum, fl. rubro. *Bauh. hiſt.* 2. 398. c. t. 2. *Mor.* 2. 19. 4.

β. *Pluk. alm. t.* 212. *f.* 2. *Pet. brit. t.* 41. *f.* 2.

DESCRIPTION, &c.

This plant has creeping woody roots, which ſend out many black fibres, penetrating deep into boggy ground. Stems many, herbaceous, about two feet high, generally inclining to the ground. At each joint is one leaf, compoſed of five, ſix, or ſeven leaflets. The petals are not more than a third part of the ſize of the calyx.

[Stems cylindric, branched, a little hairy.—Lower leaves on long petioles, with broad ſtipules embracing the ſtem, bluntly lanceolate, having five or ſeven leaflets on ſhort petioles, the odd one largeſt, the lower pair ſmalleſt, oval, deeply and acutely ſerrated, upper leaves on ſhort petioles, with oval-lanceolate ſtipules, and five or three leaflets; others ſingle, with lanceolate ſtipules; upper ſide of the leaves ſlightly hairy, under ſide and petioles downy. Peduncles numerous, each ſupporting a ſingle flower, with a pair of lanceolate bractes. Segments of the calyx and petals acute and dark purple. Stamens, anthers, ſtyle, and receptacle black[a].—Petals marone-coloured. Stamens twenty to thirty, mulberry-coloured; anthers heart-ſhaped, the pollen yellow: ſtyles marone-coloured; the ſtigma has ſometimes a drop of tranſparent liquor. Receptacle conical, a little woolly[b].

Native of moſt parts of Europe, in boggy ground.] A few plants are growing upon a bog at Hamſtead; but the neareſt place to London where it grows wild in plenty, is in the meadows near Guilford in Surry. [It is found alſo at Selburne in Hampſhire: near Bromſgrove Lickey, in Worceſterſhire: Gamlingay in Cambridgeſhire: in Norfolk: near Colcheſter, in Eſſex: Giggleſwick Tarn, near Settle: in Scotland and Ireland. June. The roots dye wool of a dirty red colour, and have aſtringency enough, with other plants of the ſame order, to tan leather. The Iriſh rub their milking pails with it; to make the milk appear thicker and richer. Goats eat it. Cows and ſheep are not fond of it. Horſes and ſwine refuſe it[c].]

β. There is a variety with thicker and more villoſe leaves, which grows plentifully in Ireland, and in the north of England; but after one year's growth in a garden it is not to be diſtinguiſhed from the common ſort.

PROPAGATION AND CULTURE.

This plant being a native of bogs, cannot well be preſerved in a garden; except it be planted in a ſoil congenial to its natural one. The roots may be removed from the place of their growth in October, and will be be in no danger of ſucceeding if they are planted in boggy ground.

[**COMBRETUM.** (*The name of a plant in Pliny, deſcribed by him as very like the* Bacchar, *but taller, with the leaves drawn out ſo finely as to reſemble threads.*)

Lin. gen. n. 475. *Reich.* 509. *Schreb.* 641. *Gærtn.* 36. *Juſſ.* 320. *Loefl. it.* 308. 248.

Claſſ. 8. 1. Octandria Monogynia.

Nat. order of *Calycanthemæ. Onagræ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, ſuperior, bell-ſhaped, four or five-toothed, deciduous.

COR. *Petals* four or five, ovate, acute, inſerted into the calyx, and ſcarce longer than it.

STAM. *Filaments* eight or ten, briſtle-form, erect, very long; *Anthers* a little oblong.

PIST. *Germ* inferior, linear. *Style* briſtle-form, length of the ſtamens. *Stigma* acute.

PER. none, except the cruſt of the ſeed.

SEED ſingle, four or five-angled; angles membranaceous; acuminate.

ESSENTIAL CHARACTER.

Cal. four or five-toothed, bell-ſhaped, ſuperior. *Cor.* four or five-petalled, inſerted into the calyx. *Stam.* very long. *Seed* one, four or five-angled, the angles membranaceous.

SPECIES.

1. Combretum laxum.

Lin. ſpec. 496. *Reich.* 2. 154. *Loefl. it.* 308. *Jacqu. amer.* 104. *pict.* 53. *Gærtn. fruct.* 176. *t.* 36? *Swartz obſ.* 143.

Spikes lax, leaves oppoſite.

2. Combretum ſecundum.

Lin. ſpec. 496. *Reich.* 2. 155. *Jacqu. amer.* 103. *t.* 176. *f.* 30. *pict.* 53. *t.* 260. *f.* 26.

C. laxum. *Aublet guian.* 351. *t.* 137. *Loefl. itin.* 248. Gaura.

Spikes in one row, leaves oppoſite.

3. Combretum purpureum.

Vahl ſymb. 3. 51.

Leaves ovate-oblong, both they and the calyxes naked, ſpikes ſimple, directed one way.

4. Combretum decandrum.

Jacqu. amer. 104. *pict.* 53. *t.* 260. *f.* 27.

Criſtaria coccinea. *Sonnerat voy.* 2. 247. *t.* 140. *Gærtn. fruct.* 1. 177.

Leaves alternate, flowers ten-ſtamened.

DESCRIPTIONS, &c.

This genus is very imperfectly known, and being a very fine one, deſerves the attention of the cultivators of exotic plants. Probably ſome of the ſynonyms given above belong to different ſpecies, of which there are ſeveral known in Europe only from dried ſpecimens.

1. This is a ſhrub with round ſcandent branches, the younger ones brachiate. Leaves ovate, acuminate, ſometimes blunt, with or without a point, quite entire, ſmooth, petioled, three inches long. Spikes erect, three inches long, axillary and terminating. Flowers ſmall, whitiſh, on very ſhort pedicels[d].

Jacquin affirms, that the plant which Aublet has figured and deſcribed under the ſame name, is not his plant, although it have the ſame habit, for the flowers are totally different. He would unite

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[a] Woodward Mſſ.

[b] Withering.

[c] Withering & Lightfoot.

[d] Jacquin.

Aublet's with Loefling's plant, and conſider them as a diſtinct ſpecies[e]. It ſeems indeed to agree better with our ſecond ſpecies, than with the firſt. The leaf and fruit in Aublet's figure agree well enough with Jacquin's of his *ſecundum*, but not with that of Gærtner, who refers to Aublet, and not to Jacquin.

This ſpecies is thus deſcribed by Swartz. Branches brachiate, the branches compreſſed a little at the tip, duſky ferruginous, pubeſcent. Leaves elliptic, large, entire, nerved. Flowers raceme-ſpiked. Common peduncle axillary on the terminating branches, erect, round, ferruginous-pubeſcent. Racemules oppoſite, ſpreading, many-flowered. Pedicels one-flowered. Calyx goblet-ſhaped, four-cornered, villoſe within, coloured. Petals four, with very ſhort claws, inſerted into the angles of the calyx, ovate, ſpreading, yellowiſh white. Filaments eight, twice as long as the calyx, ſpringing from the bottom of it: anthers ovate, minute. Germ roundiſh: ſtyle ſubulate-filiform. Capſule oblong, four-cornered, four-winged, one-celled. Seed four-cornered, the corners membranaceous and red, one-celled. It varies with narrower ovate-lanceolate leaves.

Native of the Weſt-Indies.

2. This is a ſmall tree, twelve feet high, ſupporting itſelf on other trees by its round and very long branches. Leaves ovate-oblong, acuminate, quite entire, ſmooth, veined, diſtich, petioled, four inches long, the upper ones on the flowering branchlets ſmaller. Spike pinnate, compoſed of ſeveral oppoſite ones in a double row uncertain in their number, and an odd one at the end, extended horizontally along with the extremity of the branch whence it ariſes: pedicels one-flowered, extremely ſhort, placed very cloſe to each other. Flowers very numerous, with ſcarcely any ſcent, yellowiſh green except the anthers, which are red, all turned upwards and erect, all together appearing like a creſt. The branches, when broken, and the leaves bruiſed, have a fetid and very unpleaſant ſmell.

Native of Carthagena in South America[f]; and alſo of Guiana.

3. This is a very ſmooth ſhrub, with round brachiate branches. Leaves petioled, oppoſite, three inches long, quite entire, ſomewhat coriaceous, a little attenuated at the tip, under the ſpikes an inch long, acute. Peduncles oppoſite, ſpreading very much, a ſhort ſpan in length, four-cornered. Flowers copious, ſcattered. A briſtle-ſhaped bracte at the baſe of each pedicel. Calyx very ſmooth. Corolla purple. Seed roundiſh, retuſe, very ſmooth, of a ſhining golden colour. Native of the Eaſt-Indies[g].

4. This is a weak branching ſhrub, climbing to twenty feet in height, with prickles on the older branches. Leaves oval-oblong, quite entire, ſhining, petioled, two or three inches long, ending in a blunt channelled cartilaginous point. Spikes looſe, half a foot long, about ten on one common peduncle, at the ends of the branchlets, which are frequently continued weak and leafleſs ſix feet beyond the flowers. Pedicels very ſhort. Flowers ſmall and very numerous, coming out uſually before the leaves. Fruits browniſh. Native of Carthagena, flowering in may and june, and fruiting in july and auguſt[h].

COMĒTES. (*From* Κομητης, *crinitus; the involucres being remarkably hiſpid.*)

Reich. gen. n. 167. *Schreb.* 211. *Juſſ.* 437.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Tricoccæ*.

GENERIC CHARACTER.

Cal. *Involucre* three-flowered, (flowers ſeſſile,) four-leaved; *leaflets* oblong, equal, ſpreading, ciliate-hiſpid.

Perianth four-leaved; *leaflets* oblong, equal, length of the involucre.

Cor. none.

Stam. *Filaments* four, capillary, length of the perianth. *Anthers* roundiſh.

Pist. *Germ* roundiſh. *Style* filiform, length of the flower. *Stigma* three-cleft.

Per. *Capſule* tricoccous.

Seed ſolitary.

Obs. *It has an affinity with* Dalechampia.

ESSENTIAL CHARACTER.

Involucre four-leaved, three-flowered. *Cal.* four-leaved. *Capſ.* tricoccous.

SPECIES.

1. Cometes alterniflora.

Lin. ſyſt. 163. *Reich.* 342. *mant.* 39. *Burm. ind.* 39. *t.* 15. *f.* 5.

Clinopodium parvum ſinicum. *Pluk. amalth.* 61. *t.* 380. *f.* 4.

DESCRIPTION, &c.

Annual. Stem herbaceous. Leaves oppoſite, ſeſſile, obovate, acuminate, very entire, ſmooth. Peduncles axillary, alternate, ſolitary, one-flowered, patulous, the length of the leaves[i].

Stems a foot high, round. Peduncles in pairs, terminating and axillary, ſubalternate[k].

Native of Suratte.

Comfrey. See *Symphytum*.]

COMMELĪNA. (*This genus was ſo named by Plumier, from the two Commelins, John and Caſpar, brothers, and famous Dutch botaniſts.*)

Lin. gen. n. 62. *Reich.* 68. *Schreb.* 86. *Gærtn.* 15. *Juſſ.* 45. *Brown.* 125. *Plum.* 38. *Zanonia. Plum.* 38.

Claſſ. 3. 1. Triandria Monogynia.

Nat. order of *Enſatæ. Junci* Juſſ.

GENERIC CHARACTER.

Cal. *Spathe* cordate, converging, compreſſed, very large, permanent.

Cor. *Petals* ſix, of which the three exterior are ſmall, ovate, concave, reſembling a perianth; the three inferior ones alternate, very large, roundiſh, coloured.

Nectaries three, reſembling *ſtamens*, ſeated on their proper filaments, cruciform, horizontal.

Stam. *Filaments* three, ſubulate, reclined, agreeing in figure and circuit with the filaments of the nectary, but inferior to them. *Anthers* ovate.

Pist. *Germ* ſuperior, roundiſh; *Style* ſubulate, revolute, length of the ſtamens. *Stigma* ſimple.

Per. *Capſule* naked, nearly globular, three-furrowed, three-celled, three-valved. (ſuperior two or three-celled. *Gærtn*)

Seeds two, angulated.

Obs. *The number is different; hence if the four ſmall petals are equal, then out of the number of the other parts, exclude one third, and add unity to the nectaries, and you will have the number required.*

In Zanonia, *the three exterior ſmall petals continue in the form of a perianth; the three interior ones are equal.*

Some are for removing all the Zanonias *to the genus* Tradeſcantia.

ESSENTIAL CHARACTER.

Cor. ſix-petalled. *Nect.* three, croſs-ſhaped, pedicelled.

SPECIES.

* *With two petals larger.*

1. Commelina communis. *Common American Commelina.*

Lin. ſpec. 60. *Reich.* 113. *hort. upſ.* 18. *cliff.* 21. *Gron. virg.* 130, 8. *Thunb. jap.* 35. *Lour. cochinch.* 38. *Dill. elth.* 93. *t.* 78. *f.* 89. *Gærtn. fruct.* 49. *t.* 15. *Mor. hiſt.* 15. *t.* 2. *f.* 3. *Herm. par.* 145, 146. *Raii hiſt.* 721. *n.* 14 & 1332.

Corollas unequal; leaves ovate-lanceolate, acute; ſtem creeping, ſmooth.

2. Commelina africana. *African Commelina.*

Lin. ſpec. 60. *Reich.* 113. *Willich. illuſtr. n.* 19. *Berg. cap.* 9. *Gærtn.* 50. *t.* 15. *Lour. cochinch.* 39.

Corollas unequal; leaves lanceolate, ſmooth; ſtem proſtrate.

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[e] Amer. pict.

[f] Jacquin.

[g] Vahl.

[h] Jacquin.

[i] Linn. mant.

[k] Burm. ind.

[3. Commelina benghalenſis. *Eaſt-Indian Commelina.*
Lin. ſpec. 60. *ſyſt.* 94. *Reich.* 113. *Lour. cochinch.* 39. *Murr. in comm. gott.* 2. (1779) *p.* 18. *t.* 5.
Ephemerum bengh., &c. *Pluk. alm. t.* 27. *f.* 3.
Corollas unequal; leaves ovate, obtuſe; ſtem creeping.]

4. Commelina erecta. *Upright Virginian Commelina.*
Lin. ſpec. 60. *Reich.* 114. *hort. upſ.* 18. *cliff.* 495. *Gron. virg.* 11, 8. *Dill. elth.* 91. *t.* 77. *f.* 88.
Corollas unequal; leaves ovate-lanceolate; ſtem erect, ſubhirſute, entirely ſimple.

** Zanonias, *with three petals larger.*

[5. Commelina virginica.
Lin. ſpec. 61. *Reich.* 114.
Ephem. phalangoides virginianum, &c. *Pluk. alm. t.* 174. *f.* 4.
Corollas nearly equal; leaves lanceolate, ſubpetioled, bearded on the edge; ſtems upright.]

6. Commelina tuberoſa. *Tuberous-rooted Commelina.*
Lin. ſpec. 61. *Reich.* 114. *hort. upſ.* 18. *cliff.* 21. *Willich illuſtr. n.* 18. *Gærtn.* 50. *t.* 15. *Dill. elth.* 94. *t.* 79. *f.* 90.
Corollas equal; leaves ſeſſile, oval-lanceolate, ſubciliate.

7. Commelina Zanonia. *Gentian-leaved Commelina.*
Lin. ſpec. 61. *Reich.* 114. *Gærtn.* 50. *t.* 15. *Brown. jam.* 125. 1.
Zanonia graminea, perfoliata. *Plum. gen.* 38.
Tradeſcantia Zanonia. *Swartz prodr.* 57. *obſ.* 28.
Corollas equal; peduncles thickened; leaves lanceolate; ſheaths ſwelling, hirſute about the edge; bractes in pairs.

[8. Commelina vaginata.
Lin. ſyſt. 94. *Reich.* 115. *mant.* 177.
Corollas equal; leaves linear; flowers two-ſtamened, ſheathed with an involucre.

9. Commelina nudiflora.
Lin. ſyſt. 94. *Reich.* 115. *mant.* 177. *fl. zeyl. n.* 31.
Ephem. phalang. maderaſpatenſe, &c. *Pluk. alm. t.* 27. *f.* 4.
Corollas equal; peduncles capillary; leaves linear; involucre none; flowers two-ſtamened.

10. Commelina ſpirata. *Spear-leaved Commelina.*
Lin. mant. 176. *Reich. ſyſt.* 116. *Ait. hort. kew.* 77.
Corollas equal; leaves lanceolate; flowers panicled.

11. Commelina cucullata.
Lin. mant. 176. *ſyſt. Reich.* 115. *Lour. cochinch.* 39.
Corolla unequal, two-petalled, leaves ovate, involucres cowled, turbinate.

12. Commelina japonica.
Thunb. in Linn. tranſ. 2. 332.
Leaves ovate-lanceolate, waved, ſtem erect, angular, hairy, flowers panicled.]

DESCRIPTIONS, &c.

1. This is an annual plant, having ſeveral trailing ſtalks, that put out roots at the joints. At each joint is one leaf, which is ſmooth, of a deep green, marked with ſeveral longitudinal nerves, and embracing the ſtalk. Flowers axillary, two or three together, on ſhort peduncles. Corolla compoſed of two large blue petals, and four ſmall green ones.

[Stems, according to the obſervation of Dillenius, from a foot to two feet in length and more, branching. Leaves reſembling thoſe of *Sopewort*, feeling roughiſh if ſtroked from the baſe upwards, but having no hairs except at the edges of the ſheaths.—Native of America, the Weſt Indian iſlands, and Africa. Cultivated 1732, by Dr. Sherard, at Eltham[a].] It flowers in june and july, and the ſeeds ripen in autumn.

2. Root fibrous. Stalks many, trailing, three feet long, putting out roots at every joint, ſo that where it has room to ſpread, it will cover a large ſurface. The leaves are very like thoſe of the firſt ſort, but the flowers are larger, and of a deep yellow colour: the ſeed-veſſels alſo are larger.

[It differs from the firſt in having larger kidney-form yellow petals, with a third ovate equal to them, but with longer filaments; the ſheaths of the leaves are ciliated, the involucre not netted: the ſheaths have another very ſmall ſheath within them[b].

Capſule ovate, two-valved, three-celled. Seeds in the upper cells, two, three or four, roundiſh, ſmooth, always barren; in the lower cell fertile, the whole covered with the valve growing to it, elliptic, flat above, and convex below[c]. Native of Africa.

Cultivated 1759, by Mr. Philip Miller[d].

It flowers in july, and the ſeeds ripen in autumn.

3. Root annual. (Loureiro ſays perennial.) Stems numerous, diffuſed, creeping at the baſe either by teats or fibres, then aſcending to a ſpan or foot in height, roundiſh, ſtriated, hirſute, jointed, the internodes two inches long, branches from the very baſe, alternate, the lower ones longeſt. Leaves before they open rolled in, from an inch to an inch and half in length, nerved, pubeſcent, waved. Petioles ciliate with brown hairs, at firſt linear, then ſheathing; ſheaths marked with lines, ſpotted with purple. Spathe terminal, cowled, compreſſed, ſubtriangular, the apex turned down, the two ſides united, marked with lines. Peduncle within the ſpathe double, one ſlender, longer, one-flowered, the other thicker, channelled, bearing from two to four flowers, on jointed round inflex pedicels. The two inner petals very large, blue, the four outer pale blue. Nectaries yellow[e]. Native of Bengal and Cochinchina.]

4. Root perennial. Stems a foot and half high, having a ſingle leaf at each joint, ſhaped like thoſe of the firſt ſort, and embracing the ſtem. Flowers axillary at the upper part of the ſtalk, on ſhort peduncles. Petals pale blue.

[Leaves ſubhirſute, but not hairy except at the ſheath. The flowers are larger than in the firſt ſort, plaited about the edge, and as it were crenated, finely ſtriated. Of the three coloured petals the two upper only are conſpicuous, the third is ſmall and very narrow, whitiſh and pellucid; the three outer petals are ſlender, the upper one ſmaller than the other two, which are blueiſh. Capſules roundiſh, obtuſely triangular, three-ſeeded[f]. Cultivated 1732, by James Sherard, M.D.[g].

5. Stems erect, ſimple, gloſſy, two feet high. Leaves ſcabrous on the upper ſurface, when rubbed from the baſe; ſheaths nerved, ſubpubeſcent, ciliated about the edge with ferruginous hairs. Spathes terminating, ſubcordate. Flowers blue, with the petals cordate, and very entire; the lower one on a ſhort pedicel[h]. The ſtructure and fruit like that of the firſt ſpecies; but the capſule a little larger, and whitiſh; the ſeeds more wrinkled, and bay inclining to aſh colour[i]. Native of Virginia. Perennial.]

6. This has a thick fleſhy root compoſed of ſeveral tubers, ſomewhat like thoſe of Ranunculus, ſeveral joining together at the top, where they form a head, and diminiſh gradually downwards: from this ariſe one or two inclining ſtalks, which put out ſide branches from their lower parts. Some of the leaves are on long petioles, others embrace the ſtalk; they have ſhort hairs on their under ſurface, and towards the ſtalk, but are ſmooth above, of a deep green colour, and cloſe every evening, or in cold weather. The flowers are axillary towards the upper part of the ſtalk, on ſlender peduncles. Corolla compoſed of three large, roundiſh, blue petals, and three ſmaller, which are green.

[Capſule ovate-acuminate, rather flatted, two-valved, three-celled; the upper valve divided longitudinally into two cells, but the lower one-celled, growing cloſe to the ſeed: in each of the upper cells two tubercled ferruginous ſeeds; in the lower one, elliptic, ſmooth, compreſſed like a lens, bay-coloured. *Gærtn.* Cultivated 1732, in the Eltham garden, from ſeeds ſent from Mexico, where it is ſaid to grow on the mountains. It is uſed there externally for diſcuſſing tumours, and internally in hot plethoric habits[k].] Mr. Miller had it from La Vera Cruz in New Spain, by Dr. Houſtoun.

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[a] Hort. kew.

[b] Linn. ſpec.
[c] Gærtner.
[d] Hort. kew.
[e] Murray.
[f] Dillenius.
[g] Hort. kew.
[h] Linn. ſpec.
[i] Gærtner.

7. This has trailing ſtalks like the firſt, with narrow graſſy leaves, embracing the ſtalks with their baſe. The flowers are produced at the ends of the ſtalks upon thick peduncles, three flowers generally on each. The corolla has three equal large petals of a ſky blue, and three ſmaller, which are green.

[The ſheaths of the leaves are very wide and diſtant from the ſtalk, hirſute on the edge. There are two lanceolate oppoſite bractes[l]. Fruits berried, ſeſſile, in an ovate terminating raceme. Berries ſpurious, dark purple, formed of the corolla tranſmuted into a fleſhy, ſucculent, three-lobed galea, drawn over the capſule, and covering it totally. Capſule cylindric-ovate, cruſtaceous, dotted in rows, teſtaceous, three-celled, and opening into three parts at top. Seeds two, (ſometimes one) in each cell; one angular, a little wrinkled, aſh-coloured, having a little pap covering the embryo on the ſide; the other elliptic, plano-convex, a little wrinkled about the edge, bearing the embryo on the middle of the back[m].]

Native of the Weſt Indies; Mr. Miller had the ſeeds from the iſland of Barbuda. Cultivated 1759, by him.

It flowers from june to auguſt, but does not perfect ſeeds in England.

[8. Annual. Stems aſcending, numerous, ſomewhat ſcabrous. Leaves ſeſſile, acute, ſheathing. Peduncles terminating and axillary, elongated, ending in a ſtriated, lanceolate involucre, convoluted ſo as to be almoſt cylindric. Four filaments of the nectary, half the length of the ſtamens. Two filaments of the ſtamens, bearded, a little bent back, the length of the corolla: anthers yellow, ſpotted with black. Found by Koenig in the Eaſt-Indies[n].

9. Annual. Stem ſomewhat erect, decumbent at the baſe, ſomewhat ſcabrous, a ſpan in height. Leaves ſeſſile, acute, ſheathing. Peduncles terminating, two, a greater and a ſmaller. Flowers from four to ſix, pedicelled (without any involucre) nodding. Three filaments of the nectary, half the length of the ſtamens, naked. Two filaments of the ſtamens, bearded in the middle, declining where the corolla gapes. Found by Koenig in dry paſtures of the Eaſt-Indies[o].

10. Annual. Stem creeping, aſcending, ſomewhat ſcabrous. Leaves ſheathing, moſt minutely ſerrate; the upper leaf cordate-lanceolate; ſheaths ciliated on the edge. Panicle terminating, divaricate, with little ſheathing bractes. Three filaments of the nectary, a little ciliate on the ſides. Three filaments of the ſtamens, bearded, but naked above the middle: anthers blue. The ſtyle and ſtigmas are ſpirally convolved and evolved variouſly.—Obſerved by Koenig, in the Eaſt-Indies, in moiſt places near brooks[p].

Introduced 1783, by John Earl of Bute. It flowers in july and auguſt[q].

11. Stem erect, a ſpan high, creeping at the baſe with filiform roots. Leaves nerved, petioled, with ſheaths wider than the ſtem, ciliate at the edge, with diſtant, ſpreading briſtles. Involucres terminating, truncate, many-flowered, entirely coaleſcent by the ſide. Flowers peduncled, minute[r].

According to Loureiro, it is a foot and half high, and red. Leaves five-nerved, waved. The two large petals of the corolla bright blue; the four others he attributes to the calyx, and affirms that it certainly has no more than two large petals; though Linneus, on the authority of Burmann, (Ind. 18. t. 7. f. 3.) puts it among the tripetalous ſpecies. Murray ſuppoſes it not to be different from C. benghalenſis. Probably Linneus was of the ſame opinion. Native of the Eaſt-Indies, and Cochinchina, where it is a weed in their gardens.

12. Stem grooved, erect, hairy, panicled at top, a foot high. Leaves alternate, ſheathing, oblong, acute, ſmooth, the lower ones a finger's length, the upper ones an inch. Flowers on the panicled branches in racemes. Native of Japan[s].]

PROPAGATION AND CULTURE.

All the ſorts are propagated by ſeeds; the firſt will grow if ſown in the full ground; but if the ſeeds are ſown upon a warm border of light earth in autumn, the plants will riſe early in the ſpring; ſo from theſe good ſeeds may be expected, if the ſeaſon proves favourable; whereas thoſe which are ſown in the ſpring, often lie long in the ground, and rarely ripen their ſeed. Theſe plants have but little beauty, ſo that two or three of each ſort is as many as moſt people chooſe to have; therefore if the ſeeds are ſown in autumn where the plants are deſigned to remain, or the ſeeds permitted to ſcatter, the plants will require no farther care, but to keep them clear from weeds. The ſecond ſeldom ripens ſeeds in England, but the roots ſend out offſets, by which the plant is eaſily propagated. But it is too tender to live in the full ground in winter, unleſs it has a warm ſheltered ſituation; therefore ſhould be planted in pots, and ſheltered under a common frame in winter, and expoſed abroad in ſummer; the beſt time to tranſplant and part theſe roots is about the end of march.

The other ſorts are tender, their ſeeds therefore muſt be ſown on a moderate hot-bed in the ſpring, and when the plants are two inches high, they ſhould be tranſplanted to a freſh hot-bed to bring the plants forward; when they have taken freſh root, they ſhould have a large ſhare of freſh air admitted to them every day in warm weather, to prevent their growing weak; and in june theſe may be carefully taken up, and tranſplanted on a warm border of light earth, obſerving to ſhade them till they have taken freſh root; after which they will require no other care, but to keep them clean from weeds. With this management the plants will flower and produce good ſeeds.

The ſecond and ſixth ſorts may be continued, if they are planted in pots, and in autumn placed in the bark-ſtove; or if the roots of the ſixth ſort are taken out of the ground in autumn, and kept in a warm place in winter, they may be planted again in the ſpring, placing them on a hot-bed to forward their ſhooting, and theſe will produce ſtronger plants than thoſe which riſe from ſeeds.

[Commelina axillaris and criſtata. See *Tradeſcantia.*

COMMERSONA. See *Barringtonia.*

COMMERSONIA. (*This name was given by Forſter in memory of M. Commerſon, the French traveller.*)
Forſt. gen. n. 22. *Lin. ſuppl.* 26. *Schreb.* 535. *Juſſ.* 428. *Gærtn. t.* 94.
Claſſ. 5. 5. Pentandria Pentagynia.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted, corolliferous. *Diviſions* ovate, acute.

COR. five-petalled. *Petals* linear, dilated at the baſe on both ſides with an inflected lobe, ſpreading.—*Nectary* five-parted, within the ſtamens: *diviſions* lanceolate, erect, ſhorter than the petals: *corpuſcles* filiform, five, villoſe, from the diviſions of the nectary.

STAM. *Filaments* five, very ſhort at the baſes of the petals. *Anthers* roundiſh, twin.

PIST. *Germ* globular, villoſe, with five ſwellings. *Styles* five, filiform, approximating, ſhort. *Stigmas* globular.

PER. *Capſule* globular, five-celled, echinate, with long, hairy briſtles: *cells* two-ſeeded.

SEEDS ovate.

ESSENTIAL CHARACTER.

Cal. one-leafed, bearing the corolla. *Pet.* five. *Nect.* five-parted. *Capſ.* five-celled, echinate.

SPECIES.

1. Commerſonia echinata.
Lin. ſyſt. 300. *ſuppl.* 187. *Forſt. fl. auſtr. n.* 144. *Gærtn. fruct.* 2. 79.
Reſtiaria alba. *Rumph. amb.* 3. 187. *t.* 119.
Daſypogon. *Soland. mſs.*

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[k] Dillenius.
[l] Linn. ſpec.
[m] Gærtner.
[n] Linn. mant.
[o] Ibid.
[p] Ibid.
[q] Hort. kew.
[r] Linn. mant.
[s] Thunb. in Linn. tranſ.

DESCRIPTION, &c.

A tree, with alternate, obliquely ovate, acuminate, ſerrate leaves, hoary underneath. Flowers minute, panicled, hoary. The fruit very much reſembles that of Sparrmannia, both in form and ſurface. It is thus deſcribed by Gærtner.—Capſule ſuperior, ſubglobular, five-grained, five-valved. Rind coriaceous, echinated all over with ſoft villoſe briſtles, opening into five parts at the top. Grains (cocculi) five, obovate, narrowed downwards, bony, gibbous on one ſide, angular on the other, ſemibilocular from the back, two-valved, the valves of the contiguous grains united and forming the proper partitions of the capſule. In each cell two ſeeds, ovate-oblong, a little thicker above, very ſlightly compreſſed, of a red-ferruginous colour, but blackiſh at the top; incompletely covered with an arill, which is membranaceous, very thin, whitiſh, lacerated, fixed to the navel of the ſeed, and covering the whole ventral, but not the dorſal part.—Native of Otaheite and the other Society iſles[a]. Diſcovered april the 30th 1774.]

COMOCLADIA. (*From κομοω, comatus ſum; and κλαδος, ramus: the boughs forming a buſh or head.*

Lin. gen. n. 49. *Reich.* 53. *Schreb.* 66. *Juſſ.* 370. *Brown.* & *Jacqu.*

Claſſ. 3. 1. Triandria Monogynia.

Nat. order of *Terebintaceæ*. Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, three-parted, ſpreading, coloured, diviſions roundiſh.

COR. *Petals* three, (three-parted, *Browne.*) ovate, acute, flat, very ſpreading.

STAM. *Filaments* three, ſubulate, ſhorter than the corolla: *anthers* roundiſh, incumbent.

PIST. *Germ* ovate, *ſtyle* none, *ſtigma* obtuſe, ſimple.

PER. *Drupe* oblong, crooked, marked above with three dots.

SEED. *Nut* membranaceous, the figure of the drupe.

ESSENTIAL CHARACTER.

Cal. three-parted. *Cor.* three-parted. *Drupe* oblong; with a two-lobed nucleus.

SPECIES.

1. Comocladia integrifolia.
   Lin. ſpec. 49. *ſyſt.* 82. *Reich.* 93. *Jacqu. amer.* 12. *Brown. jam.* 124. *Swartz obſ.* 26.
   Prunus racemoſa, &c. *Sloan. jam.* 2. 131. *t.* 222. *f.* 1. *Raii dendr.* 44.
   Leaflets entire.
2. Comocladia dentata.
   Lin. ſpec. 49. *ſyſt.* 82. *Reich.* 93. *Jacqu. amer.* 13. *t.* 173. *f.* 4. *pict.* 12. *t.* 259. *f.* 2.
   Leaflets ſpiny-toothed.

[3. Comocladia ilicifolia.
   Swartz prodr. 17.
   Ilex dodonæa. *Lin. ſpec.* 182. *Plum. gen.* 20. *ic.* 118. *f.* 1.
   Leaflets angular-ſpiny.

DESCRIPTIONS, &c.

1. Seldom more than twenty feet in height (12 or 16. *Brown.* 10 to 30. *Swartz.*) Trunk erect (ſeldom growing to any conſiderable thickneſs. *Br.*), dividing into few branches, adorned at the end with pinnated ſmooth leaves like a frond, having at moſt eight leaflets on each ſide of a round rib two feet in length, with an odd one at the end; theſe are ovate-lanceolate, acuminate, ſlightly wrinkled by the tranſverſe veins, the edges a little revolute, petioled, four inches long: from the axillas hang looſe panicled racemes, a foot and half in length, divided into about twenty-four partial lateral alternate racemes; and theſe more or leſs compounded, the whole forming an ample panicle. Flowers very numerous, ſmall, ſeſſile, without ſcent, of a deep red colour: many of them have the calyx and corolla four-parted, with four ſtamens. Drupes red and ſhining: (black and ſucculent. *Swartz.*) The whole tree abounds in a watery ſap, ſlightly glutinous, which grows black in the air, and dies the hands a deep black that can ſcarcely be waſhed out. Native of Domingo and Jamaica, flowering in december, january and february[b].

The fruit is eatable, but not inviting; and the wood is hard, of a fine grain, and reddiſh colour[c]. Introduced 1778, by Mr. William Forſyth[d].

2. It is very like the foregoing ſpecies. Leaflets from ſix to ten, oblong, acuminate, ſpiny-toothed, veined at the back, and ſubtomentoſe. Juice milky, glutinous, turning very black; not to be waſhed from the ſkin or cloth. If the tree be ever ſo ſlightly wounded, it has a ſtrong ſmell of dung. The natives have a notion that it is dangerous to ſleep under it. Native of Cuba[e].

3. Leaves pinnate, with twenty-one leaflets, which are ſeſſile, rigid, ovate, acuminate, angular in the middle on both ſides, with a toothlet. Flowers racemed[f].

Native of the Weſt-Indies, as Antigua, &c.]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, when they can be obtained from the places of their growth, which ſhould be ſown in pots, and plunged into a hot-bed; the plants, when fit to remove, ſhould be each planted in a ſmall pot, and plunged into a tan-bed, and in the autumn ſhould be plunged into the bark-bed in the ſtove, and treated as other tender plants.

COMPOSTS. See *Manures.*

[**COMPTONIA.** (*So named by Dr. Solander in honour of the right reverend Henry Compton, Lord Biſhop of London, who cultivated many curious exotic trees in his garden at Fulham.*)

L'Herit. ſtirp. nov. ined. Linn. gen. Schreb. n. 1764. *p.* 811. *Gærtn. t.* 90.

Claſſ. 21. 3. Monoecia Triandria.

GENERIC CHARACTER.

* *Male flowers.*

CAL. *Ament* cylindric, looſely imbricate all round with concave, kidney-form, acuminate, caducous, one-flowered ſcales.

Perianth two-leaved: *leaflets* equal, boat-ſhaped, ſhorter than the ſcale of the ament.

COR. none.

STAM. *Filaments* three, ſhorter than the calyx, forked. *Anthers* ſix, two-valved.

* *Female flowers.*

CAL. *Ament* ovate, cloſely imbricate all round with one-flowered ſcales, as in the male.

Perianth ſix-leaved: *leaflets* oppoſite in pairs, filiform, membranaceous at the baſe, many times longer than the ſcale of the ament.

COR. none.

PIST. *Germ* roundiſh. *Styles* two, capillary.

PER. none.

SEED. *Nut* oval, one-celled, valveleſs.

ESSENTIAL CHARACTER.

MALE. Ament. *Cal.* two-leaved. *Cor.* none. *Anthers* two-parted.

FEM. Ament. *Cal.* ſix-leaved. *Cor.* none. *Styles* two. *Nut* ovate.

SPECIES.

1. Comptonia aſplenifolia. *Fern-leaved Comptonia.*
   Ait. hort. kew. 3. 334. *L'Herit. ſtirp. nov. ined. Gærtn. fruct.* 2. 58.
   Liquidambar aſplenifolium. *Lin. ſpec.* 1418. *Duham. arb.* 1. 366.
   L. peregrinum. *Lin. ſyſt.* 866. *Reich.* 4. 171.]
   Myrica. *Linn. hort. cliff.* 456. 4. *Gron. virg.* 155. 2. *Cold. noveb.* 224.—aſplenifolia. *Mill. dict. n.* 4.
   Gale mariana, aſplenii folio. *Pet. muſ.* 773.
   Myrti brabanticæ affinis, &c. *Pluk. phyt. t.* 100. *f.* 6, 7.

DESCRIPTION, &c.

This riſes with ſlender ſhrubby ſtalks, near three feet high; they are hairy, and divide into ſeveral ſlender branches. Leaves from three to four inches long, and half an inch broad, alternately indented (or ſinuated) almoſt to the midrib, and have a great reſemblance to thoſe of Spleenwort; they are of a dark green, hairy on their under ſide, and ſit cloſe to the ſtalks. The aments of male flowers come out on the ſide of the branches between the leaves; they are oval, and ſtand erect. [The fruit is a bony nut, elliptic, turgidly lenticular, naked, ſmooth, ſhining, obſcurely ſtriated, bay-coloured, the ſize of a haſel nut. Incloſed is a ſingle, ovate-globular, ſmooth, pale ſeed[g].

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[a] Linn. ſuppl.

[b] Jacquin.

[c] Browne.

[d] Hort. kew.

[e] Jacquin.

[f] Linn. ſpec.

Native of North America; as in the county of Lancaſter, and on the banks of Northampton river among the firs[h]. It flowers here from march to may. Cultivated in 1714, by the Dutcheſs of Beaufort[i].] Mr. Miller ſays, that many of the plants have been brought to England from Philadelphia.

PROPAGATION AND CULTURE.

Planted here on a looſe moiſt ſoil it thrives very well, ſometimes creeping at the roots, and ſending up ſuckers plentifully, as in its native country. By theſe ſuckers it may be propagated. It will endure our cold very well.

[**CONFERVA.** *River-weed.*
Lin. gen. n. 1207. *Reich.* 1323. *Schreb.* 1672.
Dill. muſc. 11.
Claſſ. 24. 3. Cryptogamia.—Algæ.

GENERIC CHARACTER.

Simple uniform hair-like thread-ſhaped fibres.
Obſ. theſe fibres are either continuous or jointed.

ESSENTIAL CHARACTER.

Unequal tubercles, in very long capillary filaments.

Twenty-one ſpecies are recited in Linneus's ſyſtem of vegetables, edit. Murr. Theſe are all inhabitants of the water, ſome in freſh, but more in ſalt water.

Withering has forty-nine ſpecies, natives of England, in his third volume of the botanical arrangement of Britiſh plants, publiſhed in 1792. Moſt of them are figured by Dillenius; ſome by Micheli, Moriſon, Petiver, Ellis, in Flora Danica, &c.

A ſingular inſtance of irritability has been obſerved by Major Velley in the *Conferva corallina*, upon its being immerſed when quite freſh, into freſh water. After it had been in the water a few minutes, ſeveral fibres were obſerved to move in an horizontal direction with a quick convulſive twitch, and then to ſtop ſuddenly: this they continued to do for ſome length of time; and the ſame effect may be produced ſeveral times, provided the plant be freſh. The experiment does not ſucceed in ſalt water.]

CONIUM. (Κωνειον *of Theophraſtus and Dioſcorides. From* κονια, *duſt, according to Linneus; but that cannot be right. Why is it not rather from* κωναω, *circumago, on account of its inebriating poiſonous quality.*)
Lin. gen. n. 336. *Reich.* 367. *Schreb.* 469.
Cicuta. Tourn. 160. *Gærtn.* 22. *Juſſ.* 223.
Claſſ. 5. 2. Pentandria Monogynia.
Nat. order of *Umbellatæ*, or *Umbelliferæ*.

GENERIC CHARACTER.

CAL. *Umbel* univerſal, with many ſpreading rays.
Partial ſimilar.
Involucre univerſal many-leaved, very ſhort, unequal;
Partial halved, three-leaved.
Perianth proper, ſcarcely obſervable.
COR. *Univerſal*, uniform.
Proper of five petals, inflex heart-ſhaped, unequal.
STAM. *Filaments* five, ſimple; *Anthers* roundiſh.
PIST. *Germ* inferior. *Styles* two, reflex. *Stigmas* obtuſe.
PER. none. *Fruit* nearly globoſe, five-ſtreaked, the ſtreaks notched, bipartile.
SEEDS two, convex on one ſide, almoſt hemiſpherical, ſtriated; flat on the other ſide.

ESSENTIAL CHARACTER.

Partial involucre halved, three-leaved. *Fruit* nearly globular, five-ſtreaked, notched on each ſide.

SPECIES.

1. Conium maculatum. *Common Hemlock.*
Lin. ſpec. 349. *Reich.* 672. *hort. cliff.* 92. *fl. ſuec. n.* 238. *Hudſ. angl.* 115. *With.* 277. *Curt. lond.* 1. 17. *Lightf.* 157. *Relh. cant. n.* 217. *Scop. carn. n.* 340. *Jacqu. auſtr.* 2. *t.* 156. *Leers herborn. n.* 198. *Pollich pal. n.* 275. *Allion. pedem. n.* 1325. *Villars dauph.* 2. 595. *Storck monogr. fig. Woodv. med. bot.* 62. *t.* 22. *Plenck, ic. t.* 183.
Cicuta. *Hall. helv. n.* 766. *Riv. pent. t.* 75. *Blackw. t.* 451. *Lob. ic.* 1. 732. 1. *Fuchſ.* 406. *Dod. pempt.* 461. *Ger.* 903. 1. *emac.* 1061. *Baub. hiſt.* 3. 6. 175. 3. *Raii hiſt.* 451.
C. domeſtica. *Mor. umb.* 18. *c. b. ſ.* 9. *t.* 6. *f.* 1. *row* 3.
C. maculata. *Gærtn. fruct.* 100. *t.* 22.
C. major. *Bauh. pin.* 160.—vulgaris. *Cluſ. hiſt.* 2. 200. *Park. theat.* 933. 1.
β. Con. tenuifolium. *Mill. dict. n.* 2. Cic. major. fol. tenuioribus. *Bauh. pin.* 160.
Seeds ſtriated.

[2. Conium rigens. *Fine-leaved Hemlock.*
Lin. ſyſt. 278. *Reich.* 672. *mant.* 352. 512.
Seeds ſomewhat muricated; peduncles grooved; leaflets channelled, obtuſe.]

3. Conium africanum. *Rue-leaved Hemlock.*
Lin. ſpec. 350. *ſyſt.* 278. *Reich.* 672. *mant.* 352. *hort. cliff.* 92. *Jacqu. hort.* 2. 91. *t.* 194.
Caucalis africana, fol. minore Rutæ. *Boerh. lugdb.* 63. *fig.*
Seeds muricated; petioles and peduncles gloſſy.

[4. Conium Royeni.
Lin. ſpec. 350. *ſyſt.* 278. *Reich.* 673.
Caucalis orientalis, &c. *Buxb. cent.* 3. 16. *t.* 28.
Seeds radiate-ſpiny.

5. Conium tenuifolium.
Vahl ſymb. 3. 49.
Root and ſtem-leaves ſimple, linear.

DESCRIPTIONS, *&c.*

1. Root biennial; reſembling that of a ſmall Parſnep. Stem from four to ſix feet in height and upwards, hollow, round, ſhining, ſmooth, covered with a blueiſh powder, which eaſily wipes off, ſpotted and ſtreaked with livid purple, towards the top branched and ſtriated. Bottom leaves very large, even two feet in length, of a dark green colour, but paler underneath, ſhining, ſuper-decompound, or ſeveral times pinnate: pinnules oblong, gaſhed and ſerrate: petiole ſpotted, ſmooth, fiſtulous, ſucculent, round, being ſcarcely flatted at top: ſheath grooved. Rays of the umbel ten to twelve; of the umbellule fifteen or ſixteen. Univerſal involucre of three or five leaflets (ſometimes ſeven), lanceolate, turned back and whitiſh at the edges: partial of three (or four) leaflets, on one ſide only, ſpreading outwards. Calyx entire. Corolla white; outer petals largeſt. Fruit ovate, gibbous, with compreſſed ribs, waved before it is ripe, but becoming almoſt ſtraight. Seeds browniſh, reſembling thoſe of Aniſeed, with five notched elevated ridges, three on the back, and two on the ſide.

Hemlock is obviouſly diſtinguiſhed by its large and ſpotted ſtalk; by the dark and ſhining green colour of its bottom leaves, and particularly by their diſagreeable ſmell when bruiſed[a].

It is frequent by road and hedge ſides, in cultivated ground, among rubbiſh, and on dunghills. Flowering in june and july.

According to Linneus, ſheep eat the leaves. Horſes, cows and goats refuſe them. Ray informs us, that the thruſh will feed upon the ſeeds, even when corn is to be had. Mr. Curtis remarks, that it appears to be eaten by very few or no inſects. The dried fiſtulous ſtalks of this and ſeveral other umbellate plants, are called by the country people *Kexes* or *Keckſies*. Gerarde applies the name to this ſpecies.

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[g] Gærtner.

[h] Clayton in Gron. virg.

[i] Hort. kew.

[a] Curtis, Withering, Leers, Gærtner.

This plant which was ſtigmatiſed as one of the moſt noxious of vegetable poiſons, has of late years been conſidered as a highly uſeful and powerful article of the Materia Medica; and it has been proved by indiſputable experiments that though highly deleterious when imprudently uſed, yet in ſmall doſes it has been productive of conſiderable benefit in caſes which have reſiſted the uſual methods. It has been particularly celebrated in cancerous caſes.

The firſt phyſician who endeavoured to bring Hemlock into repute as a medicine was Baron Stoerck of Vienna, who announced its extraordinary effects in the year 1760. To enumerate all the diſeaſes in which he ſets forth its powerful effects, would be to give a catalogue of moſt of the chronic diſorders that affect mankind. To eſtimate with preciſion however the virtues of Hemlock ſeems no eaſy taſk: had Dr. Stoerck's publication contained fewer and leſs extraordinary inſtances of ſucceſs, its virtues might have been held in higher eſteem than they at preſent are; while thoſe authors who have condemned it as entirely uſeleſs and highly dangerous ſeem to have done it equal injuſtice: for though in our own country we cannot adduce inſtances, like thoſe mentioned by Dr. Stoerck, of its curing inveterate cancers, ulcers, *&c.* we have ſtill the teſtimonies of eminent practitioners in favour of its good effects in ſome caſes which had reſiſted the uſual applications, and that even ſome caſes, which if not really cancerous, were at leaſt ſuſpected to be of a cancerous tendency, were greatly benefited by it. In chronic rheumatiſms, alſo, and in ſome glandular ſwellings, as well as in various periodical pains, the Hemlock is frequently employed. Externally the leaves have been applied with advantage to ulcers, indurated tumours, *&c. &c.*

Much has been ſaid reſpecting the variable nature of the plant; the time of collecting and preparing it, *&c.* according to which its efficacy muſt undoubtedly be greater or leſs. The principal point however ſhould ſeem to be the due regulation of the doſe, which requires the conduct of a ſkilful practitioner, beginning with a few grains perhaps of the extract or powder, and gradually increaſing it till a ſlight tendency to vertigo or other ſymptoms manifeſt the full ſufficiency of the quantity. The extract from the ſeeds is ſaid to produce giddineſs ſooner than that from the leaves.

According to Dr. Withering, the powder of the dried leaves ſeems to act with more certainty than the extract. He recommends the following method.

Let the leaves be gathered about the end of june when the plant is in flower. Pick off the little leaves and throw away the ſtalks. Dry the abovementioned little leaves in a hot ſunſhine, or in a tin dripping-pan or other convenient veſſel before the fire. Preſerve them in bags of ſtrong brown paper, or powder them and keep them in glaſs phials, and put them in a drawer or any place where the light does not come; for it is obſerved that the light has the power not only of taking away their fine green colour, but alſo their virtue. From fifteen to twenty grains of this powder may be taken twice or thrice a day. It is found to be particularly ſerviceable in chronic rheumatiſms.

Dr. Stoerk's method of making the Extract of Hemlock (extractum cicutæ of the ſhops) is to take the freſh juice of the leaves, and inſpiſſate it gently over the fire, till it has acquired the conſiſtence of a thick extract: this is to be mixed with ſo much of the powdered leaves as will be ſufficient for making the maſs into pills.]

β. This variety, which Mr. Miller would have to be a diſtinct ſpecies, differs according to him, in having taller ſtalks not ſo much ſpotted as our common ſort. The leaves are alſo much narrower, and of a paler green. It is a native of Germany, whence the ſeeds were ſent to Mr. Miller, who cultivated the plant in the botanic garden at Chelſea above twenty years without its varying.

[2. Stem ſhrubby, ſhort, ſtiff; branches longer, ſpreading very much, remote. Leaves bipinnate, doubled, obtuſe, crenulate, hard, the colour of Rue. Umbel rigid, ſhort, crowded. Involucre five-leaved, ſhorter than the umbellules, with one or two foliaceous, divided leaflets. Partial involucres ſeven-leaved, with few crenate leaflets. All the flowers fertile, white; petals lanceolate, involute, equal. Styles white, filiform.—Native of the Cape of Good Hope, on the coaſt[b].

Introduced 1787, by Mr. Fr. Maſſon. It flowers in june[c].

3. Leaflets flattiſh, not channelled, ſmelling like Smallage or Celeri. Peduncles oppoſite to the leaves, not furrowed as in the foregoing. Many of the flowers barren. The central fruit ſeſſile[d]. Seeds longer than in the common ſort. Annual.—Native of the Cape of Good Hope.

Cultivated 1759, by Mr. Miller[e], who received the ſeeds from the famous Boerhaave.

4. David van Royen received this from Egypt. Monſ. Lamarck regards it rather as a ſpecies of Caucalis.

5. Stem herbaceous, upright, a foot high, ſcarcely branched, ſlender, round, ſmooth, ſlightly ſtreaked. Leaves very narrow, a little wider at the baſe and ſomewhat ſheathing, very ſmooth; the lower ones four inches long or a little more; ſtem-leaves remote. Peduncles lateral and terminating, few, remote. Involucre five-leaved; leaflets ſubulate, ſomewhat rigid, ſhorter than the umbel. Involucels the length of the umbellule. Umbel ſmall, five-rayed. About eight or ten flowers in the umbellule. Seeds oblong, ſtriated, ſmall, ſmooth. Styles permanent, divaricating.—Native of the Cape of Good Hope[f].

PROPAGATION AND CULTURE.

1. Common Hemlock growing wild in moſt parts of England, is ſeldom allowed a place in gardens; it may however eaſily be propagated from ſeeds; and if theſe be permitted to ſcatter, plants will come up plentifully, and only require to be thinned for medical uſe.]

2, 3. The ſeeds of the Cape ſorts ſhould be ſown in pots in autumn ſoon after they are ripe, and placed under a common frame in winter, where they may be expoſed to the open air at all times when the weather is mild, and only covered in bad weather. The plants will come up early in the ſpring, and muſt then be expoſed to the open air conſtantly when the weather will permit, otherwiſe they will draw up very weak. As they do not bear tranſplanting well, they ſhould be thinned to four or five in a pot, and then require only to be kept clean, and to be watered in very dry weather.

[The ſecond ſort may alſo be increaſed by cuttings.

CONNA. See *Caſſia Fiſtula.*]

CONNARUS. (Κονναρος, *is the name of a tree deſcribed at length in Athenæus.*)

Lin. gen. n. 830. *Reich.* 895. *Schreb.* 1116. *Juſſ.* 369.

Claſſ. 16. 5. Monadelphia Decandria.

Nat. order of *Dumoſæ*. *Terebintaceæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-parted, erect, tomentoſe, permanent.

COR. *Petals* five, lanceolate, erect, equal.

STAM. *Filaments* ten, ſubulate, erect, connected at the baſe; alternately of the length of the flower, and alternately very ſhort. *Anthers* roundiſh.

PIST. *Germ* roundiſh. *Style* cylindric. *Stigma* obtuſe.

PER. *Capſule* oblong, gibbous, one-celled, two-valved.

SEED ſingle, ovate, large.

ESSENTIAL CHARACTER.

Style one: *ſtigma* ſimple. *Capſ.* two-valved, one-celled, one-ſeeded.

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[b] Linn. mant.

[c] Hort. kew.

[d] Linn. ſyſt. and mant.

[e] Hort. kew.

[f] Vahl.

SPECIES.

1. Connarus monocarpos. *Ceylon Sumach.*
Lin. ſpec. 944. *Reich.* 3. 306. *fl. zeyl. n.* 248.
Rhus zeylanicus, &c. *Burm. zeyl.* 199. *t.* 89.
Phaſeolus arboreſcens zeyl. monocarpos. *Raii ſuppl.* 438.

[2. Connarus africanus.
Vahl. ſymb. 3. 86. *Lamarck encycl.* 2. 95. *Cavan. diſſ.* 7. *t.* 221.
Leaves ternate lanceolate-elliptic, veins protuberant underneath.

3. Connarus Santaloides.
Vahl. ſymb. 3. 87.
Santaloides. *Linn. zeyl. n.* 408.
Leaves pinnate, leaflets ovate-acuminate, peduncles axillary aggregate, flowers racemed.

4. Connarus mimuſoides.
Vahl. ſymb. 3. 87.
Leaves pinnate, with about ten pairs of oval-oblong emarginate leaflets, racemes axillary.]

DESCRIPTIONS, *&c.*

1. It riſes with a woody ſtalk eight or ten feet high, hard, rigid, covered with a blackiſh bark, dividing at top into two or three branches. Leaves alternate, trifoliate, on long petioles: leaflets ovate, ſmooth, entire, thick, each on ſhort petiolules, and remaining green the whole year. Flowers in large upright racemes at the ends of the branches: they are ſmall, hairy, of a greeniſh yellow colour, and rarely produce ſeeds in Europe.

Native of the iſland of Ceylon. [Cultivated by Mr. Miller in 1768.

2. Branches round ſmooth. Leaves petioled, alternate: leaflets petioled, quite entire, ending in a long point, very ſmooth, the upper ſurface even, the nerves and veins, which are tranſverſe abundant and almoſt ſimple, being immerſed, but underneath they are protuberant. Partial petioles wrinkled, thickened next the leaflet, the middle one longer than the other two. Flowers in a terminating ſpreading panicle.

Native of the mountains of Sierra Leone.

3. Branches round, ſmooth, with a purpliſh brown bark. Leaves petioled, ſcattered, remote, unequally pinnate, with from two to four pairs of leaflets, which are almoſt oppoſite, ſometimes an inch and half long, equal, quite entire, ending in a blunt point, very ſmooth, netted-veined on both ſides, with the veins a little protuberant, the upper ſurface ſhining. Partial petioles very ſhort, channelled above. Peduncles axillary (four to ſix), half the length of the leaf, ſmooth; partial ones ſcattered, having towards the top three or four pedicelled flowers. Calyx ovate, the five ſegments lanceolate, acute; when in fruit bell-ſhaped. Petals twice as long as the calyx. Filaments unequal, the length of the corolla, ſcarcely united at the baſe. Capſule ſmooth.

Native of the Eaſt Indies.

4. Branches round, villoſe towards the top. Leaves towards the ends of the branches, petioled, alternate, approximating, unequally pinnate, with from nine to eleven pairs of leaflets, which are on very ſhort petioles, oppoſite or alternate, the inner ones ſmaller, ſmooth, very finely veined on the upper ſurface, blunt, deeply emarginate, paler underneath. Petioles very ſlightly villoſe. Peduncles axillary, uſually three together, the length of the leaves, ſlightly hoary. Pedicels ſcattered, filiform, the loweſt commonly two-flowered at the end. The flowers are ſmall, and there is a minute bracte at the baſe of each pedicel. The parts of the flower as in the foregoing ſpecies.

Native of the iſlands of Nicobar*.]

PROPAGATION AND CULTURE.

1. This plant is uſually propagated in the gardens by laying down the young branches, which, if tongued, (in the manner practiſed for Carnations) and duly watered, will put out roots in twelve months, when they may be cut off from the old plants, and each planted in a ſeparate ſmall pot, filled with freſh light earth, plunging them into a moderate hot-bed, to forward their taking new root, obſerving to ſhade them from the ſun every day, and to water them as they may require it; after this the plants ſhould be treated in the ſame way as other exotic plants which are not too tender, placing them in a dry ſtove in winter, and for about three months in the ſummer they may be removed into the open air, in a warm ſheltered ſituation.

The cuttings of this plant will ſometimes take root, if they are planted in pots, plunged into a moderate hot-bed of tanners bark, and cloſely covered with hand-glaſſes, or ſmall bell-glaſſes; but unleſs they are carefully managed they ſeldom ſucceed.

If freſh ſeeds can be procured from abroad, they ſhould be ſown in ſmall pots, plunged into a moderate hot-bed, and when the plants are fit to remove they ſhould be ſeparated, planting each into a ſeparate pot, and plunged into a moderate hot-bed, treating them in the ſame manner as the layers.

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* Vahl.

Conobea. See *Conopea.*

Conocarpodendron. See *Protea.*

CONOCARPUS. (From κῶνος and καρπός, *Cone-fruited.*)
Lin. gen. n. 236. *Reich.* 253. *Schreb.* 321. *Gærtn. t.* 177. *Juſſ.* 77. *Jacqu. amer.* 78. *Rudbeckia Houſt.* A. A.
Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Aggregatæ. Elæagni* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, ſuperior, very ſmall, five-parted, acute, erect: *diviſions* ſubulate.
Cor. *Petals* five, converging, or none.
Stam. *Filaments* either five or ten, ſubulate, erect. *Anthers* globoſe.
Pist. *Germ* large, compreſſed, obtuſe, inferior. *Style* ſingle, ſhort. *Stigma* obtuſe.
Per. none diſtinct from the ſeed.
Seed ſingle, obovate; with a membranaceous, thick *margin*, projecting on each ſide.
Obs. *Many germs are collected in an imbricate form into a globoſe cone, and reſemble reflex ſcales.*
C. erecta *is pentandrous, and apetalous.* Jacqu.
C. racemoſa *is decandrous and pentapetalous.* Jacqu.

ESSENTIAL CHARACTER.

Pet. five or none. *Cal.* bell-form. *Seeds* naked, ſolitary, inferior. *Flowers* aggregate (*except in* C. racemoſa.)

SPECIES.

1. Conocarpus erecta. *Jamaica Button-tree.*
Lin. ſpec. 250. *ſyſt.* 217. *Reich.* 486. *hort. cliff.* 485. *Gærtn. fruct.* 2. 470. *Jacqu. amer.* 78. *t.* 52. *f.* 1. *pict.* 42. *t.* 78. *Cateſb. car.* 2. *t.* 33. *Brown. jam.* 159. 2. *Plum. ic. t.* 144. *f.* 2. *Macgr. braſ. l.* 2. *c.* 13. *p.* 76.
Alnus. *Pluk. phyt. t.* 240. *f.* 3. *Sloan. jam.* 2. 18. *n.* 3. *t.* 161. *f.* 2. *Raii dendr.* 11. *n.* 7.
Rudbeckia laurifolia maritima. *Amm. herb.* 581.
Erect: leaves lanceolate.

2. Conocarpus procumbens.
Lin. ſpec. 251. 3. *ſyſt.* 217. *Reich.* 487. *Jacqu. amer.* 79. *t.* 52. *f.* 2. *pict.* 42. *t.* 260. *f.* 22.
Rudbeckia ſupina, fol. ſubrotundis. *Amm. herb.* 581.—maritima procumbens rotundifolia. *Houſt. mſs.*
Procumbent: leaves obovate.

[3. Conocarpus racemoſa.
Lin. ſpec. 251. *ſyſt.* 217. *Reich.* 487. *Lin. ſuppl.* 146. *Jacqu. amer.* 80. *t.* 53. *pict.* 42. *t.* 79. *Brown. jam.* 159. *n.* 1.
Mangle. *Sloan. jam.* 2. 66. *n.* 52. *t.* 187. *f.* 1. *Raii dendr.* 115.
Leaves lanceolate-ovate bluntiſh; fruits ſegregate.

DESCRIPTIONS, *&c.*

1. This is an upright, branching tree, frequently exceeding thirty feet in height. The younger branches are angular. Leaves acute, quite entire, greaſy to the touch, alternate, on very ſhort broad petioles, numerous. Racemes ſimple, lax, often leafy, terminating and axillary; the peduncles bearing

ing a receptacle, which collects the germs into a roundiſh head. The flowers are ſmall, and of a yellowiſh colour: in the iſland of Martinico they have ten ſtamens, twice as long as the calyx; in other places they have five ſtamens only, not longer than the calyx; but the ſtyle is twice as long. Perhaps this may be a different ſpecies. The head of flowers is globular, but of fruits rather ovate[b].—Native of the Weſt Indies, and all the coaſts of America between the tropics in great plenty, near the ſea and in ſalt water. For burning it is eſteemed the beſt wood in thoſe latitudes, but being ſmall it is of little other uſe. The Engliſh call it Button-tree and Button-wood; the Spaniards Mangle Saragoza.

2. This is a very branching ſhrub, almoſt the whole of it procumbent. Leaves obovate, but ſometimes approaching a little to a roundiſh form, blunt with a point, ſhining, quite entire, alternate, petioled, an inch or an inch and half in length, with an oblong gland on the edge next the baſe on both ſides. Flowers with five (ſometimes ſix) ſtamens, in other reſpects like the foregoing, only ſmaller in all their parts.

Native of Cuba, on rocks near the coaſt.

This may perhaps be only a variety of the foregoing. The farther it is removed from the coaſt, the more the leaves approach in their form to thoſe of *C. erecta*, and the more upright ſome of the branches become[c].]

Mr. Miller ſays, it has ſhort crooked branches, covered with a grayiſh bark, and having thick leaves on their upper parts, a little larger than thoſe of the dwarf Box, on ſhort petioles and placed on every ſide without order. The flowers are in ſmall round heads, coming out ſingly from the ſide of the branches, and in looſe ſpikes at the end; they are ſmall and of an herbaceous colour; the ſcales are rough, and the cones are of a looſer texture than thoſe of the former ſort. It was diſcovered by Dr. Houſtoun growing plentifully in the marſhy grounds near the ſea, at the Havanna, whence he ſent the ſeeds to England in 1730.

[3. This is a lofty and branching tree, ſometimes dividing into three or four trunks cloſe to the ground. The younger branches are ſhining, red and oppoſite. Leaves quite entire, ſhining, thickiſh, greaſy to the touch, deep green, oppoſite, three inches long, on a red petiole with two glands at the top of it. Racemes ſimple, terminating, commonly by threes: or, as is frequently the caſe in dwarf ſhrubs, compoſed of three oppoſite ones on each ſide, which are either ſimple or trifid, and of one ſimple terminating one in the middle; but in theſe ſhrubs the flowers are much ſmaller, and moſt of them, having little or no germ, are abortive. The flowers are ſmall and ſeſſile, and have a ſlight not unpleaſant ſmell. The petals are whitiſh. Stamens ten, five alternately ſhorter, probably ſometimes overlooked; (hence Browne attributes only five ſtamens to the flower). The ſeed, incloſed within a coriaceous pericarp, is compoſed of two greeniſh ovate lamellæ, wrapped up into a round body, and involved in a very thin membrane. The lamellæ in the baſe of the pericarp become a round obtuſe ſhining body, forming the axis of the ſeed, deſtined to put forth the roots: for when the capſule falls to the ground, it penetrates the crowned apex, and when the fibres take poſſeſſion of the ſoil, it conſtitutes the rudiment of the future trunk: then the lamellæ increaſing in bulk burſt the capſule, and become the radical leaves. Sometimes there are two ſeeds incloſed in the ſame pericarp. From the above deſcription it appears that this tree, although it agrees in many reſpects, yet differs very much from the two former ſpecies.

Native of the Caribbee iſlands and the neighbouring continent, on ſandy and muddy ſhores.

The Spaniards call it *Mangle bobo*, or fooliſh Mangle; the Engliſh *White Mangrove*.

The natives employ the bark for tanning leather: theſe trees ſeem to be otherwiſe of little uſe[d].]

PROPAGATION AND CULTURE.

1, 2. Both theſe ſorts are preſerved in ſome curious gardens for the ſake of variety, but they are plants of no great beauty: they are propagated from ſeeds, which muſt be obtained from the places of their natural growth, for they never produce any good ſeeds in Europe: theſe ſeeds, if they are freſh, will come up very ſoon, if they are ſown upon a good hot-bed; and if the plants are potted, and preſerved in the bark-ſtove, they will make great progreſs; but they are too tender to live in this country, unleſs they are conſtantly kept in the ſtove, and treated in the ſame manner with other exotic plants; obſerving, as they are natives of ſwamps, to ſupply them often with water; but in winter they muſt have it very ſparingly. The plants are Evergreen, caſting off their old leaves when the new come out.

[Conocrambe. See *Theligonum*.

Conophoros. See *Protea*.]

Consolida. See *Ajugo, Bellis, Delphinium, Symphytum*.

Contrajerva. See *Dorſtenia*.

[CONOPEA. (Κωνωπειον, *is a veil or net for keeping off gnats.*)

Lin. gen. Schreb. n. 1042. Conobea. *Aubl. t.* 256. *Juſſ.* 97.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-cornered, permanent, five-cleft: *ſegments* ſubovate, acuminate, erect.

Cor. one-petalled, ringent: *tube* oblong, gradually widening: *border* two-lipped: *upper lip* erect, emarginate; *lower* trifid, the middle ſegment larger, concave.

Stam. *Filaments* four, two longer, faſtened at bottom to the tube of the corolla. *Anthers* ſagittate.

Pist. *Germ* roundiſh. *Style* filiform, hairy. *Stigma* two-lobed.

Per. *Capſule* roundiſh, one-celled, four-valved.

Seeds very many, ſmall, oblong, ſtriated, fixed to a roundiſh receptacle.

ESSENTIAL CHARACTER.

Cal. five-cleft. *Cor.* ringent, two-lipped, lower lip trifid. *Stigma* two-lobed. *Capſ.* one-celled, four-valved, many-ſeeded.

SPECIES.

1. Conopea aquatica.

Conobea aquatica. *Aubl. guian.* 2. 639. *t.* 257.

DESCRIPTION, &c.

This is a creeping plant, with parcels of ſmall fibrous roots at the joints. It ſpreads over the neighbouring graſs, and on the ſurface of the water, by the ſide of which it naturally grows. The ſtems and branches are ſquare, and each angle is bordered its whole length by a very thin ſharp leaf or wing. Leaves oppoſite, at each joint, claſping, diſtant three quarters of an inch from each other, kidney-form, plaited at the nerves, and waving on the edge. Flowers either ſolitary or in pairs oppoſite from the axil of the leaves, on a ſlender peduncle an inch in length. The calyx has two long narrow pointed leaflets at the baſe. Corolla blue. Capſule marked with four grooves, partly wrapped up in the calyx, opening into four parts to the baſe. Seeds faſtened to a receptacle which riſes up in the centre at the bottom of the capſule.

Native of Guiana, flowering in june[e].

Conservatory. See *Greenhouſe*.]

CONVALLARIA. (*Has its name from growing in vallies.*)

Lin. gen. n. 425. *Reich.* 459. *Schreb.* 575. *Gærtn.* 16. *Juſſ.* 42. Lilium convallium. *Tourn.* 14. *Ray* 73. Polygonatum. *Tourn.* 14. Unifolium. *Dill. gen.* 7. Monophyllum. *Ray* 73.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Sarmentaceæ. Aſparagi* Juſſ.

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[b] Jacquin.

[c] Ibid.

[d] Jacquin.

[e] Aublet.

GENERIC CHARACTER.

Cal. none.

Cor. monopetalous, bell-ſhaped, ſmooth: *border* ſix-cleft, obtuſe, open-reflected.

Stam. *Filaments* ſix, ſubulate, inſerted into the petal, ſhorter than the corolla. *Anthers* oblong, erect.

Pist. *Germ* globoſe. *Style* filiform, longer than the ſtamens. *Stigma* obtuſe, three-cornered.

Per. *Berry* globoſe, three-celled, before maturity ſpotted.

Seeds ſolitary or in pairs; roundiſh.

Obs. *The unripe ſpotted berry affords a mark common to all.*

α. *When the globoſe-bell-ſhaped corolla is open.* 1.

β. *When the corolla is tubular-bell-ſhaped.* 2, 3, 4.

γ. *When one-third part of the number in the parts of fructification is wanting.* 8.

δ. *When the corolla being open and ſix-parted is very acute.* 5, 6, 7.

ESSENTIAL CHARACTER.

Cor. ſix-cleft. *Berry* ſpotted, three-celled.

SPECIES.

* *Corollas bell-ſhaped.*

1. Convallaria maialis. *Sweet-ſcented Lily of the Valley.* *Lin. ſpec.* 451. *Reich.* 2. 73. *fl. lapp. n.* 112. *ſuec. n.* 292. *mat. med.* 95. *hort. cliff.* 124. *Hudſ. angl.* 146. *With.* 353. *Curt. lond.* 5. *t.* 24. *Relh. cant. n.* 266. *Scop. carn. n.* 418. *Pollich pal. n.* 337. *Neck. gallob.* 165. *Villars dauph.* 2. 260. *Krock. ſileſ. n.* 532. *Fl. dan. t.* 854. *Sabb. hort.* 1. *t.* 5. *Berg. phyt. t.* 179. *Black. t.* 70. *Gærtn. fruct.* 59. *t.* 16. *Plenck, ic. t.* 263.

Polygonatum. *Hall. helv. n.* 1241.

P. majale. *Allion. pedem. n.* 478.

Lilium convallium. *Cam. epit.* 618. *Beſl. eyſt. vern.* 9. *t.* 6. *f.* 2, 3. *Ger.* 331. 1, 2. *emac.* 410. 1, 2. *Bauh. hiſt.* 3. 531. *f.* 3. *Raii hiſt.* 667. *ſyn.* 264. *Petiv. brit. t.* 44. *f.* 7. *Dod. pempt.* 205.—album. *Bauh. pin.* 304. *Park. par.* 349. *f.* 351. 1. *Mor. ſ.* 13. *t.* 4. *f.* 1.

β. C. latifolia. *Mill. dict. n.* 2. *Broad-leaved Lily of the Valley.*

L. C. latifolium. *Bauh. pin.* 304. *prodr.* 136. *Raii hiſt.* 668.

Flowers on a ſcape.

[2. Covallaria japonica. *Graſs-leaved Lily of the Valley.* *Lin. ſyſt.* 334. *ſuppl.* 204. *Thunb. jap.* 139.

Scape ancipital, raceme drooping.

3. Convallaria ſpicata. *Spiked Lily of the Valley.* *Lin. ſyſt.* 334. *Thunb. jap.* 141.

Scape ſtriated; raceme ſpiked; flowers aggregate.]

** *Corollas funnel-ſhaped.*

4. Convallaria verticillata. *Narrow-leaved Solomon's Seal.* *Lin. ſpec.* 451. *Reich.* 2. 73. *fl. lapp. n.* 114. *ſuec. n.* 293. *hort. cliff.* 125. *Sowerby engl. bot. t.* 128. *Scop. carn. n.* 419. *Pollich. pal. n.* 338. *Villars dauph.* 2. 261. *Krock. ſileſ. n.* 533. *Fl. dan. t.* 86. (bad). *Berg. phyt. t.* 183.

Polygonatum. *Hall. helv. n.* 1244.—anguſtis foliis. *Beſl. eyſt. æſt.* 4. *f.* 7. *f.* 8. 2. (good).

P. anguſtifolium non ramoſum. *Bauh. pin.* 303. *Mor.* 13. 4. 14.

P. alterum. *Dod. pempt.* 345.

P. minus. *Lob. obſ.* 468. *Ger.* 756. 6. *emac.* 903. 2. *Raii hiſt.* 666.

β. P. anguſtif. ramoſum. *Bauh. pin.* 304. *Bauh. hiſt.* 3. 531. *f.* 2. *Ger.* 757. 6. *emac.* 905. 5. *Raii hiſt.* 666. *Mor.* 13. 4. 15.

Leaves verticillate.

5. Convallaria Polygonatum. *Single-flowered Solomon's Seal.* *Lin. ſpec.* 451. *Reich.* 2. 74. *mat. med.* 95. *fl. ſuec. n.* 294. *hort. cliff.* 124. *Hudſ. angl.* 146. *With.* 354. *Scop. carn. n.* 420. *Pollich pal. n.* 339. *Neck. gallob.* 166. *Krock. ſileſ. n.* 534. *Villars dauph.* 2. 261. *Berg. phyt. t.* 139. *Fl. dan. t.* 377. *Sabb. hort.* 1. *t.* 7. *Blackw.* 251. 2. *Woodv. med. bot.* 123. *t.* 44. *Plenck, ic. t.* 264.

Polygonatum. *Hall. helv. n.* 1242.

P. officinale. *Allion. pedem. n.* 480.

P. fl. odoro. *Cluſ. pann.* 263. 264. *hiſt.* 1. 276. 1.

P. fl. ex ſingularibus pediculis. *Bauh. hiſt.* 3. 529. 2. *Raii hiſt.* 665. *ſyn.* 263. 2.

P. latifolium fl. majore odoro. *Bauh. pin.* 303. *Park. theat.* 696. 3. *f.* 1. *Barrel. ic.* 711. *Mor.* 13. 1. 4. *row.* 3. *Pet. brit. t.* 44. *f.* 6.

P. lat. 2 Cluſii. *Ger.* 756. 1. *emac.* 904. 3.

Leaves alternate ſtem-claſping; ſtem ancipital; peduncles axillary, generally one-flowered.

[6. Convallaria latifolia. *Broad-leaved Solomon's Seal.* *Lin. ſyſt.* 334. *Jacqu. auſtr.* 3. *t.* 232.

Polygonatum latifolium. *Dod. pempt.* 346. 1.——Ellebori albi foliis. *Bauh. pin.* 303. *Mor. hiſt. ſ.* 13. *t.* 1. *f.* 6. *row.* 3.——tertium latiore folio. *Cluſ. hiſt.* 276.

Leaves alternate ſtem-claſping acuminate; ſtem angular; peduncles axillary many-flowered.

7. Convallaria multiflora. *Many-flowered Solomon's Seal.* *Lin. ſpec.* 452. *Reich.* 2. 74. *fl. ſuec. n.* 295. *Hudſ. angl.* 147. *With.* 355. *Scop. carn. n.* 421. *Pollich pal. n.* 340. *Neck. gallob.* 165. *Villars dauph.* 2. 262. *Krock. ſileſ. n.* 535. *Mill. fig. t.* 101. *f.* 1. *Fl. dan. t.* 152. *Plenck, ic. t.* 265. *Blackw. t.* 251. *Sabb. hort.* 1. *t.* 6. *Berg. phyt. t.* 89.

Polygonatum. *Hall. helv. n.* 1243. *Dod. pempt.* 345. 1.——1 Cluſii. *Ger.* 756. 3. *emac.* 903. 1. *Bauh. hiſt.* 3. 529. 1. *Raii hiſt.* 664. *ſyn.* 263. 1.

P. vulgare. *Park. theat.* 696. 1. *f.* 2. *Mor.* 13. 1. 1. *row.* 3. *Pet. brit. t.* 44. *f.* 5.

P. latifolium 1. *Cluſ. hiſt.* 1. 275. 2.—maximum. *Bauh. pin.* 303.

β. P. humile anglicum. *Raii ſyn.* 263.

Leaves alternate ſtem-claſping; ſtem round; peduncles axillary many-flowered.

*** *Corollas wheel-ſhaped.*

8. Convallaria racemoſa. *Cluſter-flowered Solomon's Seal.* *Lin. ſpec.* 452. *Reich.* 2. 75. *hort. cliff.* 125. *Gron. virg.* 38. 52.

Polygonatum racemoſum. *Corn. canad.* 36. *t.* 37. *Mor. hiſt. ſ.* 13. *t.* 4. *f.* 9. *Pluk. alm. t.* 311. *f.* 2. *Raii hiſt.* 666. *Park. theat.* 697. *f.* 8.

Leaves ſeſſile; raceme terminating compound.

9. Convallaria ſtellata. *Star-flowered Solomon's Seal.* *Lin. ſpec.* 452. *Reich.* 2. 75.

Polygonatum virginianum. *Ger. emac.* 305. 6. *Park. theat.* 697. *f.* 7. *Mor. hiſt.* 3. 537. *ſ.* 13. *t.* 4. *f.* 7. *Raii hiſt.* 666.

P. ſpicatum fertile. *Corn. canad. t.* 34.

Leaves ſtem-claſping very many.

[10. Convallaria trifolia. *Lin. ſpec.* 452. *Reich.* 2. 75. *Gmel. ſib.* 1. 36. *t.* 6.

Phalangium Veratri foliis. *Amm. ruth.* 137.

Leaves ſtem-claſping in threes; racemes terminating ſimple.]

11. Convallaria bifolia. *Leaſt Solomon's Seal,* or *One-blade.* *Lin. ſpec.* 452. *ſyſt.* 335. *Reich.* 2. 75. *fl. lapp. n.* 113. *ſuec. n.* 296. *hort. cliff.* 125. *Scop. carn. n.* 422. *Pollich pal. n.* 341. *Neck. gallob.* 164. *Villars dauph.* 2. 263. *Krock. ſileſ. n.* 536. *Mill. fig. t.* 101. *f.* 2. *Fl. dan. t.* 291. *Berg. phyt. t.* 181. *Retz. obſ.* 1. 16.

Maianthemum Convallaria. *Wigg. prim.* 15.

Lilium convallium minus. *Bauh. pin.* 304. *Barrel. ic.* 1212. *Mor.* 13. 4. 7. *row.* 3.

Unifolium. *Hall. helv. n.* 1240. *Bauh. hiſt.* 3. 354. *f.* 1.

Monophyllon. *Ger.* 330. *f.* 2. *emac.* 409. *Park. theat.* 505. *Raii hiſt.* 668.

Gramen parnaſſi. *Camer. epit.* 744.

Leaves cordate; flowers four-ſtamened.

DESCRIPTIONS, &c.

1. [Root perennial, with numerous round fibres tranſverſely wrinkled, creeping horizontally juſt below the ſurface to a conſiderable diſtance. The whole plant is ſmooth. Four or five alternate, oblong, blunt, ſlightly nerved, purpliſh ſcales, ſurround and bind together the baſe of the leaves and

ſtalk. Leaves two, petioled, elliptic or lanceolate, pointed at each end, from four to five inches long, and near an inch and half broad in the middle, quite entire, upright, ſmooth, nerved, one uſually larger, of a bright green colour; petioles claſping, round, the outer dotted with red, and tubular, to receive the inner, which is ſolid. Scape lateral, the length of the leaves; upright, ſmooth, ſemicylindrical. Bracte lanceolate, membranous, white, under each peduncle, and about half its length. Flowers ſix to eight, in a raceme, nodding, white, fragrant. Peduncles bending, one-flowered, round, filiform. Corolla contracted at the mouth. At the baſe of each filament a purple ſpot[a]. Berry red ſuperior, ſphæroid, ſmooth, one or two of the three cells often obliterated; two ſeeds in each cell, but one uſually abortive, almoſt globular, obſcurely angular.

Authors differ extremely reſpecting the number of ſeeds in this fruit.

Native of Europe, from Lapland to Italy, in woods. In Britain, near London on Hampſtead heath, but now ſparingly, ſince the trees have been deſtroyed; in Lord Manſfield's wood near the Spaniard; between Shooter's-hill and Woolwich; Norwood abundantly, where I have frequently ſeen large patches with very few flowers and no berries; Buſhy-heath, Caſhioberry in Hertfordſhire; near Chiſelhurſt in Kent; near Lee in Eſſex; Woburn in Bedfordſhire, whence the markets in London (as Mr. Miller ſays) are generally ſupplied with the flowers. Whichwood foreſt in Oxfordſhire, and in Beechwood, near Stokenchurch. White-wood near Gamlingay in Cambridgeſhire; Norfolk; Buddon and Okely woods in Leiceſterſhire; King's Cliff in Northamptonſhire; Kendal in Weſtmoreland; County of Durham; Ingleborough in Yorkſhire. Scotland.

It flowers in may, whence it is named May-Lily. Gerarde calls it Convall Lillie; and ſays that in ſome places it is called Liriconfancie.

The Lily of the Valley claims our notice both as an ornamental and a medicinal plant. As an ornamental one, few are held in greater eſtimation; indeed few flowers can boaſt ſuch delicacy with ſo much fragrance[b]. When dried they have a narcotic ſcent; and if reduced to powder excite ſneezing. An extract prepared from the flowers, or from the roots, partakes of the bitterneſs, as well as of the purgative properties of Aloes. The doſe is from twenty to thirty grains[c]. A beautiful and durable green colour may be prepared from the leaves, with lime[d].

There are ſeveral varieties of the Lily of the Valley: as one with narrower leaves mentioned to be found in Weſtmoreland by Mr. Lawſon; but upon being removed into Dr. Richardſon's garden, it became in all reſpects like the common ſort[e].] Another with broader leaves, from the Alps, which Mr. Miller ſays retained its difference in the garden, in the ſame ſoil and ſituation with the common ſort, and therefore he has no doubt of its being a diſtinct ſpecies.—A third, with a double variegated flower, ſuppoſed to be only a variety of this; though the flowers are much larger, and beautifully variegated with purple. It came from the royal garden at Paris, and flowered ſeveral years in the Chelſea garden; but the roots do not increaſe ſo much as the common ſort.—A fourth, with reddiſh or red flowers; this Mr. Miller affirms continued the ſame above forty years: the flowers are ſmaller, the ſtalks redder, and the leaves of a darker green than in the common ſort. [Both this, and the white, vary with double flowers.

2. Root-leaves ten or more, linear, drawn to a point at bottom, three-cornered, flat on one ſide, entire, ſtriated, bent back, two feet long and upwards. Scape finely ſtriated, ſmooth, a ſhort ſpan in height, flowering at the end, four-cornered. Flowers ſtanding on one ſide; peduncles aggregate (two to ſix) uſually one-flowered (one to four). Bracte lanceolate, white, ſhorter than the peduncle. Corolla white; diviſions lanceolate, patulous, a line in length. Filaments hardly any: anthers linear, acute, brown. Style the length of the corolla. Berry ovate, obtuſe, ſmooth, blue, the ſize of a pea, one-celled, adorned with the permanent calyx. Seed one, white, filling the whole berry.—There are two varieties, a larger and a ſmaller. They are found near Nagaſaki in Japan. Both there and in China, the tubers of the roots preſerved with ſugar, are uſed in ſome diſorders[f].

Introduced 1784, by Mr. John Græfer[g].

3. Root fibrous. Root-leaves linear, drawn to a point at bottom, bluntiſh, many-ſtriated, ſmooth, longer than the ſcape, which is angular, ſimple, erect, ſmooth, from four inches to a foot in height. Raceme a finger's length, with the flowers ſcatteringly aggregate. Peduncles round, ſpreading, ſmooth, one-flowered, a line in length. Corolla ſix-petalled, almoſt globular, violet; petals ovate. Filaments inſerted into the germ, very ſhort, erect: anthers ovate, twin. Germ with ſix ſtreaks: ſtyle ſhorter than the ſtamens. Fruit obſcure, but ſeems to be a globular berry: in another ſpecimen it appeared to be a three-celled capſule, with two ſeeds in each cell.—Japan, flowering in ſeptember[h].

4. Root perennial, toothed. Stem ſimple, angular, ſtriated, erect, eighteen inches high. Leaves narrower than the reſt, lanceolate, entire, ſmooth, three or four in a whorl, three or four inches long, and from half an inch to an inch in breadth, bright green, glaucous beneath. Peduncles axillary, ſolitary, branched, pendulous, from two to ſix-flowered. Corollas oblong, greeniſh white, ſtriated at the ends, and divided into ſix bluntiſh ſegments, bearded within at the tip; three or four lines in length. Berries violet or deep red. It flowers in june[i], and was cultivated in 1656, by John Tradeſcant, junior[k]. Native of the North of Europe, Germany, Switzerland, Carniola. Ray obſerved it near Spa, and on mount Saleve near Geneva.

It was found by Arthur Bruce, Eſq. july the firſt, 1792, in the Den Rechip, four miles N. E. of Dunkeld in Perthſhire[l].

β. The ſtalk is ſometimes branched. In this ſtate it is deſcribed by Cluſius and others as a diſtinct ſpecies.]

5. Root twiſted and full of knots, on a tranſverſe ſection of it characters appear that give it the reſemblance of a ſeal, whence its name of Solomon's Seal.

[Stem from a ſpan to near a foot in height, of a harder texture than the *multiflora:* ſimple, inclined, angular, twiſted, ſometimes three-edged, four inches long and one broad, oval-lanceolate, half embracing the ſtem, glaucous underneath, frequently bending down on one ſide. Flowers ſweet-ſcented generally ſolitary, but ſometimes two, on long axillary peduncles, much larger than in the *multiflora*; (eight lines long, and more than two lines broad) white, with a green line running down each ſegment: ſegments rather inflexed. Berries black.—Diſtinguiſhed from the *multiflora,* by the ſtem being angular, firm, lower, from a foot to near eighteen inches; leaves firmer, ſhorter, ſcarcely ſtem-claſping; the flowers uſually ſolitary, larger though on a ſmaller plant, hardly reflexed, the three outer ſegments larger. Fruit round, black, containing ſix ſeeds, at leaſt that ſeems to be the natural number[m].

Native of the north of Europe, Holland, Germany, Hungary, Switzerland, Carniola, Piedmont. In England, in fiſſures of rocks near Wherf, Settle, and Skipton; Syke's wood near Ingleton, Yorkſhire. Alſo in Virginia.

This varies with a double flower.

β. The variety with leaves like white Hellebore, and a purpliſh ſtalk, was found in woods on the north ſide of Mendip hills by Mr. Bobart.

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[a] Curtis, Lyons, Woodw. mſs.
[b] Curtis,
[c] Withering.
[d] Haller.
[e] Ray's ſyn.

[f] Thunberg.
[g] Hort. kew.
[h] Thunberg.
[i] Krocker, Pollich, Haller.
[k] Hort. kew.
[l] Engl. Botany.
[m] Haller, Linn. ſuec. Pollich, Villars, With. Woodw. mſs.

6. This agrees with C. Polygonatum and multiflora in root and habit, but the root is rather more ſlender, has at firſt a ſweet and then an acrid taſte, and is glutinous. Stem from half a foot to two feet in height, round at bottom and thence angular the whole length, the angles being more remarkable below the middle of the back of the leaf; it has a ſhort pile of hairs towards the top. Leaves ovate narrowing into a point, ſeſſile, many-nerved, with hairs on the nerves underneath, viſible only with a magnifier; quite entire, ſhining on both, eſpecially the upper ſurface, paler green on the lower, but not at all hoary. Peduncles ſomewhat hirſute, ſuſtaining one, two, and three flowers on the ſame plant, and on large plants four at bottom, each on its proper pedicel; pendulous and ſweet-ſcented. Corolla three times as large as in C. multiflora, tubular, white with obſcure lines more of a yellowiſh green, the border greeniſh, patulous, obtuſe, not funnel-ſhaped. Stamens inſerted below the middle of the tube. Style riſing above the origin of the border. Berry globular, very dark blue, three-celled, with three or four, ſometimes five ſeeds in each cell. Native of Auſtria[n].

7. Stem round, from eighteen inches to two or three feet high, erect, unbranched. Leaves uſually bent upwards and to one ſide, underneath glaucous, five inches long and two broad; the lower ones oval, the upper oval-lanceolate, half embracing the ſtem. Flowers ſeveral together (from two or three to ſeven or eight), axillary, on branched compreſſed peduncles: they are ſeven lines long and three in diameter, ſlightly five-cornered; the ſegments ovate, obtuſe, ſomewhat reflex. Filaments hirſute. Berries round, of a blackiſh blue colour, varying to purple and red, and containing three or four ſeeds.

It is a larger plant than the fifth ſort. The ſtem is leſs furrowed; the leaves are larger; the flowers ſeveral together, ſmaller with the ſegments more pointed, the colour white tipped with green, the tube longer and narrower, on ſhorter and more ſlender peduncles[o].

Native of the north of Europe, Germany, Switzerland, Carniola. England, at Newberry and other places in Berkſhire, Bramdean in Hampſhire, Roe-hill in Kent, High Wycomb in Bucks, Gorleſtone in Suffolk.

The roots are recommended externally as vulneraries, reſtringents, and diſcutients; internally as incraſſants and mild corroborants. They have little or no ſmell; to the taſte they diſcover a conſiderable ſweetneſs, which is followed by a very ſlight impreſſion of bitteriſhneſs and acrimony. Their virtues do not appear to be very great[p].

According to Haller the berries excite vomiting, and even the leaves a nauſea. The young ſhoots are eaten by the Turks as we do Aſparagus; and the roots both of this and of the fifth ſort have been made into bread in times of ſcarcity.

This varies with a double flower.

β. The dwarf Engliſh Solomon's Seal occurs in the woods of Wiltſhire. Being found there by Mr. Philip More, gardener of Gray's Inn[q].]

8. Stems two feet high, unbranched, with many oblong leaves embracing them at the baſe, reſembling the leaves of Plantain. The flowers are ſmall and white, and are produced in ſingle ſpikes at the top, and are ſucceeded by ſmall red berries, about the ſame ſize as in the firſt ſort, and contain two hard ſhining ſeeds. It flowers the beginning of June, and the berries ripen in autumn. Native of Virginia and Canada.

[Cultivated 1656, by Mr. John Tradeſcant, junior[r].]

9. Stem upright, about two feet high. Leaves long and narrow in whorls, generally five at each joint; they are four inches long, and half an inch broad, ſmooth, and of a light green. The flowers come out from the ſame joints on ſhort peduncles, each ſupporting five or ſix flowers; ſmall and with ſhort tubes, of a dirty white tipped with green, and ſlightly cut into ſix parts at top. Native of Canada.

[Cultivated 1640, by Mr. John Parkinſon[s].

10. Root creeping, jointed. Stem-leaves two, three, or four, often ovate-oblong, but not ſeldom lanceolate. Flowers five to eight or nine thinly diſpoſed on a ſcape, on peduncles about a third of an inch in length, cloven almoſt to the bottom. Berries round, red, containing two or three large, yellowiſh, compreſſed, roundiſh ſeeds, with a ſmall point at the end.—Native of Siberia, in woods[t].

11. This plant ſeldom grows more than four or five inches high; riſing with a ſingle ſtalk from the root, with one or two heart-ſhaped leaves, which cloſely embrace it. The top of the ſtalk is terminated by a looſe raceme of white flowers, which have ſhort tubes, and ſpread open at the top, where they are divided into four obtuſe ſegments. The fruit is a ſoft berry, incloſing a ſingle hard ſeed[u].

Stem erect, angular, with purple dots. Petioles furrowed underneath, ſmooth, three lines in length. Leaves acuminate, two inches long and one broad. Raceme ovate, obtuſe, above half an inch long, containing as far as ſixteen flowers. Two peduncles, each ſuſtaining one flower, come out together. Bractes very ſmall, toothletted, whitiſh. Berries round, at firſt whitiſh, with red dots, afterwards becoming red: incloſing two or three ſeeds, which are nearly round, obtuſe and ſmooth[x]. One or two of them are frequently abortive.

In the ſpring it produces a ſingle leaf on a long erect petiole; after that a ſecond, and ſometimes a third[y].

As this pretty plant excludes a third part in the diviſions of the corolla and number of the ſtamens, ſo it does alſo in the piſtil; for the ſtigma is ſlightly bifid, and the berry is two-celled[z].

Native of the North of Europe, Holland, Germany, Switzerland, Carniola. Mr. Miller gathered it near Haerlem and the Hague, where Mr. Ray had gathered it before on the 28th of May in flower. Linneus obſerves, that this plant ſo common in Sweden, does not occur in England.

It was cultivated 1739, by Mr. Miller[a].]

PROPAGATION AND CULTURE.

1. The Lily of the Valley requires a looſe ſandy ſoil, and a ſhady ſituation. It is propagated by parting the roots in autumn, placing the ſets a foot aſunder. In a rich ſoil they ſpread and multiply greatly, but are not ſo productive of flowers. The only culture they require, is to keep them clean from weeds, and to tranſplant and ſeparate the roots every third or fourth year: if this be not done the flowers will be ſmall and few in number.

[The Lily of the Valley forces very well, and thus theſe elegant flowers may be enjoyed above two months[b].]

4, &c. All the ſorts of Solomon's Seal are very hardy plants. They prefer a light ſoil and a ſhady ſituation, and are therefore very proper for plantations, where if they are not crowded by ſhrubs, they will thrive and multiply exceedingly, making an agreeable variety during the ſummer ſeaſon, the appearance of theſe plants being very ſingular.

They multiply very faſt by their creeping roots, eſpecially in a proper ſoil and ſituation. The beſt time to tranſplant and part the roots is in autumn, ſoon after the ſtalks decay; but it may be ſafely done at any time till they begin to ſhoot in the ſpring. They ſhould have room to ſpread, and muſt not be removed oftener than every third or fourth year. Dig the ground about them every ſpring, and keep them clean from weeds.

11. [As this plant propagates very faſt by its creeping roots, they will ſoon ſpread over a large piece of ground, unleſs they are confined in pots. Where they have room to ſpread the plants ſeldom produce berries: this is the caſe with many other creeping-rooted plants[c].]

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[n] Jacquin.
[o] Woodw. mſs. Pollich, Haller, Krocker.
[p] Lewis.
[q] Ray's ſyn.
[r] Hort. kew.
[s] Hort. kew.
[t] Gmelin.
[u] Mill. fig.
[x] Pollich.
[y] Haller.
[z] Retz.
[a] Hort. kew.
[b] Curtis.
[c] Mill. fig.

CONVOLVULUS. (*A convolvendo: becauſe the ſtem of ſome ſpecies rolls round, or twines about other bodies.*)

Lin. gen. n. 215. *Reich.* 231. *Schreb.* 287. *Gærtn. t.* 134. *Tourn.* 57. *Juſſ.* 133.

Claſſ. 5. 1. Pentandria Monogynia.

Natural order of *Campanaceæ*, or bell-form flowers. *Convolvuli* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, converging, ovate, obtuſe, very ſmall, permanent.

Cor. one-petalled, bell-ſhaped, ſpreading, large, plaited, obſcurely five-lobed.

Stam. *Filaments* five, ſubulate, ſhorter by half than the corolla. *Anthers* ovate, compreſſed.

Pist. *Germ* ſuperior, roundiſh. *Style* filiform, length of the ſtamens. *Stigmas* two, oblong, broadiſh. (Stigma bifid, G.)

Per. *Capſule* enwrapped by the calyx, roundiſh, two-celled, one, two, or three-valved (commonly three-celled, ſeldom two or four-celled, *J.* partition alternate with the valves.)

Seeds in pairs, roundiſh, (one or two ſeeds in each cell, ſometimes abortive, *J.* few with a twiſted embryo, *G.*)

Obs. *The corolla is commonly marked with ten notches, but there are inſtances in which it has five clefts. Some ſpecies have a funnel-form corolla.*

ESSENTIAL CHARACTER.

Cor. bell-ſhaped, plaited. *Stigmas* two. *Capſ.* two-celled, with two ſeeds in each cell.

SPECIES.

* *With a twining ſtem.*

1\. Convolvulus arvenſis. *Small or Field Bindweed.*

Lin. ſpec. 218. *Reich.* 434. *fl. ſuec. n.* 181. *hort. cliff.* 66. *Hudſ. angl.* 88. *With.* 213. *Curt. lond.* 2. 13. *Relh. cant. n.* 166. *Hall. helv. n.* 664. *Scop. carn. n.* 219. *Pollich pal. n.* 204. *Neck. gallob.* 111. *Leers herborn. n.* 145. *Krock. ſileſ. n.* 307. *Fl. dan. t.* 459. *Plenck, ic. t.* 104. *Fl. ruſt. t.* 89.

C. minor. *Bauh. hiſt.* 2. 157. *Cluſ. hiſt.* 2. 50. *f.* 1.—arvenſis. *Bauh. pin.* 294. *Mor.* 1. 3. 9.—min. vulgaris. *Park. theat.* 171. 2. *Raii hiſt.* 725. 7. *ſyn.* 275. 2.—purpureus. *Lob. obſ.* 340. *f.* 2.

Smilax lævis minor. *Dod. purg.* 213. *pempt.* 393. *Ger.* 712. 2. *emac.* 861. 2.

Helxine. *Matth.* 1011. *Dalech.* 1424. *Fuchſ.* 258.

β. C. arv. minimus. *Raii hiſt.* 725. *ſyn.* 276. *Leaſt Bindweed.*

C. min. anguſto auriculato fol. *Bocc. muſ. t.* 33.

γ. C. fl. min. ad unguem fere ſecto. *Raii ſyn.* 276.

Leaves ſagittate ſharp on each ſide, peduncles generally one-flowered: bractes ſubulate, at a diſtance from the flower.

2\. Convolvulus ſepium. *Great*, or *Hedge Bindweed.*

Lin. ſpec. 218. *Reich.* 434. *fl. ſuec. n.* 182. *hort. cliff.* 66. *vir. cliff.* 18. *Hudſ. angl.* 88. *With.* 213. *Curt. lond.* 1. 13. *abr. t.* 5. *Relh. cant. n.* 167. *Hall. helv. n.* 663. *Scop. carn. n.* 220. *Pollich pal. n.* 205. *Neck. gallob.* 112. *Leers herborn. n.* 146. *Gmel. ſib.* 4. 96. *n.* 54. *t.* 48. *Allion. pedem. n.* 389. *Krock. ſileſ. n.* 308. *Blackw. t.* 38. *Fl. dan. t.* 458. *Plenck, ic. t.* 91. *Fl. ruſt. t.* 88.

C. major. *Bauh. hiſt.* 2. 154. *Raii hiſt.* 725. 6. *ſyn.* 275. 1.—albus. *Bauh. pin.* 294. *Park. theat.* 163. 3. *Mor.* 1. 3. 6.

Smilax lævis. *Fuchſ.* 720.—major. *Dod. purg.* 210. *pempt.* 392. *Dalech.* 1423. *Ger.* 712. 1. *emac.* 861. 1. *Lob. obſ.* 340. *f.* 1.

Leaves ſagittate, truncate behind; peduncles four-cornered, one-flowered: with heart-ſhaped bractes, cloſe to the flower.

3\. Convolvulus Scammonia. *Syrian Bindweed*, or *Scammony.*

Lin. ſpec. 218. *Reich.* 435. *mat. med.* 60. *Woodv. med. bot.* 13. *t.* 5. *Mill. fig. t.* 102. *Plenck, ic. t.* 92. *Lour. cochinch.* 106.

C. ſyriacus ſ. Scammonia ſyriaca. *Mor. ſ.* 1. *t.* 3. *f.* 5.

Scammonium. *Bont. jav. l.* 6. *c.* 57. *p.* 154. *Lob. obſ.* 340. *f.* 3.

Scammonia ſyriaca. *Bauh. pin.* 294. *Lob. ic.* 620. 1. *Raii hiſt.* 722. *Bauh. hiſt.* 2. 163. *Ger.* 716. 1. *emac.* 866. 1. *Park. theat.* 163. 1.

Leaves ſagittate, truncate behind; peduncles round, bearing about three flowers.

[4. Convolvulus ſibiricus. *Siberian Bindweed.*

Lin. ſyſt. 200. *Reich.* 435. *mant.* 203.

Leaves cordate, acuminate, even; peduncles one-flowered.

5\. Convolvulus farinoſus. *Mealy-ſtalked Bindweed.*

Lin. ſyſt. 200. *Reich.* 435. *mant.* 203. *Jacqu. hort.* 1. *t.* 35.

Leaves cordate, acuminate, repand; peduncles three-flowered; ſtem mealy.

6\. Convolvulus Medium. *Arrow-headed Bindweed.*

Lin. ſpec. 218. *Reich.* 436. *Rheed. mal.* 11. 113. *t.* 55. *Lour. cochinch.* 106.

Leaves linear haſtate-acuminate; ears toothed; peduncles one-flowered; calyxes ſagittate.

7\. Convolvulus japonicus.

Lin. ſyſt. 200. *Thunb. jap.* 85.

Leaves haſtate lanceolate, the ſide leaves one-toothed; peduncles one-flowered.

8\. Convolvulus panduratus. *Virginian Bindweed.*

Lin. ſpec. 219. *Reich.* 436. *Gron. virg.* 141. *Dill. elth.* 101. *t.* 85. *f.* 99. *Lour. cochinch.* 107.

Leaves cordate entire panduriform; calyxes even.

9\. Convolvulus carolinus. *Carolina Bindweed.*

Lin. ſpec. 219. *Reich.* 436. *Dill. elth.* 100. *t.* 84. *f.* 98.

Leaves cordate, entire and three-lobed, villoſe; calyxes even; capſules hirſute; peduncles one or two-flowered.

10\. Convolvulus hederaceus. *Ivy-leaved Bindweed.*

Lin. ſpec. 219. *Reich.* 436. *hort. cliff.* 67 *Gærtn. fruct.* 2. 247. *Dill. elth.* [99. *t.* 83. *f.* 96.] 97. *t.* 81. *f.* 93.

Leaves cordate, entire and three-lobed; corollas undivided; fruits erect.]

11\. Convolvulus Nil. *Blue* or *Azure Bindweed.*

Lin. ſpec. 219. *Reich.* 437. *Curt. magaz. t.* 188.

C. cæruleus. *Ger.* 715. *fig. emac.* 864. *f.* 1.——hederaceo anguloſo folio. *Bauh. pin.* 295. *Bauh. hiſt.* 2. 164. *Dill. elth.* 96. *t.* 80. *f.* 91, 92. *Park. parad.* 358. 2. *t.* 361. *f.* 2. *Mor.* 1. 3. 8.

Leaves cordate three-lobed; corollas half-five-cleft; peduncles ſhorter than the petiole.

12\. Convolvulus purpureus. *Purple Bindweed.*

Lin. ſpec. 219. *Reich.* 437. *vir. cliff.* 18. *hort. upſ.* 38. *Gron. virg.* 141. *Curt. magaz.* 113.

C. purp. fol. ſubrotundo. *Bauh. pin.* 295. *Ehret. pict.* 7. *f.* 2. *Ger. emac.* 864. *f.* 2. *Park. parad.* 358. 1. *t.* 361. *f.* 1. *Raii hiſt.* 727. *Mor.* 1. 3. 7.

β. C. indicus. *Mill. dict. n.* 5.

C. major, fol. ſubrotundo, fl. amplo purpureo. *Sloan. jam.* 1. 154. *t.* 98. *f.* 1.

γ. C. cæruleus minor, fol. ſubrotundo. *Dill. elth.* 97. *t.* 82. *f.* 94.

δ. C. fol. cordato glabro. *Dill. elth.* 100. *t.* 84. *f.* 97.

Leaves cordate undivided; fruits drooping; pedicels thickened.

[13. Convolvulus angularis.

Lin. ſyſt. 200. *Reich.* 437. *mant.* 203. *Burm. ind.* 46. *t.* 19. *f.* 2.

Leaves cordate five-cornered quite entire villoſe; peduncles many-flowered.

14\. Convolvulus obſcurus. *Hairy Bindweed.*

Lin. ſpec. 220. *Reich.* 437. *Dill. elth.* 98. *t.* 83. *f.* 95. *Lour. cochinch.* 107. *Vahl. ſymb.* 3. 27.

Leaves cordate undivided; ſtem ſomewhat pubeſcent; peduncles thickened one-flowered; calyxes ſmooth.]

15\. Convolvulus Batatas. *Tuberous-rooted Bindweed;* or *Spaniſh Potatoes.*

Lin. ſpec. 220. *Reich.* 438. *hort. cliff.* 67. *Cateſb. car. t.* 60. *Mor. ſ.* 1. *t.* 3. *f.* 4. *Raii hiſt.* 728. *Sloan. jam.* 1. 150. 3. *Plenck, ic. t.* 106. *Lour. cochinch.* 107. *Mor.* 1. 3. 4.

Batatas. *Bauh. pin.* 91. *Rumph. amb.* 5. 367. *t.* 130. *Kalm itin.* 2. 300. *Park. par.* 516. *t.* 517. *f.* 2. *Ger.* 780. *emac.* 925. *Cluſ. hiſt.* 2. 78.
Kappa-kelengu. *Rheed. mal.* 7. 95. *t.* 50.
Leaves cordate haſtate five-nerved, ſtem creeping tuber-bearing, hiſpid.

[16. Convolvulus biflorus.
Lin. ſpec. 1668. *Reich.* 438.
Leaves cordate pubeſcent, peduncles in pairs; lobes of the corolla trifid.

17. Convolvulus verticillatus.
Lin. ſpec. 220. *Reich.* 438. *Brown. jam.* 153. 6.
Ipomæa verticillata. *Amæn. acad.* 5. 394.
Quamoclit. *Plum. ic.* 94. *f.* 2.
Leaves cordate oblong, naked; peduncles umbellate bifid many-flowered.

18. Convolvulus umbellatus. *Umbelled Bindweed.*
Lin. ſpec. 221. *Reich.* 439. *Pluk. alm. t.* 167. *f.* 1. *Plum. amer.* 88. *t.* 102. *Sloan. jam.* 1. 154. 10. *Swartz obſ.* 62.
Leaves cordate; peduncles umbellate.

19. Convolvulus malabaricus.
Lin. ſpec. 221. *Reich.* 439. *Lour. cochinch.* 108.
Kattu-kelengu. *Rheed. mal.* 11. 105. *t.* 51. *Raii ſuppl.* 376.
Leaves cordate ſmooth, ſtem perennial villoſe.]

20. Convolvulus canarienſis. *Canary Bindweed.*
Lin. ſpec. 221. *Reich.* 439. *vir. cliff.* 18. *hort. cliff.* 67. *Comm. hort.* 2. 101. *t.* 51. *Pluk. alm. t.* 325. *f.* 1. *Lour. cochinch.* 108.
Leaves cordate pubeſcent; ſtem perennial villoſe; peduncles many-flowered.

[21. Convolvulus muricatus. *Rough-ſtalked Bindweed.*
Lin. ſyſt. 201. *Reich.* 439. *mant.* 44.
Leaves cordate; peduncles thickened, they and the calyxes even; ſtem muricate.

22. Convolvulus anceps.
Lin. ſyſt. 201. *Reich.* 439. *mant.* 43. *Vahl ſymb.* 3. 31.
Leaves cordate; ſtem keeled on both ſides.]

23. Convolvulus Turpethum. *Square-ſtalked Bindweed, or Turbith.*
Lin. ſpec. 221. *Reich.* 440. *fl. zeyl. n.* 74. *mat. med.* 61. *Blackw. t.* 397. *Plenck, ic. t.* 105. *Herm. lugdb.* 177. *t.* 178, 179. *Burm. zeyl.* 71. *Raii hiſt.* 1882.
Turpethum repens, fol. althææ vel indicum. *Bauh. pin.* 149.
Leaves cordate angular; ſtem membranaceous quadrangular; peduncles many-flowered.

[24. Convolvulus grandiflorus.
Lin. ſyſt. 201. *ſuppl.* 136. *Jacqu. hort.* 3. *t.* 69.
Munda-valli. *Rheed. mal.* 11. 103. *t.* 50.
Leaves cordate ovate bluntiſh quite entire peduncled, bearing about two flowers, calyxes coriaceous; ſtem and petioles pubeſcent.

25. Convolvulus maximus.
Lin. ſyſt. 201. *ſuppl.* 137. *Vahl ſymb.* 3. 26.
Tiru-tali. *Rheed. mal.* 11. 109. *t.* 53.
Leaves cordate ovate acuminate quite entire very ſmooth; ſtem and petioles very ſmooth.

26. Convolvulus ſpecioſus. *Broad-leaved Bindweed.*
Lin. ſyſt. 201. *ſuppl.* 137. *Ait. hort. kew.* 1. 211.
C. nervoſus. *Burm. ind.* 48. *t.* 20. *f.* 1.
Leaves cordate, tomentoſe-ſilky on the lower ſurface; peduncles longer than the petiole, umbellate; calyxes acute.

27. Convolvulus trinervius.
Lin. ſyſt. 201. *Thunb. jap.* 85.
Leaves cordate oblong ſmooth three-nerved, ſtem round; peduncles one-flowered.

28. Convolvulus peltatus.
Lin. ſpec. 221. *Reich.* 440. *Rumph. amb.* 5. *t.* 157.
Leaves peltate; peduncles many-flowered.]

29. Convolvulus Jalapa. *Jalap Bindweed.*
Lin. ſyſt. 201. *Reich.* 440. *mant.* 43. *mat. med.* 60. *Raii hiſt.* 724. *Ait. hort. kew.* 1. 211. *Woodv. med. bot.* 59. *t.* 21. *Plenck, ic. t.* 94.
Bryonia mechoacana nigricans. *Bauh. pin.* 298. *prodr.* 135. *Bauh. hiſt.* 2. 151. *Park. theat.* 179. 7.
Leaves ovate ſubcordate obtuſe obſcurely repand villoſe underneath; peduncles one-flowered.

[30. Convolvulus ſericeus.
Lin. ſyſt. 201. *Reich.* 440. *mant.* 43.
C. mollis. *Burm. ind.* 44. *t.* 17. *f.* 1.
Leaves lanceolate-elliptic; tomentoſe-ſilky underneath; peduncles ſubumbellate; calyxes hairy.

31. Convolvulus tomentoſus.
Lin. ſpec. 222. *Reich.* 441. *Sloan. jam.* 1. 154. 12. *t.* 98. *f.* 2. *Raii ſuppl.* 381. 90. *Pluk. alm. t.* 167. *f.* 4. *Lour. cochinch.* 108.
Leaves three-lobed, tomentoſe; ſtem lanuginoſe.]

32. Convolvulus althæoides. *Mallow-leaved Bindweed.*
Lin. ſpec. 222. *ſyſt.* 202. *Reich.* 441. *vir. cliff.* 18. *hort. cliff.* 97.
C. argenteus, althææ fol. *Bauh. pin.* 295. *Mor.* 1. 3. 10.
C. betonicæ althææque fol., repens argenteus. *Barr. rar.* 5. *t.* 312.
β. C. argenteus elegantiſſimus, fol. tenuiter inciſis. *Tournef. inſt.* 85. *Silky-leaved Bindweed.*
C. elegantiſſimus. *Mill. dict. n.* 22.
C. ſericeus. *Vahl ſymb.* 1. 15. *Forſk. ægypt.* 204.
Leaves cordate ſinuate, ſilky, lobes repand; peduncles two-flowered.

[33. Convolvulus cairicus. *Jagged-leaved Bindweed.*
Lin. ſpec. 222. *ſyſt.* 202. *Reich.* 441. *Vahl ſymb.* 1. 15. *Mor.* 1. 7. 6. *Barr. ic.* 30.
C. ægyptius. *Veſl. ægypt.* 73. *t.* 74.
Ipomæa palmata. *Forſk. ægypt.* 43.
Leaves palmate ſmooth ſerrulate; ſtipules leaf-ſhaped, palmate, axils tomentoſe; calyxes panicled, even.

34. Convolvulus copticus.
Lin. ſyſt. 202. *Reich.* 441. *mant.* 559. *Retz. obſ.* 2. 11. *n.* 16.
C. quinquefolius. *Bauh. pin.* 295. 8. *prodr.* 134. 3. *fig.*
Leaves pedate, ſerrate; peduncles enſiform, two-flowered; calyxes muricate.

35. Convolvulus vitifolius. *Vine-leaved Bindweed.*
Lin. ſyſt. 202. *Reich.* 442. *mant.* 203. *Burm. ind.* 45. *t.* 18. *f.* 1. *Pluk. alm. t.* 25. *f.* 3.
Leaves palmate five-lobed, ſmooth toothed; ſtem hairy; peduncles many-flowered.

36. Convolvulus diſſectus.
Lin. ſyſt. 202. *Reich.* 442. *mant.* 204. *Jacqu. obſ.* 2. *p.* 4. *t.* 28. *hort.* 2. *t.* 159.
Leaves palmate ſeven-parted tooth-ſinuate ſmooth; ſtem hairy; peduncles one-flowered.]

37. Convolvulus macrocarpus. *Long-fruited Bindweed.*
Lin. ſpec. 222. *Reich.* 442. *Plum. ſpec.* 1. *ic.* 91. *f.* 1.
Leaves palmate-pedate five-parted; peduncles one-flowered.

38. Convolvulus paniculatus. *Panicled Bindweed.*
Lin. ſpec. 223. *ſyſt.* 202. *Reich.* 442.
Pal-modecca. *Rheed. mal.* 11. 101. *t.* 49. *Raii ſuppl.* 374.
β. Modecca. *Rheed. mal.* 8. 39. *t.* 20.
Leaves palmate, lobes ſeven ovate acute quite entire, peduncles panicled.

39. Convolvulus macrorhizos.
Lin. ſpec. 223. *Reich.* 443. *Plum. ſpec.* 1. *ic.* 90. *f.* 1.
Leaves digitate in ſevens quite entire; ſtem ſmooth; peduncles three-flowered.

40. Convolvulus quinquefolius. *Smooth five-leaved Bindweed.*
Lin. ſpec. 223. *Reich.* 443. *Swartz obſ.* 63. *Pluk. alm. t.* 167. *f.* 6.
Leaves digitate ſmooth toothed; peduncles even.]

41. Convolvulus pentaphyllus. *Hairy five-leaved Bindweed.*
Lin. ſpec. 223. *Reich.* 443. *hort. upſ.* 39. *Herm. lugdb.* 183. *t.* 185. *Raii hiſt.* 1881. *Sloan. jam.* 1. 153.
β. C. pentaphyllos, &c. *Plum. amer.* 1. *ic.* 91. *f.* 2.
Leaves digitate in fives hairy quite entire; ſtem hairy.

[42. Convolvulus martinicenſis.
Lin. ſyſt. 202. *Reich.* 448. *Jacqu. amer.* 26. *t.* 17. *pict.* 19. *t.* 24. *Loefl. it.* 231.
Leaves elliptic; ſtem creeping ſomewhat twining.

** *Stem not twining.*

43. Convolvulus ſpinoſus.
Lin. ſyſt. 202. *ſuppl.* 137.
C. fruticoſus. *Pall. it.* 2. 734. *t.* M.
Shrubby erect; leaves lanceolate ſilky; flower-bearing branchlets thorny.]

44. Convolvulus ſiculus. *Small-flowered Bindweed.*
Lin. ſpec. 223. *Reich.* 443. *hort. cliff.* 67. *Bocc. ſic.* 89. *t.* 48. *Mor. ſ.* 1. *t.* 7. *f.* 4, 5.
Leaves cordate-ovate; peduncles one-flowered; bractes lanceolate; flowers ſeſſile.

[45. Convolvulus pentapetaloides.
Lin. ſyſt. 202. *Reich.* 444. *Vahl ſymb.* 2. 36.
C. proſtratus. *Forſk. ægypt.* 203.
Leaves lanceolate, obtuſe, naked, marked with lines; branches declining; flowers ſolitary, half-five-cleft.]

46. Convolvulus lineatus. *Dwarf Bindweed.*
Lin. ſpec. 224. *Reich.* 444. *D'Aſſo aragon. n.* 174. *Mor. ſ.* 1. *t.* 4. *f.* 2. (*bad*). *Barr. rar.* 31. *t.* 1132. *Triumf. obſ. t.* 91. *f.* 2.
Leaves lanceolate, ſilky, marked with lines petiolate; peduncles two-flowered; calyxes ſilky, ſomewhat leafy.

47. Convolvulus Cneorum. *Silvery-leaved Bindweed.*
Lin. ſpec. 224. *ſyſt.* 203. *Reich.* 444. *Mor.* 1. 3. 1. *Barr. rar.* 4. *t.* 470. *Bocc. muſ.* 2. *t.* 70.
Dorycnium. *Cluſ. hiſt.* 2. 254.
Cneorum album, fol. oleæ argenteo molli. *Bauh. pin.* 463.
Leaves lanceolate, tomentoſe; flowers umbelled; calyxes hirſute; ſtem erect.

48. Convolvulus Cantabrica. *Flax-leaved Bindweed.*
Lin. ſpec. 225. *ſyſt.* 203. *Reich.* 445. *hort. cliff.* 68. *Jacqu. auſt.* 3. *t.* 296. *Scop. carn. n.* 221. *D'Aſſo aragon. n.* 175. *Ger. prov.* 318. 5. *Villars dauph.* 2. 485. *Mor.* 1. 4. 3. *Bauh. pin.* 295. 10. *Munting. phyt.* 29. *f.* 140. *Dalech.* 1426.
Cantabrica. *Cluſ. hiſt.* 2. 49. *With decumbent ſtems.*
β. C. Cantabrica. *Lin. ſpec. edit.* 1. 158.—terreſtris. *edit.* 2. 224. *mant.* 336. *With upright ſtems.*
Volvulus terreſtris. *Dalech.* 1425. *Bauh. hiſt.* 2. 160.
Leaves linear-lanceolate, acute, hairy; lower peduncles longer than the leaves, bearing about two flowers; calyxes oblong-lanceolate, hirſute.

[49. Convolvulus Dorycnium.
Lin. ſpec. 224. *Reich.* 445.
Leaves ſublinear, ſilky; ſtem ſhrubbyiſh, panicled; calyxes almoſt naked, obtuſe.]

50. Convolvulus ſcoparius. *Broom Bindweed.*
Lin. ſyſt. 203. *ſuppl.* 135. *Ait. hort. kew.* 1. 213.
C. linarifolius. *Mill. dict. n.* 28.
Leaves linear, ſomewhat hairy; peduncles bearing about three flowers; calyxes ſilky, ovate, acute; ſtem ſhrubby; branches wand-like.

[51. Convolvulus Oenotheroides.
Lin. ſyſt. 203. *ſuppl.* 137.
Shrubby, erect; leaves linear, becoming hoary; peduncles axillary, ſolitary, erect, one-flowered, bracted; calyxes lanceolate, ſmooth.

52. Convolvulus floridus. *Many-flowered Bindweed.*
Lin. ſyſt. 203. *ſuppl.* 136. *Jacqu. ic. collect.* 1. 62. *Ait. hort. kew.* 214.
Leaves oblong-lanceolate, drawn to a point at the baſe, ſomewhat hairy; flowering branches and peduncles panicled.

53. Convolvulus corymboſus.
Lin. ſpec. 225. *Reich.* 445. *Plum. ſpec.* 1. *ic.* 89. *f.* 2.
Leaves cordate; peduncles umbellate; ſtem creeping.

54. Convolvulus ſpithamæus.
Lin. ſpec. 225. *Reich.* 446. *Gron. virg.* 141.
Leaves cordate, pubeſcent; ſtem ſtraight; peduncles one-flowered.

55. Convolvulus perſicus.
Lin. ſpec. 225. *ſyſt.* 203. *Reich.* 446. *amœn.* 2. 341. *Gmel. it.* 3. 36. *t.* 7.
Leaves oval, tomentoſe; peduncles one-flowered.]

56. Convolvulus tricolor. *Trailing Bindweed.*
Lin. ſpec. 225. *Reich.* 446. *vir. cliff.* 19. *hort. cliff.* 68. *hort. upſ.* 38. *Curt. magaz.* 27. *Bauh. pin.* 295. 7. *Mor.* 1. 4. 4. *Park. parad.* 358. *n.* 4. 361. *f.* 3.
Leaves lanceolate-ovate, ſmooth; ſtem declining; flowers ſolitary.

57. Convolvulus repens.
Lin. ſpec. 225. *Reich.* 446. *Gron. virg.* 141. *Plum. amer.* 89. *t.* 105? *Vahl ſymb.* 1. 17. *Swartz obſ.* 64.
Ipomæa aquatica. *Forſk. ægypt.* 44.
Ballel. *Rheed. mal.* 11. 107. *t.* 52.
Leaves ſagittate, obtuſe behind; ſtem creeping; peduncles one-flowered, (or two-flowered.)

[58. Convolvulus reptans.
Lin. ſpec. 225. *Reich.* 446. *Lour. cochinch.* 109.
Olus vagum. *Rumph. amb.* 5. 419. *t.* 155. *f.* 1.
Leaves haſtate-lanceolate, ears rounded; ſtem creeping; peduncles one-flowered.

59. Convolvulus edulis.
Lin. ſyſt. 203. *Thunb. jap.* 84.
Leaves cordate, entire and three-lobed, ſmooth; ſtem creeping, angular.]

60. Convolvulus hirtus.
Lin. ſpec. 226. *Reich.* 447.
Leaves cordate and ſubhaſtate, villoſe; ſtem and petioles hairy; peduncles many-flowered.

61. Convolvulus Soldanella. *Sea Bindweed.*
Lin. ſpec. 226. *Reich.* 447. *hort. cliff.* 67. *mat. med.* 61. *Hudſ. angl.* 89. *With.* 214. *Lightf.* 140. *Scop. carn. n.* 222. *Mor.* 1. 3. 2. *Plenck, ic. t.* 93.
Soldanella maritima minor. *Bauh. pin.* 295. *Ger.* 690. *emac.* 838. 1. *Park. theat.* 168. 2. *Raii hiſt.* 726.
Braſſica marina, ſ. Soldanella. *Bauh. hiſt.* 2. 166. *Cord. hiſt.* 205.
Leaves kidney-ſhaped; peduncles one-flowered.

[62. Convolvulus Pes capræ. *Thick-leaved Bindweed.*
Lin. ſpec. 226. *Reich.* 447. *fl. zeyl.* 75. *Herm. lugdb.* 174. *t.* 175. *Rumph. amb.* 5. 433. *t.* 159. *f.* 1. *Rheed. mal.* 11. 117. *t.* 57. *Lour. cochinch.* 109.
Leaves two-lobed; peduncles one-flowered.]

63. Convolvulus braſilienſis. *Braſilian Bindweed.*
Lin. ſpec. 226. *Reich.* 447. *Brown. jam.* 153. 5. *Plum. amer.* 89. *t.* 104. *Marcgr. braſ.* 51. *Piſ. braſ.* 258.
Leaves emarginate with two glands at the baſe; peduncles three-flowered.

[64. Convolvulus ſublobatus.
Lin. ſyſt. 204. *ſuppl.* 135.
Upper leaves tooth-repand at the end; ſtem procumbent; flowers in a head.

65. Convolvulus littoralis.
Lin. ſpec. 227. *Reich.* 448. *Plum. ſpec.* 1. *ic.* 90. *f.* 2.
Leaves oblong lobe-palmate; peduncles one-flowered; ſtem creeping.]

Species from other Authors.

66. Convolvulus palmatus.
Mill. dict. n. 8.
C. pentaphyllos, fol. glabro dentato, viticulis hirſutis. *Plum. cat.*
Leaves palmate, lobes ſeven, ſinuate pointed; peduncles one-flowered; calyxes very large ſpreading; ſtem twining.

67. Convolvulus ariſtolochifolius.
Mill. dict. n. 9.
C. americanus, Ariſtolochiæ fol. longiore, flor. plurimis in uno pedunculo. *Houſt. Mſs.*
Leaves haſtate-lanceolate, with rounded ears; peduncles many-flowered; ſtem twining.

68. Convolvulus glaber.
Mill. dict. n. 11.

C. fol. oblongis glabris; flor. amplis purpureis. *Houſt. Mſs.*
Leaves ovate-oblong, ſmooth; peduncles one-flowered; calyxes ten-parted; ſtem twining.

69. Convolvulus multiflorus.
Mill. dict. n. 15.
C. americanus, vulgaris folio, capſulis triquetris numeroſis, ex uno puncto, longis petiolis propendentibus, ſemine lanugine ferruginea villoſa. *Pluk. phyt. t.* 167. *f.* 1.
Leaves cordate, ſmooth; peduncles many-flowered; ſeed villoſe, ferruginous; ſtem twining.

70. Convolvulus hederaceus.
Mill. dict. n. 17. See n. 10.
C. fol. hederaceo anguloſo lanuginoſo, flore magno cæruleo patulo. *Sloan. cat. jam.* 56.
Leaves triangular, acute; flowers many ſeſſile ſpreading; calyxes acute, many-cleft; ſtem twining.

71. Convolvulus roſeus.
Mill. dict. n. 18.
C. americanus hirſutus, fol. acuminato, fl. amplo roſeo. *Houſt. Mſs.*
Leaves cordate, acuminate; peduncles two-flowered; ſtem twining.

72. Convolvulus betonicifolius. (Conf. n. 8.)
Mill. dict. n. 20.
C. exoticus, Betonicæ fol., flore magno albo, fundo purpureo. *Cat. hort. R. Par.*
Leaves cordate-ſagittate; peduncles one-flowered; ſtem twining.

[73. Convolvulus tuguriorum.
Forſt. fl. auſtr. n. 74.
Leaves cordate-ſagittate, acute; ſtem angular, twining; peduncles four-cornered, one-flowered.

74. Convolvulus cæleſtis.
Forſt. fl. auſtr. n. 77.
Leaves cordate, extremely acuminate, pubeſcent; peduncles elongated umbellate-trifid; ſtem twining.

75. Convolvulus mucronatus.
Forſt. fl. auſtr. n. 79.
Leaves palmate-pedate, lobes ciliate mucronate; peduncles one-flowered; ſtem twining.

76. Convolvulus tridentatus. *Trifid Bindweed.*
Lin. ſpec. ed. 1. 157. *Ait. hort. kew.* 208. *Pluk. alm. t.* 276. *f.* 5. *Rheed. mal.* 11. 133. *t.* 65.
Evolvulus tridentatus. *Lin. ſpec. ed.* 2. 392. *Reich.* 751. *Burm. ind.* 77. *t.* 16. *f.* 3.
Leaves wedge-ſhaped three-cuſped, dilated at the baſe, and toothed; peduncles one-flowered; ſtem twining.

77. Convolvulus bufalinus.
Lour. cochinch. 109.
Stem ſhrubby ſcandent, leaves cordate-ſagittate, ſmooth, peduncles many-flowered, anthers ſpiral.

78. Convolvulus aggregatus.
Lour. cochinch. 109.
Leuves palmate ſeven-lobed hairy, flowers aggregate.

79. Convolvulus haſtatus.
Vahl ſymb. 1. 15. *Forſk. ægypt.* 203.
Leaves lanceolate haſtate, peduncles axillary, in pairs, two-flowered.

80. Convolvulus lanatus.
Vahl ſymb. 1. 16.
C. Cneorum. *Forſk. ægypt.* 63. *n.* 124. *catal. arab.* 106. *n.* 120.
C. orientalis humilis argenteus latifolius erectus & villoſus. *Tournef. cor.* 1.
Leaves lanceolate linear tomentoſe, older branches ſpiny, flowers in involucred heads.

81. Convolvulus Hyſtrix.
Vahl ſymb. 1. 16.
C. ſpinoſus. *Forſk. arab.* 106. *n.* 121.
Shrubby, leaves oblong, flowers ſeſſile ſubſolitary, branches ſpineſcent.

82. Convolvulus Imperati.
Vahl ſymb. 1. 17.
C. ſtoloniferus. *Cyrill. rar. neap.* 14. *t.* 5.
Convolvulo marino. *Imper.* 671. (*l.* 28. *p.* 754. *fig.* 767.)
C. marinus Soldanellæ affinis. *Bauh. hiſt.* 2. 168.
—major italicus, ſinuato & auriculato folio. *Mor. hiſt.* 2. 37.
Soldanella vel Braſſica maritima major. *Bauh. pin.* 295. *Barrel. ic.* 856.
Leaves panduriform or entire, emarginate cordate at the baſe, peduncles one-flowered, ſtem creeping.

83. Convolvulus arenarius.
Vahl ſymb. 1. 18. & 3. 32.
Leaves oblong emarginate lobed at the baſe or entire, peduncles one-flowered, corollas tubular, ſtem twining.

84. Convolvulus Wheleri.
Vahl ſymb. 2. 36.
C. ſagittariæ foliis, flore purpureo Wheleri. *Pluk. phyt. t.* 85. *f.* 3.
Ipomæa ſagittata. *Poir. it.* 2. 160. *t.* 3.
Leaves ſagittate roundiſh behind and entire, peduncles round, one-flowered.

85. Convolvulus lanuginoſus.
Vahl ſymb. 3. 23.
Leaves cordate-oblong ſubhaſtate ſilky-tomentoſe, ears toothed, peduncles three-flowered, ſtem hairy.

86. Convolvulus incanus.
Vahl ſymb. 3. 23.
Silky-tomentoſe, leaves lanceolate ſagittate blunt, ſomewhat toothed at the baſe, peduncles two-flowered.

87. Convolvulus emarginatus.
Vahl ſymb. 3. 23.
C. uniflorus. *Burm. ind.* 47. *t.* 21. *f.* 2.
Leaves lanceolate, the lower ones emarginate mucronate, peduncles one-flowered, outer calycine leaflets ſemiovate, large.

88. Convolvulus filicaulis.
Vahl ſymb. 3. 24.
Leaves linear-lanceolate obtuſe mucronate dilated and toothed at the baſe, calycine leaflets oblong.

89. Convolvulus anguſtifolius.
Vahl ſymb. 3. 24.
Leaves linear haſtate obtuſe mucronate ſmooth, ears almoſt quite entire, peduncles one-flowered.

90. Convolvulus dentatus.
Vahl ſymb. 3. 25.
Leaves haſtate, ſmooth, ears toothed, peduncles many-flowered, muricate.

91. Convolvulus bracteatus.
Vahl ſymb. 3. 25.
Leaves cordate almoſt entire, and three-lobed, haſtate attenuated, peduncles one-flowered, outer calycine leaflets bracte-ſhaped.

92. Convolvulus bicolor.
Vahl ſymb. 3. 25.
Leaves cordate villoſe, angular-ſublobate at the baſe, peduncles one-flowered, outer calycine leaflets bracte-ſhaped.

93. Convolvulus platanifolius.
Vahl ſymb. 3. 26. *Pluk. phyt. t.* 167. *f.* 3. *Feuill. peruv.* 3. 16. *t.* 11.
Leaves cordate three-lobed, ſide-lobes tooth-angular, peduncles ſubtriflorous, and calyxes almoſt equal, ſmooth.

94. Convolvulus acuminatus.
Vahl ſymb. 3. 26.
Leaves cordate and three-lobed, attenuated, peduncles elongated many-flowered and calyxes ſmooth.

95. Convolvulus gemellus.
Vahl ſymb. 3. 27. *Burm. ind.* 46. *t.* 41. *f.* 1.
Leaves cordate, ſomewhat villoſe underneath, peduncles two-flowered.

96. Convolvulus ſtriatus.
Vahl ſymb. 3. 28.
Leaves cordate attenuated ſmooth, peduncles longer than the leaf, having three or four flowers, corollas ſmooth, ſtriated on the outſide.

97. Convolvulus guianenſis.
Vahl ſymb. 3. 28. *Aubl. guian.* 136. *t.* 52.
Leaves cordate-ovate underneath, with the calyxes tomentoſe, peduncles elongated, flowers corymbed in a ſort of head.

98. Convolvulus capitatus.
Vahl ſymb. 3. 28.
Hiſpid, leaves cordate-ovate, flowers in a head.

99. Convolvulus hiſpidus.
Vahl ſymb. 3. 29.
Extremely hirſute, leaves cordate-ovate, flowers umbelled, peduncles very ſhort.

100. Convolvulus parviflorus.
Vahl ſymb. 3. 29.
Ipomæa paniculata. *Burm. ind.* 50. *t.* 21. *f.* 3.
Leaves cordate acuminate ſmooth, peduncles many-flowered, and calyxes acuminate villoſe.

101. Convolvulus violaceus.
Vahl ſymb. 3. 29.
Leaves and the two outer leaflets of the calyx cordate-ovate, acute, peduncles elongated bifid many-flowered.

102. Convolvulus triflorus.
Vahl ſymb. 3. 30.
Leaves cordate-lanceolate attenuated ſmooth obtuſe, peduncles three-flowered.

103. Convolvulus bifidus.
Vahl ſymb. 3. 30.
C. lævis mas. *Rumph. amb.* 5. 431.
β. C. lævis minor. *Rumph. amb.* 5. 431. *t.* 158.
Leaves cordate-oblong acuminate very ſoft underneath, peduncles bifid many-flowered.—in β, *lanceolate-oblong, ſmooth.*

104. Convolvulus triqueter.
Vahl ſymb. 3. 30.
Leaves cordate acute ſubvilloſe, peduncles many-flowered, ſtem three-keeled.

105. Convolvulus quinqueflorus.
Vahl ſymb. 3. 31.
Leaves ſagittate-ovate attenuated ſmooth crenate ſubrepand, peduncles moſtly five-flowered.

106. Convolvulus crenatus.
Vahl ſymb. 3. 31.
Tomentoſe-ſilky, leaves cordate-oblong extremely blunt crenulate, peduncles one-flowered.

107. Convolvulus quinquelobus.
Vahl ſymb. 3. 32.
Leaves palmate-five-lobed ſerrulate blunt ſmooth, axils tomentoſe, peduncles one-flowered, ſtem ſmooth.

108. Convolvulus venoſus.
Vahl ſymb. 3. 32.
Very ſmooth, leaves digitate-quinate, leaflets petioled acuminate quite entire, peduncles many-flowered.

109. Convolvulus tenuifolius.
Vahl ſymb. 3. 33.
Leaves digittate in fives, leaflets linear, peduncles four or five-flowered.

110. Convolvulus ſaxatilis.
Vahl ſymb. 3. 33. *Bocc. muſ.* 138. *t.* 96. & *part* 2. 79. *t.* 70. *Barrel. ic.* 470.
Campanula Lychnidea. *Bauh. hiſt.* 2. 803.
Lychnis ſylveſtris. *Dalech. hiſt.* 817.
Extremely hirſute, leaves linear, flowers in heads, calyxes acuminate.

DESCRIPTIONS, *&c.*

Stems herbaceous, milky, in the greater part twining, in a very few ſhrubby. Leaves alternate. Peduncles axillary or terminating, one-flowered, with two bractes, or many-flowered[a].

Gærtner remarks, that it is clear from the ſtructure of the ſeed, if from nothing elſe, that the genus *Convolvulus* cannot be referred to the natural order of *Perſonatæ* with Adanſon, or to that of *Campanaceæ* with Linneus; but to a particular family with Juſſieu, or elſe to the *Malvaceæ*, with which the ſpecies very frequently agree even in their leafing.

He deſcribes the ſeed as having a three-fold covering; the outmoſt very thin, adhering to the ſeed like black ſoot; the middle one cartilaginous, thin, of a brown-bay colour; the inmoſt membranaceous, doubled, with a farinaceous lamina. Albumen thin, farinaceous, extremely white, deſcending between the folds of the cotyledons, convertible by water into a pellucid jelly. Embryo the ſize of the ſeed, curved, yellowiſh: cotyledons leafy, turned and twiſted like a chryſalis: radicle roundiſh, inferior.

Of this very numerous genus, not above thirteen ſpecies are natives of Europe; the others are moſtly inhabitants of the warmer climes of Aſia and America. Very few of them are common in our gardens except the twelfth and the fifty-ſixth; vulgarly known by the names of *Convolvulus major* and *minor*. Mr. Miller has recited thirty-one ſpecies in the laſt edition of his dictionary; but ſome of theſe are only varieties, and he had not cultivated them all. No leſs than thirty-three ſpecies are mentioned in the catalogue of the royal garden at Kew. Scammony, n. 3. Jalap, n. 29. and Spaniſh Potatoes, n. 15. are the moſt remarkable plants. The two firſt ſorts (arvenſis and ſepium) are common weeds over the greateſt part of Europe.

1. Root perennial, milky, white, the thickneſs of a crow quill, creeping ſo as ſcarcely to be eradicated. Stalks numerous, ſlender, twiſted, procumbent, branched, frequently ſuffocating plants by twining round them. Leaves alternate, haſtate, ſmooth, running out into two points behind. Petioles ſhorter than the leaves, on the lower part convex, on the upper channelled. Bractes at a diſtance from the flower, and ſometimes a ſecond, or even a third flower proceeds from the boſom of them. Corolla elegantly variegated with red and white, ſometimes wholly white. Seeds angular and brown[b].—The filaments have ſeſſile glands ſcattered over them[c]. The claws of the ſtamens are bearded; and a ſaffron-coloured gland ſurrounds the germ[d].

The leaves vary ſomewhat in ſhape; and ſometimes are very narrow; hence the variety β.—The flowers alſo are ſometimes ſmall, and divided almoſt to the baſe; hence the variety γ. It flowers in june and july, in gardens and corn fields, and on dry banks.]

Mr. Miller ſays, it is generally a ſign of gravel lying under the ſurface. He adds, that the roots run very deep into the ground, whence ſome country people name it *Devil's guts*. [It is called in Yorkſhire *Corn-bind*, in other parts *Withwind*, *Bindweed*, *Barebind*, and *Hedge-bells*.

It is the peſt of gardens and arable land, and is infinitely more deſtructive than the next ſpecies, becauſe that keeps to the hedges for the ſake of climbing, whereas this wanders over whole fields, whence it cannot be rooted out but by repeated ploughings in dry weather, and burning the roots, every atom of which will grow as well as Quich, its rival in creeping.

The bloſſoms give a deep yellow or orange tincture to water, which is heightened by alum and alkalies[e].

2. Root perennial, white, the thickneſs of a gooſe quill, creeping and propagating itſelf exceedingly, ſo as not to be rooted out without great difficulty. Stalks numerous, twiſted, ſtriated, generally about ſix feet high, but advancing to ten or twelve, and ſomewhat branched. Leaves alternate, ſmooth, petioled, often brown at the edge. Corolla large, white. Nectary a yellow gland, ſurrounding the baſe of the germ. Capſule ſooty-coloured, pointed. Seeds angular, brown; the cotyledons folded up in a ſingular manner[f].

Ray obſerves that it varies with a fleſh and roſe-coloured corolla; and Linneus, that it has a fleſh-coloured corolla in America.—The filaments are hairy. The peduncles are ſhorter than the petioles; which are above two inches long, ſmooth, and furrowed above[g]. According to De Necker the peduncle is often double the length of the petiole: and there are globular pedicelled glands on the filaments.

It is eaſily diſtinguiſhed from the foregoing, by its ſuperior largeneſs in every part; the ſtalks thicker and ramping higher, the leaves three or four inches long, and two or three wide, the peduncles always one-flowered, with a wide double bracte or involucre cloſe under the calyx, commonly of a duſky purple colour, the corollas two inches wide, and milk white. It flowers from july to ſeptember, in hedges.

The inſpiſſated juice of the plant, in doſes of twenty and thirty grains, is a powerful draſtic purge. Can it then be worth while, ſays Dr. Withering, to import Scammony from Aleppo, when a medicine with the very ſame properties grows ſpontaneouſly in many of our hedges? The ſmallneſs of the roots, however, in our common Bindweed, would prevent its juice from being collected in the ſame manner with that which flows on inciſion from the large root of the Scammony, and which by hardening forms that purgative ſubſtance [h].

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[a] Juſſieu.

[b] Curtis. [c] Relhan. [d] Haller. [e] Withering.
[f] Curtis. [g] Haller, Pollich, Lyons in Relh. cant.

John Bauhin mentions that ſwine are fond of the roots, and will eat them in large quantities without being purged by them.

3. This is very like the foregoing, but the leaves are not brown about the edge. The peduncles are round, and bear two or three flowers; they are alſo longer than the leaves. The involucre is very ſmall, patulous, remote, not greater than the calyx, erect and approximating. The calyx is dilated on the ſides and emarginate, not round, and acuminate.] Corolla pale yellow. Seeds ſmaller than thoſe of the preceding ſort. Capſule three or four-celled. [Native of the Levant, and the woods of Cochinchina.

The roots are three or four feet long, and from nine to twelve inches in circumference, covered with a light-gray bark, tapering, branched at bottom, and containing a milky juice.

Martinelli, an apothecary of Venice, travelled into Syria, in order to procure the true Scammony, and ſent over the ſeeds, which were ſown, and grew at Padua and Antwerp. *Pena* 1561 *or* 1562.

Monſ. Richard, gardener to the King of France at Trianon and Verſailles, ſent the ſeeds to Mr. Miller in 1753; theſe he ſowed in the open ground, and they ſucceeded very well, producing flowers in june, july and auguſt, and ripening the ſeeds in ſeptember [i]. But it was cultivated before in 1596, by Gerarde [k].

Scammony is a gummy reſin obtained from the milky juice of the root, by clearing away the earth from the upper part of it, and cutting off the top in an oblique direction about two inches below where the ſtalks ſpring from it; then under the moſt depending part of the ſlope, a ſhell, or other convenient receptacle, is fixed for the juice to run into. This juice gradually hardening, is the genuine Scammony. It is brought from Aleppo and Smyrna. Scammony appears to have been well known to the Greek and Arabian phyſicians, who uſed it for various other purpoſes, as well as by way of a purgative. It is a ſtimulating Cathartic; but ſomewhat uncertain in its operation. The doſe is generally from three to twelve grains. It is frequently, and indeed generally employed in compoſition with other ingredients.

4. Root annual. Stem ſix feet high, even, two-angled from the decurrent ſtipules, but not ancipital. Leaves ſcarcely repand, quite entire, ending in a point the length of the leaf, paler underneath, and veined. Petioles half the length of the leaves, channelled above. Stipules ſmall, vertical. Peduncles two-cleft, two-flowered, ſhorter than the leaf. Calyx ovate, cloſe, without bractes. Corolla whitiſh, or having a ſhade of fleſh-colour, with a yellowiſh bottom, like that of *Convolvulus arvenſis*, but only half the ſize, and plaited. Stamens half the length of the corolla, with yellow anthers. Native of Siberia [l].

Introduced 1779, by Meſſrs. Kennedy and Lee. It flowers in july and auguſt [m].

5. Root annual. Stem ſix feet high, round, covered with a very fine meal. Leaves cordate or ſagittate, very obtuſe behind and emarginate, with a repand edge (ſcarcely eroſe) naked, wrinkled above, veined underneath, the ſinus of the baſe obtuſe, very acuminate, twice as long as broad. Petioles half the length of the leaves, mealy. Stipules ſcarcely any. Peduncles three-flowered, longer than the leaves. Calyx round, cloſe. Corolla three times the ſize of the calyx, ſomewhat fleſh-coloured, acute, five-cleft. Stigmas oblong [n].

Perennial. Native of Madeira. Flowering in may and june. Introduced 1777, by Mr. Francis Maſſon [o].

6. Allied to *C. reptans* (n. 58.). Stem twining, not rooting. Leaves lanceolate, ſmooth, acute, entire, dilated at the baſe into two recurved ears, ſomewhat toothed outwardly. Peduncles ſeldom two-flowered: Two lanceolate, acuminate bractes on the middle of the peduncle. Leaflets of the calyx ſagittate, as in *Campanula Medium*. Native of the Eaſt Indies [p]. Introduced 1778, by Mr. William Roxburgh. It flowers in july and auguſt, and is annual [q].

7. Stem filiform, ſimple, ſmooth. Leaves alternate, moſtly on one ſide, petioled, ſmooth; the middle lobe lanceolate, quite entire, acute, an inch in length; the ſide ones a little reflected, having one tooth behind, which is ſometimes ſhort, ſometimes half the length of the lobe; theſe are half an inch in length. Petioles filiform, reflected, ſmooth, three times the length of the leaves. Flowers axillary, ſolitary, on a peduncle the length of the leaf, filiform, ſmooth. Leaflets of the calyx ovate, acute, entire, ſmooth.—Native of Japan, where it is alſo cultivated. It flowers from may to july [r].

8. Root perennial, thick and long like that of a carrot. Stems very long and ſlender. Leaves various; the lower and upper entire, reſembling thoſe of the kidney-bean; the middle ſinuate, and ſome deeply angular: the upper leaves, and thoſe which ariſe from the axils of the larger ones are ſmooth, but the middle and lower leaves are covered with a fine lanugo, perceptible to the touch rather than the ſight. Peduncles long, ſlender, ſuſtaining from one to three flowers, large and white, with the bottom of a fine purple. Capſule two-celled and two-ſeeded. Seeds hirſute.—Native of Carolina, whence the ſeeds were ſent to Dr. Sherard, and cultivated in the Eltham garden [s].—Alſo in Virginia. It flowers from june to ſeptember.

9. Stems ſlender, reddiſh towards the root, and at the joints hairy. Leaves ſome entire and cordate, others like ivy leaves. Peduncles near an inch in length, with a few narrow bractes. Corollas pale purple, of the ſame form and ſize with thoſe of *C. arvenſis*. Capſule globular, hairy at top, two-celled, four-valved, with two ſmooth, brown ſeeds in each cell. Cultivated in the Eltham garden, from ſeeds ſent among rice from Carolina [t].

10. This differs from the next ſpecies, which it otherwiſe very much reſembles, in having the upper leaves, and ſometimes the lower entire, whereas in that they are all angular; the flowers alſo are much larger: they are ſolitary, on very ſhort peduncles; of a very elegant blue colour, with a whitiſh baſe. Calyxes hairy [u]. Capſule ſpherical, ſmooth, thin, three-celled, three-valved: there are two ſmall ſcars at the baſe of the central angle of the cells. Seeds two in each cell, convex on one ſide, angular on the other, attenuated towards the baſe, black and ſmooth [x]. It is an annual plant, and grew in the Eltham garden from ſeeds brought by a ſlave ſhip from the river Gambia in Africa. Some Bengal ſeeds produced a Convolvulus reſembling this, but having flowers only of half the ſize.

Another plant figured in t. 83. f. 96. from Mexico, is probably not different from this. The calyxes are remarkably rough, and marked with many black tubercles, as in the *purpureus*; the peduncles are four or five-flowered [y].

The peduncles, even of the fruits, are erect, according to Linneus, and are the ſame length with the petioles. Native of Aſia, Africa and America.]

11. This alſo is an annual plant, riſing with a twining ſtalk eight or ten feet high. Leaves woolly, ending in ſharp points, and on long petioles. Each peduncle ſuſtains two flowers of a very deep blue colour, whence its name of Anil or Nil (Indigo).

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[h] Curtis.
[i] Mill. fig.
[k] Hort. kew.
[l] Linn. mant.
[m] Hort. kew.
[n] Linn. mant.

[o] Hort. kew.
[p] Linn. ſpec.
[q] Hort. kew.
[r] Thunberg.
[s] Dillenius.
[t] Ibid.
[u] Ibid.
[x] Gærtner.
[y] Dillen.

[Linneus remarks, that the peduncles are very ſhort, and the fruits erect.]

This is one of the moſt beautiful of the genus. Some have ſuppoſed it to be only a variety of the twelfth ſort; but the leaves have three deeply divided lobes, whereas in the other they are entire. It flowers all the latter part of the ſummer, and in good ſeaſons the ſeeds ripen well in the open air.

[It is a native of America, and was cultivated before 1597, by Gerarde[z], but periſhed before it ripened its ſeeds. "He ſays, that it is called of "the Arabians *Nil*: of Serapio *Hab al Nil*: about "Alepo and Tripolis in Syria, the inhabitants call "it *Haſmiſen*: the Italians *Campana azurea*, of the "beautiful azured flowers, and alſo *Fior di notte*, "becauſe his beauty appeareth moſt in the night." This ſpecies is now rarely met with in our gardens[a].

12. Peduncles erect, but the pedicels of the fruit thickened and drooping; the calyx dotted-ſcabrous and hairy[b].] It is commonly known in the gardens by the name of *Convolvulus major*. There are three or four laſting varieties of it; the moſt common has a purple flower, but there is one with a white, a ſecond with a red, and a third with a whitiſh blue flower and white ſeeds. Theſe plants, if properly ſupported, will riſe ten or twelve feet high; they flower in june, july and auguſt, and will continue till the froſt kills them. Their ſeeds ripen in autumn.

[Native of America.

Sent out of Italy, and cultivated in England 1629[c].]

β. In Jamaica, where it grows naturally, this ſends out long branches, which twiſt about the trees, and riſe to a great height. The leaves are ſmooth, heart-ſhaped, ending in long points, the ears at the baſe are large and rounded, and the petioles are long and ſlender. The peduncles are long, each ſuſtaining three flowers: the corolla is of a deeper purple, and the tube is longer than in the other. It flowers from the end of june till the froſt deſtroys it.

[γ. Stems ſlender, with a tinge of duſky purple. Leaves ſomewhat hairy; peduncles two inches long, hairy, bearing one or two flowers on pedicels half an inch in length. Corolla bright blue, with a whitiſh baſe. Calyx warted and hairy, with ſome ſlender bractes at the baſe.—The leaves in this variety are only half the ſize of the firſt, and the flowers are much ſmaller; when the corolla fades it breaks into five pieces, which the other ſeldom does. Cultivated in the Eltham garden from ſeeds ſent by Bern. de Juſſieu, who received them from the banks of the Miſſiſippi[d].

δ. The leaves of this are ſmaller than f. 96. ſee n. 10. and the hairs ſo few and inconſiderable, that they appear to be ſmooth. The flowers are fewer, deeper coloured, and ſomething larger; the whole plant is leſs, and does not riſe ſo high, but the principal difference is, that the calyxes are not dotted.—It is lower, the leaves leſs and ſmooth, the flowers ſmaller than in the firſt of theſe, and of a violet colour.—It grew in the Eltham garden from ſeed that came among rice from Carolina[e].

Theſe varieties are all annual.

13. Stem pubeſcent. Leaves villoſe-ſcabrous. Native of Java[f].

14. Root annual. Stem round. Leaves exactly cordate, ſomewhat villoſe underneath, ſcabrous about the edge; the petioles ſubpubeſcent. Peduncles longer than the petioles, ſubpubeſcent, thicker at top and ſmooth; with two obſcure bractes. Corolla as in n. 10. but leſs, and different in colour[g].

Stems, according to Dillenius, many, ſlender, three feet high and upwards, ſmooth at bottom, but hairy at top. Corolla nearly the ſize of *C. arvenſis*, white with a tinge of yellow and a purple eye. Fruits reflected.—It grew in the Eltham garden from ſeeds ſent from Batavia; and flowered in auguſt[h].

Native of China, Cochinchina, Batavia, Ceylon and Surinam.

15. Stem round, perennial, hiſpid, proſtrate, creeping, putting forth ſcattered, oblong, acuminate tubers, purple or pale on the outſide. Leaves angular, on long petioles. Flowers purple, lateral, large, three or thereabouts together, on upright peduncles[i].

Native of both Indies, alſo of China, Cochinchina, &c. But it is affirmed, that it was unknown in the Philippine and Molucca iſlands before the Spaniards brought it there. In Amboina, Banda, Ternate, &c. the inhabitants add *Caſtela* to the name, as having derived it from the Caſtilians or Spaniards. Gerarde cultivated it in 1597. He calls theſe roots *Potatus*, *Potades*, or *Potatoes*, and ſays that they are by ſome named *Skyrrits of Peru*. He bought the roots at the exchange in London, and they flouriſhed in his garden until winter, at which time they periſhed and rotted. Neither he, nor Parkinſon, nor any of the old botaniſts were acquainted with the fructification, inſomuch that Cluſius could not learn whether this plant bore flower or fruit; and Marcgraaf affirmed that it had none. Ray ſagaciouſly conjectured the *Batatas* to be a *Convolvulus*. It came firſt into Spain from the Weſt-Indies or the Spaniſh Main. The roots are annually imported into England from Spain and Portugal. They were the common Potatoes of our old Engliſh writers, the roots which are now ſo generally cultivated among us under that name being then little known.

The roots of Battatas or Spaniſh Potatoes are ſweet, ſapid, and eſteemed nouriſhing. They are very commonly cultivated in all the tropical climates; where they eat not only the roots, but the young leaves and tender ſhoots boiled.

There are probably ſeveral varieties, if not diſtinct ſpecies of Battatas. Loureiro mentions one under the name of C. mammoſus: the Battata mammoſa of Rumphius amb. t. 131.—The ſtem is ſlender, twining, annual. Leaves cordate, repand, acuminate, ſmooth, with the ribs oblique. Flowers white, two or three on a peduncle. The roots are in bunches, pale brown, hairy, ovate-oblong, frequently acuminate, white within, of a tougher ſubſtance, but not ſo ſweet as the common ſort, yet more eſteemed among the natives.

Forſter (eſcul. p. 56.) mentions a ſecond, which he took for a variety, but Solander had named it C. chryſorrhizus; the root is large, and of a dark orange colour within. It is found not only in the South ſea iſlands within the tropics, but alſo in Eaſter iſland, and in the northern parts of New Zealand. See alſo n. 93.

16. Root annual. Stem round, hairy, branched at the baſe, of the ſame ſize as in *C. arvenſis*. Petioles round, hairy, ſhorter than the leaf. Peduncles rough with hairs, in pairs, approximating at the baſe almoſt into one, ſhorter than the petiole. Calyx five-leaved, the two outer leaflets cordate-oblong, the two inmoſt linear-lanceolate, the fifth ſemicordate. Corollas white, five-cleft, ſmall, the lobes three-cleft, the middle cleft ſmalleſt: tube ſhorter than the calyx. Stamens the length of the tube. Piſtill white, the length of the ſtamens: ſtigmas two, headed, purple. Native of China[k].

17. The corolla is bell-ſhaped, as in moſt flowers of this genus, not cut as in Plumier's figure. The leaves are cordate or ovate, with the edge ſomewhat repand and roughiſh. The flowers are blueiſh and ſmall: the peduncles ſhorter than the leaf, umbellate, but the lateral pedicels are often ſubdivided.—Native of America[l].

18. Stem herbaceous, twining, filiform, ſtiff, ſubdivided, pubeſcent, round. Leaves above two inches long, and as broad at the baſe, deeply cordate, lanceolate, angles of the baſe rounded, edge ſubrepand entire, ſubtomentoſe, dark green, hoary beneath; petioles three inches long, thickiſh, round. Flowers

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[z] Hort. kew.
[a] *Curtis.*
[b] Linn. ſpec.
[c] Park. parad.
[d] Dillenius.
[e] Ibid.
[f] Linn. mant.
[g] Linn. ſpec.
[h] Dillenius.

[i] Loureiro.
[k] Linn. ſpec.
[l] Ibid.

many, terminating on peduncles three inches long or more; partial peduncles three quarters of an inch in length, three-flowered, each flower on a pedicel much longer than the partial peduncles. Corollas yellow, the border plaited, obtuſely pentangular. Two leaflets of the calyx a little ſhorter than the reſt. Anthers whitiſh oblong. Germ oblong: ſtyle ſimple: ſtigmas two, globular. Capſule two-celled, with one ſeed in each cell, black, angular-roundiſh, velvet-villoſe [m].

Native of the Weſt-Indian iſlands. It flowers in june and july. Introduced 1774, by George Young, M. D. [n].

19. Stem perennial, twining, round, ſlender, villoſe. Leaves acuminate, quite entire. Peduncles one-flowered. Corolla bell-ſhaped, with a long tube, white, with a duſky purple baſe [o].

Native of the Eaſt-Indies and Cochinchina.]

20. Roots ſtrong, fibrous. Stems woody, branched, growing twenty feet high and more when ſupported. Flowers axillary, ſeveral on one peduncle, for the moſt part of a pale blue, but ſometimes white. It flowers in june, july and auguſt, and ſometimes ripens ſeeds here. Native of the Canary iſlands, [Cochinchina, &c.

Cultivated 1690, by the Dutcheſs of Beaufort [p].

21. This bears a great reſemblance to *C. purpureus*, but the ſtalk is very ſmooth, and has harmleſs prickles ſcattered over it. Leaves undivided. Peduncles uſually two-flowered. Corolla purple, more funnel-ſhaped than in *C. purpureus*. It is a different ſpecies from *Ipomæa bona nox.*—Native of Suratte [q]. It is annual; flowers in july and auguſt, and was introduced by Daniel Charles Solander, L.L.D. [r].

22. Stem ſmooth, keeled on each ſide from leaf to leaf, or winged with two decurrent membranes. Leaves three inches long, ſmooth, veined, obtuſe, quite entire, on petioles nearly the length of the leaf. Peduncles axillary, of the ſame length with the petioles, but thicker, bearing four or five flowers. Pedicels thickened, ſubumbelled, villoſe, as are alſo the peduncles. Two bractes at the baſe of the calyx, broad, ovate, membranaceous, mucronate, villoſe, deciduous. The two outer leaflets of the calyx ovate, villoſe on the outſide, ſmooth within, mucronate; the inner only half the ſize, oblong. Corolla twice as long as the calyx, bell-ſhaped. Stigma capitate [s].

Native of Ceylon and Java.]

23. Root perennial, having thick fleſhy tubers, ſpreading far in the ground, and abounding with a milky juice which flows out when they are broken or wounded, and ſoon hardens into a reſinous ſubſtance, when expoſed to the ſun and air. Theſe put forth many twining branches. The leaves are ſoft like thoſe of Marſh-Mallow. The flowers are produced at the joints on the ſide of the ſtalks, ſeveral together on the ſame peduncle: they are white, and ſhaped like thoſe of the common great Bindweed (n. 2.) They are ſucceeded by round capſules, having three cells, which contain two ſeeds in each.

[Stems quadrangular, winged. Leaves bluntiſh, ſometimes angular; petioles ſemicylindric, half the length of the leaf. Peduncles ſubcylindric, trifid; pedicels ſubuniflorous. Corolla white, ſcarcely twice as long as the calyx, bell-ſhaped, plaited, five-cleft. The two outer leaflets of the calyx are ovate and villoſe, hence probably Linneus attributes a two-leaved involucre to each flower; the three inner ones are ovate and ſmooth. Anthers ſpiral. Stigma globular-two-lobed. Capſule membranaceous, globular-depreſſed, two-celled, with one or two roundiſh, black ſeeds, angular on one ſide, in each cell.

Native of Malabar, of the iſland of Ceylon, and of the Society and Friendly iſles, and the New Hebrides in the South Seas [t].

Cultivated 1759, by Mr. Miller [u].

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[m] Swartz.
[n] Hort. kew.
[o] Loureiro.
[p] Hort. kew.
[q] Linn. mant.
[r] Hort. kew.
[s] Vahl.
[t] Forſter.
[u] Hort. kew.

24. Stem arboreous, at firſt erect, then twining, pubeſcent. Leaves large, with rounded lobes; obtuſe, ſmooth, on pubeſcent petioles. Flowers large. Calyx two or three-leaved, coriaceous. Native of the Eaſt-Indies [x].

25. Stem woody at bottom, then twining, and mounting to a great height. The whole plant very ſmooth. Native of Ceylon [y].

26. Stem arboreous, erect, then twining, round, pubeſcent. Leaves very large, hairy on the upper ſurface, covered with a white down on the lower, and ſhining like ſilver in the ſun-ſhine; the lobes rounded, and very obſcure. Petioles round and pubeſcent [z].

Native of the Eaſt-Indies.—Introduced 1778, by Sir Joſeph Banks, Bart. [a].

27. Stem filiform, ſmooth, ſimple. Leaves oppoſite, petioled, acuminate, quite entire, paler underneath, an inch or ſomewhat more in length. Petioles linear, ſmooth. Flowers ſolitary or in pairs, ſubſeſſile. Diviſions of the calyx lanceolate-ſetaceous, ſmooth, half the length of the corolla, which is purple. Native of Japan [b].

28. Native of Amboina, and the Society iſles.]

29. Root large, oval, full of milky juice. Stems many herbaceous triangular twining, eight or ten feet high. Leaves varying in ſhape, cordate, angular, or oblong and pointed; they are ſmooth, and ſtand on long petioles. Flowers ſhaped like thoſe of the common great Bindweed (n. 2.); reddiſh on the outſide, but dark purple within; probably varying in colour. Seeds covered with a very white down like cotton.

Native of South America, as at Xalapa between La Vera Cruz and Mexico. Dr. Houſtoun brought ſome of the roots to Jamaica, and planted them there, with a deſign of bringing this uſeful plant into cultivation; but they were neglected and loſt ſoon after he left the country.

[It was cultivated here a few years before 1768, by Mr. Miller: and was introduced into Kew garden in 1778, by Monſ. Thouin [c]. It is ſaid that the root was firſt brought to Europe about the year 1610.

The medicinal virtue of Jalap reſides in the reſin. The powdered root is the part uſed. It is in general a ſafe and efficacious purge; in large doſes it has been much celebrated as a hydragogue in dropſies. It is often preſcribed in a compound form, as with cream of tartar, &c. The doſe of the ſimple powder is commonly from one ſcruple to two.

30. Stem ſhrubby, ſmoothiſh. Leaves alternate, petioled, underneath ſhining, marked with lines, acute. Peduncles axillary, the length of the petioles, umbelliferous, uſually with five flowers; and with an ovate ſilky involucre. Calyxes extremely hairy.—Native of the Eaſt-Indies [d]. Loureiro ſeems to have made a new genus of this under the name of Argyreia.

31. Stem round, whitiſh, climbing twenty feet high. Leaves like the older leaves of ivy, an inch and half in length and breadth; petioles three quarters of an inch long. Flowers axillary, ſolitary; peduncles a quarter of an inch in length. Corolla of a fine purple colour, with five paler ſtreaks. Capſule ſpheroidal, acuminate, two-celled, with one black ſeed in each cell.—Native of Jamaica, China and Cochinchina [e].]

32. Root perennial, ſending out many weak twining ſtalks, about three feet high when ſupported, and if not, lying on the ground. Leaves of different forms, ſome almoſt like thoſe of Betony, and ſlightly cut on the edges, others almoſt heart-ſhaped and deeply cut, ſome to the midrib; they ſhine like ſattin, are ſoft to the touch, and ſtand on ſhort petioles. Peduncles very long, two-flowered, corolla pale roſe-colour. It flowers from june to auguſt, but rarely ripens ſeeds in England.

[Native of the Levant, county of Nice, &c.]

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[x] Linn. ſuppl.
[y] Ibid.
[z] Ibid.
[a] Hort. kew.
[b] Thunberg.
[c] Hort. kew.
[d] Linn. mant.
[e] Sloane & Loureiro.

β. This has many ſlender ſtiff ſtalks, twiſting about other plants to the height of five or ſix feet. Leaves divided into five or ſeven narrow lobes. Corolla pale roſe-colour, with five ſtripes of a deeper red. [This variety is more tender, the corolla ſmaller, the outer leaves of the calyx not hairy, and the leaves more denſely villoſe[f].

The plant in a wild ſtate has one-flowered peduncles[g].

Cultivated 1656, by Mr. John Tradeſcant, jun.[h]

33. The whole plant is ſmooth except the axils which are cloſely hairy. Leaves ſeven-cleft: clefts lanceolate, ending in a dagger point, the ſide ones ſhorter. There is a leaflet on each ſide at the baſe of the petiole, of the ſame ſtructure with the leaves on the ſtem. Peduncles twice as long as the leaf. The pedicels have two bractes about the middle. The calycine leaves are ſmooth and blunt. The corolla bell-ſhaped. The ſtigma capitate[i].

Native of Egypt. Introduced 1770, by Monſ. Richard. It flowers in june and july[k].

34. Stem herbaceous, angular, ſmooth and even. Leaves petioled, ſmooth and even; the leaflets lanceolate, ſerrate; the ſide ones gradually ſhorter. Stipules very like the leaves, only ſmaller. Petioles channelled, ſcabrous underneath. Peduncles axillary, compreſſed, ancipital or enſiform; with two minute bractes. Calyx rather oblong, acute, muricated. Corolla white, acute. Stigma blood-red.—The foregoing ſpecies has the leaves more pinnatifid and ſerrate: the corollas twice as big, and purple: the calyxes ſmooth and even: the peduncles filiform and panicled; the petioles filiform, but the ſtipules almoſt as in *C. copticus.* —Native of the Levant[l].

König ſent a plant under this name, and agreeing with this deſcription, except that the ſtems are only a ſpan high or ſhorter, proſtrate, not twining. Leaves rather palmate or five-lobed almoſt to the baſe. Peduncles ſcarcely compreſſed. Bractes like the leaves in form and ſize, only the diviſions ſomewhat narrower. Capſules large in proportion to the ſize of the plant.—Retzius doubts whether it be a diſtinct ſpecies[m].

35. Leaves divided to the midſt, the diviſions acuminate. Racemes two-parted. Calyxes villoſe. Native of the Eaſt Indies.

36. Leaves divided almoſt to the baſe. Calyx ſmooth.—Native of America[n].

37. Peduncles jointed, thickened, plaited.—Native of South America[o].

Annual. It flowers in july and auguſt. Cultivated 1752, by Mr. Miller[p].

38. It varies with three or five-lobed leaves.—In the ſands of Malabar[q].

39. Native of America.

40. Stem herbaceous, twining, filiform, round, hirſute. Leaves ſubpedate in fives, digitate, the two inner diviſions ſmaller, lanceolate, acute, ſerrate, nerved, veined, ſmooth on both ſides: petioles round, recurved, pubeſcent, ſhort. Peduncles axillary, ſolitary, twice as long as the leaves, three-flowered, erect, pubeſcent; pedicels one-flowered. Calycine leaflets oblong, permanent, ſmooth, pale, the three inner ones larger. Corolla bell-ſhaped, white, tube narrower at the baſe, ſwelling in the middle; border five-cornered, plaited, ſpreading. Capſule roundiſh, two-celled, two-ſeeded.—Native of Jamaica[r].]

Mr. Miller deſcribes it as having a woody ſtalk covered with a purple bark, and twining about trees to the height of thirty feet or more. Leaves deeply divided into five ſharp-pointed lobes. Flowers on long thick peduncles, which have a knee in the middle; they are very large, and of a purple colour. Capſules round, as large as a middling apple, divided into three cells, each containing two ſmooth ſeeds. It grows about Tolu in New Spain, whence the ſeeds were ſent by Mr. Robert Millar. [This muſt be a different plant.

41. Leaflets quite entire, pedicelled. Peduncles long, branching. Flower white. Two large bractes include the calyx. Two obtuſe ſtigmas. Capſules obtuſe. Annual.—Native of the Weſt Indies[s].

It flowers in auguſt and ſeptember. Cultivated 1759, by Mr. Miller[t].

The deſcription of C. pentaphyllus by Miller (dict. n. 12.) does not at all agree with the above.] He ſays it is perennial, and riſes with ſtrong winding ſtalks to the height of twelve or fourteen feet; that the leaves are divided into five lobes and ſtand on ſhort footſtalks; that the peduncles are long, each ſuſtaining two purple flowers; and that the ſtalks, leaves and every part of the plant, are cloſely covered with pungent ſtinging hairs, of a light brown colour. He received the ſeeds from Carthagena in New Spain.

[He gives Plumier's name in variety β. to his 8th ſpecies, which he calls *C. palmatus.*

42. Stems round, ſmooth, proſtrate, long, rooting, twining a little. Leaves elliptic, blunt with a point, quite entire, ſmooth, petioled, two inches long. Peduncles one-flowered, axillary, ſolitary, three inches long, with two oppoſite ſmall bractes at top. The three outer calycine leaflets ovate, acute, very large and looſe; the two inner much ſmaller, lanceolate, acute. Corolla white.

Native of Martinico[u].

43. Stem ſubflexuoſe, ſcarcely twining, the whole white with very ſhort ſhining hairs. Leaves oblong or lanceolate, ſeſſile. Stems branching at top, the branches horizontal, rigid, terminated by one, erect, ſmall, whitiſh flower. The rudiments of branchlets in the axils of the branch-leaves are changed into ſhort ſpines. It has the air of *C. Cneorum.*—Obſerved by Profeſſor Pallas on the ſandy hills by the river Irtis in Siberia[x].]

44. This is an annual plant, riſing about two feet high, with ſlender twining ſtalks. The flowers are ſmall, of a blueiſh colour, and have little beauty.

[The ſtem is very little or ſcarcely twining; uſually not at all[y].—Native of the South of Europe. It flowers in june, and was cultivated by Mr. Miller in 1739[z].

45. The herb of this ſpecies very much reſembles *C. tricolor,* but it is ſmaller. Leaves ſubpetiolate. Flowers axillary, on very ſhort peduncles. Bractes ſcarcely any, only there are frequently two obſcure ſcales. The corolla has the ſtructure of *C. lineatus,* but is only one-third of the ſize; it is blue with a yellow throat; the border almoſt five-parted, with acuminate diviſions.——Native of Majorca, and annual[a].

In a poor ſoil, it varies with ſimple, filiform ſtems, a finger's length, and ſomewhat hairy towards the top: the leaves narrow, but widening at the end, the upper ones linear and ſharp; the lower flowers peduncled, the upper ſeſſile; the calyxes ſomewhat hairy[b].

46. Stems from four to ſix inches high, proſtrate, flexuoſe. Leaves remote, narrower at the baſe, acute. Peduncles ſhorter than the leaf, with two bractes longer than the calyx. Calyxes ſomewhat leafy, not hairy, but obſcurely ſilky. Corollas very hairy on the outſide[c].] The flowers are produced on the ſide and at the top of the ſtalks, in ſmall cluſters, ſitting cloſe together; they are much ſmaller than thoſe of *C. Cantabrica* (n. 48.), but of a deeper roſe-colour. The root is perennial and creeping.

[Native of the coaſts of France, Nice, Spain, and Sicily. Cultivated 1714, by the Dutcheſs of Beaufort[d].]

47. Stems ſhrubby, upright, about three feet high. Leaves lanceolate, blunt, ſilky, placed cloſely on every ſide the ſtem; they are near two inches long, and a quarter of an inch broad. The flowers

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[f] Vahl. [g] Linn. [h] Hort. kew. [i] Vahl.
[k] Hort. kew. [l] Linn. mant. [m] Obſ. 2. 11.
[n] Linn. mant. [o] Linn. ſpec. [p] Hort. kew.
[q] Linn. [r] Swartz.

[s] Linn. [t] Hort. kew. [u] Jacquin. [x] Linn. ſuppl.
[y] Linn. ſpec. [z] Hort. kew. [a] Linn. [b] Vahl.
[c] Linn. ſpec. [d] Hort. kew.

are produced in cluſters at the top of the ſtem, ſitting very cloſe; they are of a pale roſe-colour, and come out in june and july, but do not perfect ſeeds in England.

[The ſtem is terminated with a four-leaved five-rayed umbel; the central peduncle one-flowered, leafleſs, the lateral ones four or five-flowered. Two bractes below the forks, and two under each alternate flower. Calyxes obtuſe, hirſute, as the bractes[e]. Native of Spain, Italy, Sicily, and the Levant.

Cultivated in 1739, in the botanic garden at Chelſea[f].

48. Root perennial, about the thickneſs of a quill, of a dirty brown colour, running deep into the ground. Stems ſeveral, annual, hirſute, round, half a foot high or more, ſlender. Leaves narrow oblong, thickiſh, pale green, hairy on both ſides, entire, alternate; the root-leaves blunter and narrowing into a ciliate petiole; ſtem-leaves acute and ſeſſile. Peduncles axillary, ſolitary, from one to three inches long, villoſe, ſuſtaining two or three flowers on ſhort pedicels. Calyx hirſute, divided into lanceolate acute ſegments. Corolla fleſh-coloured or pale roſe-coloured, with five broad red lines, which are hairy on the outſide. Anthers pale. Stigmas two filiform. Capſule ſmooth, roundiſh, two-celled, with two brown ſeeds in each cell[g]. It varies much in ſize (Mr. Miller ſays it is from two to three feet high), but it may eaſily be known by its ſtraight ſtem a little inclined, its villoſe white leaves and calyx, and pale purple flowers rolled in a ſpiral. It is fond of warm rocky ſituations[h].

Native of the South of Europe. Cultivated in 1743, by Mr. Miller[i].

49. Stem panicled. Leaves ſublanceolate, ſilky, on the upper branches ſmaller and fewer. Branches rigid, ſeldom dichotomous, terminated with flowers uſually ſolitary. Shrubby.—Native of the Levant[k].]

50. Root perennial, ſending up ſeveral erect branching ſtalks about two feet high. The flowers come out ſingly on the ſide of the ſtalks, ſeſſile, of a pale blueiſh colour, and ſpreading open almoſt to the bottom.

[It has the appearance of Broom, not of *Convolvulus*. Stem round, very ſmooth. Branches quite ſimple, erect, leafy. Leaves alternate, remote, ſhort, ſlender, erect. Racemes terminal, with the flowers moſtly on one ſide. Peduncles alternate, ſolitary, remote, moſtly three-flowered, ſeldom one-flowered, bracted. Corolla white, hairy on the outſide. The wood is white and hard, with radiating ſtreaks: when ſcraped it has the ſmell of Roſes; it has alſo a ſlight acrid taſte. *Qu.* whether it be the *Lignum Rhodium* of the ſhops?—Found about Santa Cruz, by Maſſon[l]. Mr. Miller ſays, it grows in Candia, and ſeveral iſlands of the Archipelago.

Native of the Canary iſlands. Cultivated 1768, by Mr. Miller[m].

51. This has the air of *Oenothera molliſſima*. Stems woody, round, reddiſh, ſomewhat glaucous. Leaves narrow, the length of the finger, lax, flat. Peduncles at the top of the ſtem, ſhort, angular. Bractes in pairs, recurved, ſubulate. Calyx conſiſting of five, acute, very ſmooth, ſomewhat ſpreading, hoary leaves, membranaceous about the edge. Corolla funnel-ſhaped, large, tawny-coloured.—Found at the Cape of Good Hope, by Sparmann[n].

52. This reſembles *C. Cneorum*. Stems woody, procumbent. Branches erect, ſtiff, hoary. Leaves petiolate, linear, entire, waved, veined, ſmooth. Peduncles from the axils of the upper leaves, branched continually, ſo as to form a large ovate or thyrſoid panicle. Flowers very numerous, ſmall. Leaflets of the calyx ovate, concave, acute. Corolla pale red, hirſute on the outſide[o].

Native of the Canary iſlands. Mr. Francis Maſſon. Introduced 1779. It flowers in auguſt and ſeptember[p].

53. Native of America, and New Caledonia.

54. Native of Virginia.

55. The whole plant is tomentoſe, like *Verbaſcum* or Mullein. The corolla is white.——Native of Perſia, on the ſhore of the Caſpian[q].

56. This is an annual plant, with ſeveral thick herbaceous ſtalks, about two feet long, not twining but bending towards the ground, upon which many of the lower branches lie proſtrate. Leaves ſeſſile. The peduncles come out juſt above the leaves at the ſame joint, and on the ſame ſide; they are about two inches long, each ſuſtaining one large open bell-ſhaped flower, of a fine blue colour with a white bottom, varying to pure white, and ſometimes beautifully variegated with both colours. The white flowers are ſucceeded by white ſeeds; but in the blue ones they are dark-coloured.

[Native of Barbary, Spain, and Sicily. (Mr. Miller ſays Portugal). Cultivated 1629, by Parkinſon[r]; who received the ſeeds (as he ſays) out of Spain and Portugal, from Guillaume Boel.

It is known among the ſeedſmen and gardeners by the name of *Convolvulus minor*.

[Mr. Curtis obſerves, that the whole plant with us is in general hairy, and hence that it does not well accord with Linneus's deſcription. Parkinſon's figure is very hairy, but Mr. Curtis's is perfectly ſmooth.]

57. Root perennial. Stems ſtrong, ſmooth, winding, extending wide, and putting out roots at the joints. Flowers large, ſulphur-coloured, on long peduncles from the ſide of the ſtalks, each ſupporting one flower, with a large ſwelling calyx. Capſule large, ſmooth, oval, three-celled, with one large ſmooth ſeed in each.—Native of America near the ſea. Mr. Miller received the ſeeds from Campeachy.

[Swartz deſcribes the ſtem as creeping, jointed, rooting, angular, compreſſed, ſubdivided. Leaves terminating, crowded, oblong, ſometimes bluntly ſagittate, entire, emarginate, ſcarcely veined, very ſmooth, ſomewhat ſucculent, on longiſh petioles. Peduncles from the axils of the terminating petioles, the length of the leaves, erect, one-flowered. Flowers rather large, whitiſh.—Native of the ſandy coaſts of Jamaica.

58. One of the ſmaller plants. Stem filiform, ſmooth and even. Leaves cordate, haſtate, ſagittate, with ears at the baſe recurved on both ſides, ſometimes toothed, ſmooth, acuminate. Peduncles two-flowered, ſhort, with pedicels longer than the petiole. Calyx rounded[s]. Corolla pale purple. Capſule ſmooth, two-celled, two-ſeeded.

Native of the Eaſt Indies, China and Cochinchina, where it is a common pot-herb[t].

59. This differs from *C. Batatas*, in having the leaves heart-ſhaped entire, three and five-lobed, not narrowed in the middle, ſo as to become ſagittate. The roots are often as big as the fiſt, tubercled, fleſhy like the Batatas, eſculent, very ſoft and ſapid. It flowers very ſeldom.—Japan, whither it was brought by the Portugueſe. Far from the coaſt it is not known[u].]

60. This is an annual plant, riſing with ſlender, ſtiff, twining ſtalks, eight or nine feet high. Flowers many together, at the end of ſtrong peduncles; corolla purple.

[A plant not large. Peduncles and ſtem rough with yellowiſh hairs ſtanding out. Leaves a little villoſe; the primary ones cordate-roundiſh, the ſecondary properly cordate, thoſe next the flowers often haſtate. Peduncles naked, longer than the leaves; the flowers alternate, pedicelled, with very ſmall lanceolate involucres to each pedicel. Found in the Eaſt Indies by Oſbeck[x].]

Mr. Miller ſays that the ſeeds were ſent him from Jamaica by Dr. Houſtoun.

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[e] Linn. ſyſt.
[f] Hort. kew.
[g] Jacquin.
[h] Vahl.
[i] Hort. kew.
[k] Linn. ſpec.
[l] Linn. ſuppl.
[m] Hort. kew.
[n] Linn. ſuppl.
[o] Ibid.
[p] Hort. kew.
[q] Linn.
[r] Hort. kew.
[s] Linn. ſpec.
[t] Loureiro.
[u] Thunberg.
[x] Linn. ſpec.

61. Roots ſmall, white, ſtringy, ſending out ſeveral weak trailing branches. Leaves the ſize of leſſer Celandine, alternate, on long petioles. The flowers are produced on the ſide of the branches at each joint; they are of a reddiſh purple colour, appear in july, and are ſucceeded by round capſules, having three cells, with one black ſeed in each. Every part of the plant abounds with a milky juice.

[Leaves ſometimes heart-ſhaped; in open ground the ſtalks are ſhort, and lie flat ſpreading in a ſemicircular form; but among buſhes it ſometimes grows to ſome length unbranched, and does not flower[y]. Two cordate-oblong, emarginate bractes, at the baſe of the flower, incloſing the calyx, and juſt longer than it. Calyx rather five-leaved; leaflets oblong, the innermoſt involving the fruit, and each ſucceſſively wrapping round thoſe beneath it[z].

Sea coaſts of Friſia; Piedmont; Carniola. Coaſt of Norfolk, frequent. Eſſex, Kent, &c. North coaſt, and Scotland.—Called *Scottiſh Scurvy-graſs*, and improperly *Sea Colewort.*

Half an ounce of the juice, or a dram of the powder is an acrid purge. The leaves applied externally are ſaid to diminiſh dropſical ſwellings of the feet[a].

62. Stem ſuffruticoſe, procumbent, creeping, ſomewhat villoſe, red, long, leaves blunt at both ends, often two-lobed-pandurate, emarginate, thick, tomentoſe. Flowers axillary: corolla purpliſh[b].

Native of the Eaſt Indies, China and Cochinchina, and the eaſtern coaſt of Africa. Introduced 1770, by Monſ. Richard. It flowers in june and july, and is annual[c].]

63. Stems perennial, trailing and ſpreading to a great diſtance. Flowers large, purple, produced by threes on very long peduncles. Capſules large, oval, three-celled, with one ſeed in each cell.

Native of South America and the Weſt India iſlands, near the ſhore.

[Browne ſays that it is common near the ſea in Jamaica; that the leaves are beautifully veined; that the whole plant is very milky; and that the root is a ſtrong purgative, ſometimes uſed with ſucceſs in hydropic caſes. He calls it *purging Sea-bindweed.* Introduced before 1726, by Mark Cateſby[d].

64. Leaves ſomewhat hairy, lower cordate, upper obtuſe. Flowers in threes, parallel, ſeſſile. Involucre ſix-leaved. Corolla large.—Native of the Eaſt Indies. Annual[e].

65. Native of America.]

66. This riſes with a ſtrong winding ſtalk to the height of twenty feet, dividing into ſeveral ſmaller. The flowers are large, purple, on long peduncles; and are ſucceeded by large roundiſh ſeed-veſſels, having three cells, in each of which is lodged a ſingle ſeed. It grows naturally at La Vera Cruz in New Spain, whence the ſeeds were ſent by Dr. Houſtoun.

67. This riſes with a ſlender twining ſtalk ten feet high. The flowers are produced in ſmall cluſters on long peduncles; they are yellow, and are ſucceeded by three-cornered ſeed-veſſels, having three cells, with two ſeeds in each. It is an annual plant. The ſeeds were ſent from Carthagena in New Spain, where this plant grows naturally.

68. This alſo is an annual plant, with twining ſtalks riſing ſeven or eight feet high. The flowers come out at every joint on long ſlender peduncles, each ſupporting a large purple flower, with the calyx cut almoſt to the bottom into ten parts. It was ſent from the iſland of Barbuda.

69. Stalks ſlender twining, eight or ten feet high. Leaves ſhaped like thoſe of Convolvulus ſepium, n. 2.; but the peduncles, which are pretty long, have many purple flowers on each, growing in bunches. Capſules three-cornered, three-celled, with one ſeed in each cell. It is an annual plant, and grows naturally in Jamaica.

[This ſeems to be the ſame with C. umbellatus, n. 18. The ſame figure of Plukenet is referred to by Mr. Miller here and by Linneus there; but Sloane ſays, the flowers are yellow.]

70. This riſes with a very ſlender twining ſtalk four or five feet high. The flowers are blue. It is an annual, and the ſeeds were ſent to Mr. Miller from Jamaica, where it grows naturally.

[It may be doubted whether this be the ſame with the hederaceus of Linneus, n. 10.]

71. Stalk twining, ſeven or eight feet high. Leaves on very long petioles, and flowers on long peduncles. Seeds large, and covered with a fine down. This alſo is an annual plant, and one of the moſt beautiful ſorts, the flowers being very large, and of a fine roſe colour. It grows naturally in Jamaica, whence the ſeeds were ſent to Mr. Miller by Dr. Houſtoun.

72. Stalk ſlender, twining, five or ſix feet high. Flowers on long ſlender peduncles. Corollas white with purple bottoms. It grows naturally in Africa, whence the ſeeds were ſent to the royal garden at Paris, and thence to Mr. Miller in 1730.

[73. Native of New Zealand.

74, 75. Natives of the iſland of Tanna in the South Seas[f].

76. This is an annual, and a native of the Eaſt Indies. It flowers in july and auguſt, and was introduced 1778 by Sir Joſeph Banks, Bart.[g]

77. Stem large, ſhrubby, branched, ſcandent, ſmooth. Leaves alternate, petioled. Flowers yellow, large. Peduncles many-flowered. Corolla bell-ſhaped. Anthers filiform, ſpiral. Capſule two-celled, two-ſeeded. Native of the woods of Cochinchina.

78. Stem twining, perennial, round, extremely hairy, branched. Lobes of the leaves ovate, ſharpiſh, quite entire. Flowers white, large, axillary: common peduncle long, ſolitary; proper none. Common calyx twelve-leaved, bell-ſhaped; leaflets ovate-oblong, unequal, hairy, containing about ten ſeſſile florets. Calycine leaflets lanceolate, hairy, upright. Corolla tubular, five-cleft; ſegments acute, hairy, cloſed. Anthers bifid at the baſe. Style longer than the corolla: ſtigma capitate. Capſule two-celled, two-ſeeded. Seeds round on one ſide, angular on the other. Native of Cochinchina[h].

79. Stem twining, hairy. Leaves remote, quite entire, ſmooth on the upper, villoſe on the lower ſurface, ears rounded, having ſometimes one tooth behind: petiole only half the length of the leaf. Peduncles ſhorter than the petiole, villoſe. Calyxes hairy, with acuminate leaflets, patulous at the tip.

Native of Arabia.

Its place is between the 7th and 8th ſpecies.

80. Stem ſhrubby, erect, branched at bottom. The branches as they grow old become ſpiny, leafleſs, barren, ſubvilloſe. The flowering branches proceed from the baſe of theſe, are quite ſimple, a ſpan and more in length, erect, round, unarmed, rigid, towards the end flexuoſe and covered with a very ſoft ſhagginefs. Leaves alternate; the lower ones lanceolate, attenuated at the baſe, ſometimes ſeveral, heaped at the exit of the branches from the ſame point, unequal: the upper ones lanceolate-linear, ſeſſile, acute: the floral ones a little broader than the reſt, all thickiſh, veinleſs, tomentoſe but not ſhining like ſilk. Peduncles almoſt from top to bottom from all the axils, ſolitary, half the length of the leaf, many-flowered. Flowers ſix to eight, ſeſſile. Involucre ſix-leaved, the length of the calyx: the three outer leaflets ovate, acute; the three inner lanceolate: all on the outer ſide, together with the peduncles and calyxes, extremely hirſute with long, very ſoft, ſhining hairs: on the inner ſide only ſomewhat hairy. Two bractes beneath each flower. Calycine ſegments linear. Corolla bell-ſhaped, hairy on the outſide, the colour of C. Cneorum. Filaments unequal: anthers linear. Style bifid, with filiform ſegments: ſtigmas acute.

It differs from C. Cneorum in the older branches becoming ſpiny, and in having axillary flowers.

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[y] Woodw. mſs.

[z] Stokes in Withering.

[a] Withering.

[b] Loureiro.

[c] Hort. kew.

[d] Ibid.

[e] Linn. ſuppl.

[f] Forſter.

[g] Hort. kew.

[h] Loureiro.

Conv. ſpinoſus of the ſupplement is diſtinguiſhed from this in having the branches and leaves ſilky with minute hairs, the ſpines axillary, and the peduncles one-flowered towards the top. Conv. ſericeus of Burmann, *ind.* 49. *t.* 19. *f.* 3. probably is the ſame with this. Native of the lower Egypt and mount Sinai.

81. This is a rigid ſhrub, very much branched, diffuſed, and a foot high; the branchlets ſomewhat ſilky. Leaves ſeſſile on the branches and branchlets, ſcattered, ſilky, entire, ſmall. Flowers from the lower axils of the branchlets, commonly ſolitary, ſeldom two together. Two oblong, ſharpiſh bractes at the baſe of the calyx, a little broader at the end and reflex. Calycine leaflets hirſute, the two outer oblong, rigid, larger than the reſt. Corolla hirſute, ſmall. Stigmas two, capillary.

Native of Arabia.

The place of theſe two is between the 45th and 46th ſpecies.

82. Leaves remote, erect, oblong, cordate at the baſe with two ſmall rounded lobes on each ſide, but ſometimes entire, thickiſh, ſmooth, nerved: petiole longer than the leaf. Peduncles axillary, ſolitary or ſometimes in pairs, the length of the petioles; towards the top there is a lanceolate leaf. Calyx ſmooth, with oblong leaflets. Stigma not bifid, but capitate. Corolla and habit of Conv. Soldanella.

Native of the ſandy ſea ſhore near Naples, at Bagnoli; flowering in auguſt and ſeptember.

83. The whole plant is ſmooth. Stems filiform, purpliſh, flexuoſe. Leaves heaped, veinleſs, paler underneath: petiole longer than the leaf. Peduncles in pairs or ſolitary, axillary, equalling the petiole. Calycine leaflets equal, oblong, ſubmembranaceous. Tube of the corolla a little enlarged gradually at top. Stigma capitate.

The appearance is the ſame as in the foregoing but it is ſmoother, the leaves are ſeveral heaped together, and the ſtem decumbent, but it differs principally in its tubular corollas, but not bell-ſhaped, as in C. Imperati.

Native of the Azores iſlands.

The place of theſe two is between the 60th and 61ſt ſpecies.

84. This is wholly ſmooth, and allied to C. ſepium. Leaves acute, on a petiole the length of the leaf. Peduncle ſhorter than the petiole, thicker, bracted towards the middle, thicker under the flower. Calycine leaflets oblong, the two outmoſt ſmaller, all ſubretuſe, mucronate. Corolla of C. ſepium. Stigma capitate.

It varies with ovate leaves, having ſtraight ſhorter rounded lanceolate ears, or a little divaricate and lanceolate on the ſame plant. Conv. ſepium differs with ſubangular ears, four-cornered peduncles, and large cordate bractes at the baſe of the calyx.

Native of Spain, by the lake Albufeda in the kingdom of Valencia.

The place of this is between the 2d and 3d ſpecies.

85. Stem herbaceous, twining, pale, with plenty of ferruginous hairs ſcattered over it. Leaves on ſhort petioles, ſharp, with two-toothed ears. Peduncles axillary, ſolitary, with three ſpreading pedicels at top; both hairy. Two lanceolate bractes at the baſe of the pedicels, and two ſimilar ones on each lateral pedicel towards the flower; the middle pedicel ſhorter, without any bracte. The three outer leaflets of the calyx very hirſute, ovate, acuminate. Corolla almoſt like that of Scammony, yellowiſh, having on the outſide a lanceolate purpliſh line with a pile of yellow hairs to each lobe of the border. Style bifid. Probably native of the Levant.

86. Stem twining, herbaceous, round. Leaves rounded at the end, mucronate, gradually wider towards the baſe; the ears rounded behind. The petiole only one-fourth of the length of the leaf. Peduncle the ſame length with the leaves. One of the pedicels ſhorter and thicker, with two bractes at the baſe, the other longer with two briſtle-ſhaped bractes in the middle. Calycine leaflets ovate, acute; the outer ones more villoſe. Corolla villoſe on the outſide. Style bifid. Capſule ſmooth, globular.

Native of America.

87. Stem twining, rooting at bottom, muricated upwards with little ſpines, and having minute hairs thinly ſcattered over it at top, even. Leaves thickiſh, veinleſs, ſmooth; the lower ones an inch and half long, lanceolate-oblong, acute at the baſe; the upper ones on ſhorter petioles, an inch in length, lanceolate, rounded at the end, mucronate. The lower petioles a little ſhorter than the leaf. Peduncles ſolitary, with two minute bractes above the middle, ſomewhat villoſe at top. Calycine leaflets ſmooth, the three outer acute, mucronate, the length of the corolla, nerved; the two inner linear-lanceolate, attenuated, the ſame length with the outer ones. The corolla has five lines on the outſide, which are cloſely beſet with fulvous, ſhining hairs. Stigma capitate. Capſule ſmooth, ſhorter than the calyx.

Native of the Eaſt Indies, where it was obſerved by Koenig.

The proper place of theſe three is between the 5th and 6th ſpecies.

88. Stem herbaceous, filiform, twining, branched. Leaves on very ſhort petioles, diſtant, two inches and more in length, quite entire except at the baſe, veined, tender, very ſmooth, a little narrowed both ways; the ears having three or four mucronate teeth on each ſide. Peduncles axillary, filiform, one-flowered, thickened at top. Bractes in pairs, oppoſite, ſubulate, above the middle of the peduncle. Calycine leaflets oblong, mucronate, ſmooth. Stigma ſimple, bluntiſh.—It is nearly allied to Evolvulus tridentatus.

Native of Guinea, and found there by Iſert.

89. Stem filiform, twining, ſmooth, branched. Leaves petioled, an inch or rather more in length; ears lanceolate, acute, ſometimes ſtraight. ſometimes a little reflex, uſually quite entire, but having, though very ſeldom, an obſcure toothlet behind. Peduncles filiform, a little longer than the leaf, having two ſhort briſtle-ſhaped bractes in the middle. Leaflets of the calyx equal, oblong, ſmooth. Corolla bell-ſhaped, ſmooth. Stigma bifid.—Native of the Eaſt Indies.

It differs from C. japonicus in having a branched ſtem, blunt leaves with the ſide-lobes ſcarcely a quarter of an inch in length, and the calycine leaflets rounded at the end and mucronate, not acute.

The proper place of this and the foregoing ſort is between the 6th and 7th ſpecies.

90. Stem twining, round, ſmooth. Leaves ſcarcely an inch long, ſubcordate at the baſe; the middle lobe lanceolate and quite entire, the ſide ones roundiſh, unequally four or five-toothed: petioles filiform, ſhorter than the leaf, often ſubmuricate towards the baſe. General peduncles ſpreading, thicker and a little longer than the petiole; partial peduncles in threes, the middle one-flowered, the ſide ones with two or three pedicelled flowers: both muricate, rigid. Calycine leaflets oblong, obtuſe, mucronate: equal.

Native of the Eaſt Indies: found by Schumacher.

Its proper place is between the 7th and 8th ſpecies.

91. Stem herbaceous, twining, with ſhort hairs thinly ſcattered over it. Leaves two inches long, ſmooth, veined underneath; the middle lobe lanceolate, attenuated, quite entire, mucronate, the ſide ones broader, rounded upwards, entire, or retuſe-ſublobate outwards, the lobes roundiſh: petioles ſhorter than the leaf, pubeſcent. Peduncles the length of the leaf, ſolitary. Two oppoſite, lanceolate, acute bractes a little below the calyx. Calyx pubeſcent, the two outer leaflets much broader than the inner ones, oblong, bluntiſh, nerved, pubeſcent: the latter incloſed by the former as between two bractes, lanceolate and a little ſhorter. Corolla villoſe on the outſide, tender, ſilky, with a five-cleft border. Stigma capitate, two-lobed.—The form of

the leaves is nearly the ſame as in C. platanifolius, but the ears are not toothed only retuſe on the ſides, the peduncles are one-flowered, not two or three-flowered; but it differs chiefly in having the two outer leaflets of the calyx broad.

Found in the Eaſt Indies by Koenig.

92. Corolla white with a violet purple baſe, hairy on the outſide. The bractes, calyx, and corolla as in the foregoing ſpecies; from which however it differs in having a villoſe ſtem; leaves cordate at the baſe, acute, mucronate, not attenuated, nearly equal in length and breadth, one, two or three-lobed at bottom, villoſe on both ſides, very ſoftly villoſe, hoary and obſcurely veined underneath, the younger ones ſilky; and the peduncles longer.

Found in the Eaſt Indies, by Schumacher.

93. The whole plant quite ſmooth, except the petioles. Stem round. Leaves two inches long and more, glaucous-green underneath, with purpliſh veins; lobes lanceolate, the middle one longer, broader, quite entire, acuminate; the ſide ones narrower, attenuated, with a ſmaller, broader lobe at bottom without on each ſide, having an angular tooth, and being rounded behind. Petioles ſhorter than the leaf, beſet with a few ſcattered hairs. Peduncles ſolitary, ſhorter than the leaf; the lower three-flowered, the middle two-flowered, the uppermoſt one-flowered, thickened at top. Calycine leaflets oblong, ſubmembranaceous, ending in a briſtle. Stigma capitate. It differs altogether from Conv. Batatas in the ſmoothneſs of the ſtem, and the form of the leaves.

Native of America.

94. Stem twining, with a few minute hairs ſcattered over it, preſſed cloſe to it, and viſible only with a magnifier. Leaves four inches long, three inches or more wide at the baſe, three-lobed or entire, very ſmooth, nerved, a little paler underneath, ſharp, quite entire, the ſide-lobes lanceolate, the middle one ovate, attenuated: petioles longer than the leaf. Peduncles axillary, the length of the petioles. Flowers about five, alternate: pedicels an inch and half long, a little thicker under the leaf. At the baſe of each pedicel a lanceolate attenuated bracte, very finely nerved and ſmooth. Calycine leaflets lanceolate, attenuated, tender, very finely nerved, quite ſmooth, the two inner ones a little ſhorter. Corolla large, bell-ſhaped, purple with a pale baſe, with five paler, lanceolate, attenuated rays, running to the edge. Stigma capitate.

Native of the iſland of Santa Cruz, in the Weſt Indies.

The four laſt have their place between the 7th and 8th ſpecies.

95. Stem twining, tender, pubeſcent at top. Leaves an inch long, obſcurely ſeven-nerved, a little acuminate, blunt with a ſmall point, the upper ſurface thinly villoſe when viewed with a magnifier, paler and more villoſe underneath: petioles the length of the leaves. Peduncles the length of the petiole, thickened at top, two-flowered, ſeldom one-flowered: pedicels a little ſhorter than the peduncle; one ſhorter, thicker, without any bracte, the other more tender, with two bractes in the middle, both turned back when ripe. Calycine leaflets oblong, obtuſe, ſcarcely appearing hairy with a magnifier; when fruit-bearing ſmooth. Corolla bell-ſhaped, ſix times as large as the calyx, ſmooth. Stigma capitate.

Native of the iſland of Java.

96. Stem herbaceous, twining, pubeſcent, round, ſlender. Leaves two inches long, remote, quite entire, with a rounded mucronate point, ſmooth on both ſides except the rib, ſimply veined: petioles the length of the leaves, pubeſcent. Peduncles ſolitary, pubeſcent: pedicels in threes, the ſide ones jointed, one of them often two-flowered; the middle one ſhorter, a little thicker, without any bracte. On the lateral pedicels at the joint are two bractes which are oblong, concave, ſmall, villoſe, deciduous. Calycine leaflets oblong, obtuſe, equal, concave; the two outer villoſe and ſomewhat hoary. Corolla bell-ſhaped, twice as long as the calyx, white with a duſky purple baſe, with five lanceolate paler rays above running to the edge with five deeper coloured ſtreaks. Stigmas capitate, two-lobed.

Found by Koenig in the Eaſt Indies.

97. Stem twining; branched round, purpliſh, villoſe, rugged. Leaves two inches long and more, quite entire, veinleſs, nerved, on the upper ſurface appearing ſubvilloſe to a magnifier, on the under very ſoft with a cloſe pile; petiole only half the length of the leaf. Peduncles axillary, a ſhort ſpan in length, round, villoſe, rugged, floriferous at top. Pedicels very ſhort, branched, faſtigiate. At the baſe of the head of flowers is a lanceolate leaf on each ſide. Bractes linear, the length of the calyx. Calycine leaflets linear-lanceolate, hairy-tomentoſe, as are alſo the bractes. Lobes of the corolla acuminate. Stigmas two, reflex.

Native of Cayenne.

98. The whole of this plant is hiſpid, eſpecially the branches towards the top, the involucres and calyxes; the hairs are long, diſtinct, placed on minute dots, of a dirty white colour. Stem twining, herbaceous, rugged. Leaves from two to three inches long, acute, ciliate, paler underneath, obſcurely nerved: petiole a little ſhorter than the leaf. Peduncles axillary, ſolitary, a little ſhorter than the leaves, without any joint. Flowers five ſeſſile, collected into a head. Involucres five-leaved; leaflets the length of the calyx, oblong, acute, ſmooth within. Calycine leaflets ovate-lanceolate, acuminate, ſmooth within, one-third only of the length of the corolla; which is hiſpid on the outſide with long hairs arranged in five lines. Stigma capitate, Capſule ſubglobular, ſhorter than the calyx, with a very even ſurface and ſmooth.

It differs from Ipomæa tamnifolia of Linneus in its large corollas hiſpid on the outſide, not minute and ſmooth as in that, and in the calycine leaflets being ovate not linear-lanceolate: it alſo comes from a different country. I. tamnifolia of Burm. ind. may perhaps be the ſame with this ſpecies of Convolvulus.

Native of the Eaſt Indies. Found by Koenig.

99. The whole of this plant is rough with hairs. Stem twining. Leaves from two to three inches long, attenuated, quite entire, a little paler underneath. Petiole only half the length of the leaf. Pedicels umbelled, the length of the peduncle. Calycine leaflets lanceolate, attenuated, ſmooth within, lax. Corolla ſmooth. Stigma capitate. It is eaſily known from the other ſpecies with entire leaves by its ſhaggineſs.

Native of the Eaſt Indies: obſerved by Dahl.

100. Stem weak, ſlightly villoſe at top. Leaves an inch long: petiole the length of the leaf, villoſe, filiform. Peduncles the length of the leaves, filiform: pedicels umbelled; the lateral ones ſomewhat branched. Calycine leaflets ovate, acuminate, ſmall. Corolla blue, ſmooth, twice as long as the calyx, five-cleft. Stigma bifid, with the ſegments revolute.

Native of Java.

The proper place of the ſix laſt plants is between the 15th and 16th ſpecies.

101. The ſtem, together with the petioles, peduncles and calyxes villoſe. Leaves an inch long, a little acuminate. Peduncles three or four times longer than the leaf, bifid: partial peduncles three or five-flowered. Bractes linear-lanceolate at the baſe of the partial peduncles. Calycine leaflets tender, the two outer cordate, one lanceolate, the two inner ſubmembranaceous, ſmooth, only half the ſize, mucronate. Corolla bell-ſhaped, violet with five lanceolate paler rays. Stigmas two reflex.—It varies with ſmoother and hairy leaves.

Native of the iſland of Santa Cruz.

This comes in between the 16th and 17th ſpecies.

102. Stem herbaceous, twining, ſmooth. Leaves two inches long, quite entire, ſimply veined, the veins underneath villoſe when examined with a magnifier; the under ſurface is paler; they are rounded at the end and mucronate; the lobes are

rounded behind, and are ſometimes, but ſeldom, obſcurely angular. The petiole is ſhort. Peduncles ſhorter than the leaf: pedicels angular, without bractes, thickened towards the top, equal, almoſt the length of the peduncle. Calycine leaflets blunt. Corolla three times as long as the calyx; lobes hairy at the tip. Stigma capitate.

Native of the Eaſt Indies: obſerved by Koenig.

103. Stem twining, villoſe. Leaves from two to three inches long, an inch or rather more wide at the baſe, mucronate, frequently ſomewhat villoſe on the upper ſurface, hoary and very ſoft on the under. Petiole one-third of the length of the leaf, hoary. Peduncles axillary, ſolitary. Pedicels very many, ſubumbelled; with minute ſcales at the baſe inſtead of bractes; they are oblong, ferruginous and deciduous. Calycine leaflets pubeſcent at the baſe, rounded at the tip, equal. Corolla almoſt funnel-ſhaped, three times as long as the calyx, with five ſlender villoſe lines on the outſide: lobes acute, bearded at the tip. Stigma capitate, two-lobed. Capſule ovate, ſtriated, ſmooth.—It has the habit of Conv. umbellatus, but has ſmaller, narrower leaves. The variety differs ſcarcely in any thing elſe but in its ſmoothneſs, and the leaves being ſtill narrower.

Native of the Eaſt Indies, and the iſland of Java.

Its place is between the 17th and 18th ſpecies.

104. Stem pubeſcent, rendered triangular by three ſubfoliaceous very ſlender decurrent lines. Leaves two inches long and more, each ſurface has hairs ſcattered over them, which are preſſed cloſe, on the upper ſurface they are not to be ſeen without a magnifier, but on the lower they are more apparent. Petiole villoſe, ſhorter than the leaf. Peduncle the length of the leaves, three or five-flowered: lateral pedicels two-flowered, the middle one one-flowered, ſhorter; they gradually thicken towards the top. Bractes at the baſe of the pedicels, ovate, concave, tender, acute, mucronate, coloured, deciduous, pubeſcent. The two outer calycine leaflets bracte-ſhaped, ovate, acute, mucronate, ſilky: the inner ones ſmooth, ſhorter, rounded at the tip. Stigma capitate.—This is very nearly allied to Conv. anceps, but the leaves are not blunt, and the wings on the ſtem are only one-third of the width.

Native of the iſland of Santa Cruz.

Its proper place is between the 20th and 21ſt ſpecies.

105. Stem ſlightly pubeſcent, round, branched. Leaves tender, hoary; the lower an inch and half long, broader, ſagittate-ovate, crenate-ſubrepand; the upper two inches long, narrower, more attenuated, obſcurely crenate; ears ſtraight, ſubtruncate behind, one-toothed. Petiole ſhorter than the leaf. Peduncles the length of the leaves, pubeſcent, moſt of them five-flowered, but the uppermoſt three-flowered: pedicels in threes, umbelled, the lateral ones on the lower peduncles bifid. There are two linear bractes at bottom on the lateral pedicels, but there is none on the middle one. Calycine leaflets oblong, blunt, mucronate, ſomewhat villoſe. Corolla twice as long as the calyx, with the lobes bearded at the tip. Stigma bifid.—Suppoſed to be a native of the iſle of Bourbon.

106. Stem twining. Leaves nerved, mucronate; ears ſtraight, oblong, obtuſe. Petiole one-third of the length of the leaf. Peduncles ſolitary, the length of the leaves, having a pair of briſtle-ſhaped bractes towards the tip. Calycine leaflets oblong, ſharpiſh, almoſt equal; the two inner ones ſmooth. Corolla half as long again as the calyx, marked on the outſide with five lanceolate, villoſe, ſilky lines; the lobes bearded at the tip. Stigma ſlightly bifid.—Suppoſed to be a native of Braſil. Both theſe were collected by Monſ. Thouin; and their place is between the 30th and 31ſt ſpecies.

107. Stem round, twining. Leaves five-lobed; lobes oblong, the middle one ſcarcely an inch in length, the lateral ones gradually ſmaller and narrower, ſmooth, nerved, very finely veined, mucronate, appearing very neatly ſerrulate when viewed with a glaſs. Petioles filiform, an inch long. In the axils are two ſmall petioled leaves, of the ſame ſtructure with thoſe on the ſtem, almoſt as in Conv. cairicus. Peduncles the length of the petioles, filiform, a little thickened at top, without any bractes. Calycine leaflets oblong, obtuſe, ſmooth. Corolla almoſt bell-ſhaped, ſmooth, purple. Stigma capitate, two-lobed. It is allied to C. cairicus, but has ſmaller five-cleft leaves with blunt lobes, and one-flowered peduncles.

Native of the iſland of Santa Cruz.

Its place is after the 32d ſpecies.

108. Stem twining, round, ſmooth. Leaves petioled, digitate: leaflets five, the middle one ſubovate, two inches long or a little more, the lateral ones gradually ſmaller and narrower, all ending in a long point, ſharp at the baſe, quite ſmooth on both ſides, veined. Peduncles longer than the leaf, round, ſmooth. Peduncles umbelled, the lateral ones divided, a little thicker below the flower; at their baſe an ovate-cordate, acuminate, ſolitary leaf. Calyx ſmooth; the leaflets ovate, membranaceous at the edge, two large. Corolla funnel-ſhaped. Stigma capitate, ſlightly two-lobed.—It approaches to Conv. glaber of Aublet (Guian. t. 53.), but ſeems to differ in having the leaves acuminate but not attenuated, with more and ſhorter pedicels, and the tube of the corolla nearly of the ſame diameter throughout, not gradually enlarged towards the top.

Its country is unknown. Its place is between the 39th and 40th ſpecies.

109. The whole of this plant is ſmooth. Stem angular, twining. Leaves petioled: leaflets five or ſix, very narrow, quite entire. Peduncles axillary, ſhort, uſually four or five-flowered, the upper ones ſometimes one-flowered. Calyx ſmooth, with oblong leaflets. Stigma acute.

Native of the Weſt Indies.

Its place is after the 40th ſpecies.

110. This differs from Conv. Cneorum, which it otherwiſe reſembles, in being wholly covered with a lanuginous ſhaggineſs, inſtead of ſilvery-ſhining appreſſed ſcarcely diſtinct hairs, as that is; in having linear remote leaves, not widening towards the outſide, linear-ſubulate calycine leaflets, and ſubſeſſile flowers. The corolla and ſtigma as in C. Cneorum.

Native of Spain.

Its place is after the 46th ſpecies[1].]

PROPAGATION AND CULTURE.

1, 2. Theſe are troubleſome weeds in gardens, and ſhould be rooted out with great care. Every ſmall piece of the root will grow, and therefore it is difficult to deſtroy them. With reſpect to the ſecond ſpecies, Mr. Miller obſerves, that being generally among trees and ſhrubs, or under hedges, the roots are ſo intermixed, that it cannot eaſily be extirpated; but in an open clear ſpot of ground, where the plants are carefully hoed down for three or four months, they may effectually be deſtroyed; for when the ſtalks are broken or cut, a milky juice flows out, and the roots are ſoon exhauſted and decay.

[On the contrary Mr. Curtis remarks of the firſt ſpecies, which is the weed that infeſts arable lands, that the more he cut and hoed it, the more it ſpread and the faſter it grew. In effect, it cannot be eradicated, without repeated ploughing in dry weather, and then picking out the roots and burning them.]

3. Scammony is a hardy plant, and will thrive very well in the open air in England, on a dry ſoil.

Sow the ſeeds in the ſpring on a border of light earth; keep the plants clean from weeds, and thin them to the diſtance of three feet. The ſtalks decay in autumn, but the roots will abide many years.

12. Purple Bindweed, commonly called by gardeners *Convolvulus major* is propagated by ſowing the ſeeds in the ſpring, upon a warm border, where the plants are deſigned to remain. Some tall ſtakes muſt be placed by them, for the ſtalks to twine

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[1] Vahl.

about, otherwiſe they will ſpread on the ground, and make a bad appearance.

12. β. 11. The more tender varieties and the eleventh ſort muſt be brought forward on a hot-bed, and planted out on a warm border towards the end of may.

15. Spaniſh Potatoe is cultivated in warm climates by the roots, in the ſame manner as our common Potatoe, but requires much more room, for the trailing ſtalks extend four or five feet every way, ſending out large tubers, forty or fifty of which are produced from a ſingle root. In England, the roots muſt be planted on a hot-bed in the ſpring, and if the plants are kept covered in bad weather with glaſſes, they will produce flowers, and many ſmall roots from the joints; but if they are expoſed to the open air, they ſeldom make much progreſs.

20. Canary Bindweed ſometimes ripens ſeeds here, but being eaſily propagated by layers or cuttings, the ſeeds are not much regarded. Thoſe plants, however, which are raiſed from layers or cuttings, do not produce ſeed, whereas thoſe which come from ſeeds ſeldom fail.

If the young ſhoots are laid down in the ſpring, they generally put out roots in three or four months; then they be taken from the old plant, and each put into a ſeparate pot filled with light earth, and placed in the ſhade till they have taken new root; after which they may be placed with other hardy green-houſe plants till autumn, when they muſt be removed into the green-houſe, and treated as Myrtles, &c. The tender cuttings planted during any of the ſummer months in pots filled with light earth, plunged into a moderate hot-bed, and ſhaded from the ſun, will take root, and may be treated as the layers.

The leaves continuing green all the year, this plant makes a pretty variety during the winter in the green-houſe.

6, 10, 13, 14, 17, 18, 19, 21—26, 28, 30, 31, 35—41, 57, 58, 60, 62—71, 76—81, & 85—109. Being natives of warm climates, chiefly of the Eaſt and Weſt-Indies, are tender. When raiſed from ſeeds, they muſt be ſown on a hot-bed in the ſpring, and when the plants are fit to remove, they muſt be tranſplanted each into a ſeparate pot filled with light earth, and plunged into a moderate hot-bed, obſerving to ſhade them from the ſun till they have taken new root; then they ſhould have a large ſhare of air admitted to them every day, to prevent their drawing weak, and alſo moderate waterings every other day. When the plants are become too tall for the hot-bed, they muſt be ſhifted into larger pots, and placed in the bark-ſtove, where if they are allowed room they will flower; but they rarely produce ſeeds in England. Many of them therefore are continued by cuttings.

29. C. Jalapa, the root of which is the true Jalap, being a native of South America, muſt be preſerved in the bark-ſtove. It may be raiſed from ſeeds on a hot-bed, the young plants being removed into pots muſt be plunged into the bark-bed, and treated in the ſame manner as the laſt mentioned ſet of plants, with this difference only, that as this has large, fleſhy, ſucculent roots, it muſt have but little water, eſpecially in winter. The proper ſoil for the Jalap is a light ſandy loam, not too rich, and the plants ſhould always remain in the bark-ſtove. [It may be alſo increaſed from ſlips or cuttings.]

32. Mallow-leaved Bindweed, and the variety ſeldom produce ſeeds in England, but creeping at the root are propagated by off-ſets or ſhoots taken from the old plants. The beſt time for parting and tranſplanting this ſort is about the beginning of may, when it may be taken out of the green-houſe, and expoſed to the open air; but the young plants ſhould be placed under a frame, and ſhaded from the ſun till they have taken new root: they may then be gradually hardened to the open air during the ſummer; but in autumn they muſt be placed in the green-houſe, and treated in the ſame way as Canary Bindweed, n. 20.

44. If the ſeeds of Sicilian or ſmall-flowered Bindweed are permitted to ſcatter, the plants will riſe in the ſpring, and require no other culture but to keep them clean from weeds: or if the ſeeds are ſown in the ſpring where the plants are to remain, they will flower in june, and the ſeeds will ripen in auguſt.

46. Dwarf Bindweed ſeldom produces ſeeds in England, but the roots propagate in plenty. It prefers a light dry ſoil, and requires no other care but to keep the plants clean from weeds: it may be tranſplanted either in ſpring or autumn.

47. Cneorum or ſilvery-leaved Bindweed will live in the open air in mild winters, if planted in a light ſoil and a warm ſituation, but in ſevere winters it is deſtroyed; ſome of the plants therefore ſhould be kept in pots, and ſheltered under a common frame in winter, where they may enjoy the free air in mild weather, and yet be protected from froſt: in ſummer they may be placed abroad with other hardy exotic plants, where the fine ſilky leaves will make a pretty appearance. This ſort may be propagated by laying down the branches, and alſo by cuttings; but both very ſeldom put out roots the ſame year, and many of them will fail, ſo that the beſt way is to procure ſeeds from Italy; and thoſe plants which come from ſeeds grow much larger than thoſe which are propagated the other ways.

48. Cantabrica or flax-leaved Bindweed is propagated by ſeeds, which muſt be obtained from the countries where it naturally grows; theſe ſhould be ſown upon a warm dry border, where they are deſigned to remain; for as the plants run down with long tap-roots, they will not bear tranſplanting, for I have often made trial of this without any ſucceſs. When the plants come up, they ſhould be thinned where they grow too cloſe, and afterward conſtantly kept clean from weeds, which is all the culture it will require. It flowers in july and auguſt, and the ſtalks decay in autumn; but the roots will laſt ſeveral years, and if they are in a dry ſoil and warm ſituation, will abide through the winter very well without covering.

50. Broom Bindweed may be increaſed and treated in the ſame manner. It muſt have a dry ſoil and warm ſituation to enable it to live through the winter in the open air in England. If the ſurface of the ground about the roots be covered with ſome old tanner's bark, it will preſerve them in the hardeſt froſts.

56. Convolvulus tricolor or trailing Bindweed has been long cultivated as an ornamental plant in the borders of our flower-gardens, under the name of *Convolvulus minor*. It is an annual plant, and is propagated by ſeeds, which ſhould be ſown on the borders of the flower-garden where they are deſigned to remain. The uſual method is to put two or three ſeeds in each place where they are intended to flower, covering them half an inch with earth; and when the plants come up, if the ſeeds all grow, there ſhould be but two left in each place, which will be ſufficient; the others ſhould be drawn out carefully, ſo as not to diſturb the roots of thoſe which are left; after which they will require no other culture but to keep them clean from weeds. If the ſeeds are ſown in autumn, the plants will flower in may; but thoſe which are ſown in the ſpring, will not flower till about the middle of june, and will continue flowering till the froſt ſtops them. The ſeeds ripen in auguſt and ſeptember.

The plants which bear variegated flowers have frequently plain flowers of both colours intermixed with them: theſe ſhould be pulled off as ſoon as they appear, in order to continue the variegated or ſtriped flowers.

61. Soldanella or Sea Bindweed growing naturally on the ſea beach, cannot be long preſerved in a garden.

[Of theſe numerous ſpecies of Convolvulus, the following only will bear the open air, viz. 1, 2, 3, 4, 8, 9, 12, 44, 45, 46, 47, 48, 56 and 61.

Theſe require the protection of a green-houſe: viz. 5, 8, 20, 32, 33, 47, 48, 50, 52: ſome always, and others in ſevere winters only; as 8, 47 and 48.

The reſt, which have been hitherto introduced into culture, will not live in England through the winter, unleſs they are kept in a ſtove: as 6, 11, 14, 15, 18, 21, 23, 26, 29, 37, 41, 62, &c.

CONVOLVULUS. See *Evolvulus, Ipomæa, Pæderia* and *Polygonum.*

Convolvulus braſilianus. See *Ciſſampelos.*

———— nummularius, &c. See *Evolvulus.*]

CONYZA. (*Either from* κώνωψ *a gnat, becauſe it catches ſmall inſects by its glutinous juice—or* ϖαρὰ τὸ κονίζειν, *from its being covered by a duſty pubeſcence—or* ϖαρὰ τὸ τον κυνὰ ὄζειν, *from ſmelling like a dog. Ray.—From* κνύζα *ſcabies, the itch. Vaill.*)
Lin. gen. n. 950. *Reich.* 1030. *Schreb.* 1286. *Gærtn. t.* 166. *Juſſ.* 180.
Claſſ. 19. 2. Syngeneſia Polygamia Superflua.
Nat. order of *Compoſitæ Diſcoideæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

CAL. *Common* imbricate, roundiſh, ſquarroſe: *ſcales* acute, the outer ſomewhat ſpreading.

COR. *Compound* tubuloſe; *Corollets* hermaphrodite numerous, tubular in the diſk. *Females* apetalous, roundiſh in the circuit. *Proper,* of the hermaphrodite funnel-form; *border* five-cleft, patulous. Of the *Females* funnel-form; *border* three-cleft.

STAM. In the Hermaphrodites *filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

PIST. In the Hermaphrodites, *Germ* oblong. *Style* filiform, length of the ſtamens. *Stigma* two-cleft. In the Females, *Germ* oblong; *Style* filiform, length of the hermaphrodite, more ſlender. *Stigmas* two, very ſlender.

PER. none, Calyx converging.

SEEDS to the hermaphrodites ſolitary, oblong, *down* ſimple. To the females ſolitary, oblong; *down* ſimple.

REC. naked, flat.

ESSENTIAL CHARACTER.

Cal. imbricate, roundiſh. *Cor.* of the ray three-cleft. *Down* ſimple. *Recept.* naked.

SPECIES.

1. Conyza ſquarroſa. *Great Fleabane,* or *Plowman's Spikenard.*
Lin. ſpec. 1205. *Reich.* 3. 770. *hort. cliff.* 405. *upſ.* 257. *Hudſ. angl.* 363. *With.* 900. *Lightf.* 473. *Gouan. monſp.* 436. *Villars dauph.* 3. 185. *Scop. carn. n.* 1053. *Pollich. pal. n.* 788. *Neck. gallob.* 348. *Hall. helv. n.* 135. *Allion. pedem. n.* 636. *Krock. ſileſ. n.* 1380. *Fl. dan. t.* 622. (*good.*) *Gærtn. fruct.* 2. 405.
C. major. *Matth.* 870. *Camer. epit.* 612.—vulgaris. *Bauh. pin.* 265. *Raii hiſt.* 292. *Bauh. hiſt.* 2. 1051. 2. *Mor.* 7. 19. 23.
Baccharis monſpelienſium. *Dalech. hiſt.* 917. *Ger. emac.* 792. *Park. theat.* 114. *Pet. brit. t.* 18. *f.* 1. *Blackw. t.* 102.
Leaves lanceolate, acute; ſtem herbaceous, corymbed; calyxes ſquarroſe.

[2. Conyza linifolia. *Flax-leaved Fleabane.*
Lin. ſpec. 1205. *Reich.* 3. 771. *Pluk. alm. t.* 79. *f.* 2. *Mor.* 3. 122. *n.* 45. (*Aſter.*)
Leaves linear-lanceolate, quite entire; corollas radiated.

3. Conyza ſordida. *Small-flowered Fleabane.*
Lin. ſyſt. 752. *Reich.* 3. 771. *mant.* 466.
Gnaphalium ſordidum. *Lin. ſpec.* 1193. *hort. cliff.* 401. *Gouan. hort. monſp.* 435.
Elichryſum ſylveſtre anguſtifolium, capitulis conglobatis. *Bauh. pin.* 264.
Stæchadi citrinæ affinis, capitulis parvis raris, &c. *Bauh. hiſt.* 3. 156. *f.* 1. *Raii hiſt.* 283.
Stæchas citr. ſpuria, longioribus fol. *Barr. ic.* 368. 277.
Ageratum aliud. *Dalech. hiſt.* 778.
Leaves linear, quite entire; peduncles long, three-flowered; ſtem underſhrubby.

4. Conyza ſaxatilis. *Rock Fleabane.*
Lin. ſpec. 1206. *Reich.* 3. 771. *hort. cliff.* 401. *Allion. pedem. n.* 637. *D'Aſſo aragon. n.* 818.
Helichryſum. *Mor. hiſt.* 3. 87. *n.* 18. *ſ.* 7. *t.* 10. *f.* 16. *Bocc. muſ.* 142. *t.* 104.
Helichryſo ſylveſtri, fl. oblongo, ſimilis. *Bauh. pin.* 265. *prodr.* 123. *fig.* 2.
Stæchadi citrinæ alteri inodoræ Lobelii affinis, capitulis brevioribus. *Bauh. hiſt.* 3. 157. *f.* 1. *Raii hiſt.* 282.
St. citr. ſylveſtrior. *Park. theat.* 688. *f. ult. n.* 12.
Leaves linear almoſt entire, tomentoſe underneath; peduncles very long one-flowered; calycine ſcales ſubulate.

5. Conyza caneſcens. *Hoary Fleabane.*
Lin. ſyſt. 752. *ſuppl.* 367.
Leaves linear; panicle faſtigiate.

6. Conyza rupeſtris. *African Fleabane.*
Lin. ſyſt. 752. *Reich.* 3. 772. *mant.* 113. *Vahl ſymb.* 1. 71. *Shaw afr. t.* 176. (*bad*). *Forſk. ægypt.* 148.
Leaves ſpatulate ſomewhat toothed tomentoſe; ſtem underſhrubby; peduncles elongated one-flowered.

7. Conyza ſcabra. *Rough Fleabane.*
Lin. ſyſt. 752. *Reich.* 3. 772. *mant.* 113.
Leaves oblong ſomewhat toothed ſeſſile ſcabrous; peduncles one-flowered elongated.

8. Conyza Aſteroides. *Starwort Fleabane.*
Lin. ſpec. 1206. *Reich.* 3. 772.
Aſter marilandicus, &c. *Pluk. mant.* 29. *t.* 340. *f.* 3.
Leaves broad-lanceolate ſubſerrate; corollas radiate; calyxes ſquarroſe.]

9. Conyza bifrons. *Oval-leaved Fleabane.*
Lin. ſpec. 1207. *Reich.* 3. 773. *hort. cliff.* 405.
Eupatoria conyzoides, &c. *Pluk. alm. t.* 87. *f.* 4.
Leaves ovate-oblong, ſtem-claſping.

[10. Conyza bifoliata. *Two-leaved Fleabane.*
Lin. ſpec. 1207. *Reich.* 3. 773. *Pluk. alm. t.* 177. *f.* 1. (*Eupatoria.*)
Leaves oval toothed; peduncles two-leaved; bractes oppoſite.

11. Conyza pubigera.
Lin. ſyſt. 752. *Reich.* 3. 773. *mant.* 113. *Lour. cochinch.* 495.
Sonchus volubilis. *Rumph. amb.* 5. 299. *t.* 103. *f.* 2.
Leaves oblong ſomewhat toothed ſubpetiolate; peduncles woolly ſuſtaining about two flowers.

12. Conyza tortuoſa.
Lin. ſpec. 1207. *Reich.* 3. 773. *hort. cliff.* 405. *Vaill. act. par.* 1719. 396.
Stem tortuoſe, ſhrubby; leaves ovate-oblong quite entire, racemes reflex.]

13. Conyza candida. *Woolly Fleabane.*
Lin. ſpec. 1208. *ſyſt.* 752. *Reich.* 3. 774. *hort. cliff.* 405. *Buxb. cent.* 2. 23. *t.* 17. *Bocc. ſic.* 60. *t.* 31. *f.* 2. (*Aſter.*) *Barr. rar. t.* 217. (*Jacobæa.*) *Lour. cochinch.* 495.
C. cretica fruticoſa, folio molli candidiſſimo & tomentoſo. *Tourn. cor.* 33. *Vaill. act. par.* 1719. *p.* 394.
Aſter raguſinus, fol. verbaſci. *Zan. hiſt.* 33. *t.* 12. 34. *t.* 21.
Leaves ovate tomentoſe; flowers crowded; peduncles both lateral and terminating.

[14. Conyza anthelmintica. *Purple Fleabane.*
Lin. ſpec. 1207. *ſyſt.* 753. *Reich.* 3. 774. *Vaill. act. par.* 1719. *p.* 300. *Retz. obſ.* 1. 28.
Baccharioides. *Lin. zeyl. n.* 418.
Scabioſa conyzoides, &c. *Burm. zeyl.* 210. *t.* 95.
Cattu-Schiragam. *Rheed. mal.* 2. 39. *t.* 24. *Raii hiſt.* 1443.
Leaves lanceolate-ovate ſcabrous; peduncles one-flowered; calyxes ſquarroſe.

15. Conyza balſamifera.
Lin. ſpec. 1208. *ſyſt.* 753. *Reich.* 3. 774. *Burm. ind.* 178. *Rumph. amb.* 6. *p.* 55. *t.* 24. *f.* 1. *Cluſ. exot.* 92. *Pluk. amalth.* 64.
Leaves lanceolate, tomentoſe underneath, even the petioles toothed.

16. Conyza cinerea. *Aſh-coloured Fleabane.*

Lin. ſpec. 1208. *ſyſt.* 753. *Reich.* 3. 775.

Senecioides. *Lin. zeyl. n.* 419.

Senecio indicus atriplicis folio glabro. *Mor.* 3. 106. *ſ.* 7. *t.* 17. *f.* 7.—ind., fol. ternis crenatis. *Burm. zeyl.* 211. *t.* 96. *f.* 1.

Eupatorium, anguſtiore fol., bermudenſe, flor. flaveſcentibus. *Pluk. alm. t.* 243. *f.* 3.

Olus ſcrophinum. *Rumph. amb.* 6. *t.* 14. *f.* 1.

Leaves oblong; flowers panicled; corollas cylindric, twice the length of the calyx.]

17. Conyza odorata. *Sweet-ſcented Fleabane.*

Lin. ſpec. 1208. *Reich.* 3. 775. *Burm. ind.* 179. *Plum. ſpec.* 9. *ic.* 97. *Lour. cochinch.* 495.

β. Eupatoria conyzoides maderaſpatana, fol. glabris, fl. purpuraſcente. *Pluk. alm. t.* 177. *f.* 2.

Leaves ovate ſerrate ſubtomentoſe acute; ſtem arboreſcent corymbed; corollas almoſt globular.

18. Conyza chinenſis. *Chineſe Fleabane.*

Lin. ſpec. 1208. *Reich.* 3. 776. *Lour. cochinch.* 496. *Burm. ind.* 179.

Senecio amboinicus. *Rumph. amb.* 6. 36. *t.* 14. *f.* 2.

Leaves lanceolate-ovate reflex-ſerrate tomentoſe underneath; flowers terminating heaped.]

19. Conyza hirſuta. *Shaggy Fleabane.*

Lin. ſpec. 1209. *Reich.* 3. 776. *Burm. ind.* 180. *Lour. cochinch.* 496.

Leaves oval quite entire ſcabrous, hirſute underneath.

20. Conyza arboreſcens. *Tree Fleabane.*

Lin. ſpec. 1209. *Reich.* 3. 776. *Swartz. obſ.* 304. *Plum. ſpec.* 10. *ic. t.* 130. *f.* 2. *Sloan. jam.* 1. 257. 11. *Brown. jam.* 313. *n.* 1. (*Eupatorium.*)

Leaves ovate quite entire acute tomentoſe underneath; ſpikes recurved one-ranked; bractes reflex.

[21. Conyza fruticoſa. *Shrubby Fleabane.*

Lin. ſpec. 1209. *Reich.* 3. 776.

Eupatorium amer. frut., hederæ terreſtris fol., flore purpuraſcente. *Plum. ſpec.* 10.

Leaves ovate quite entire obtuſe; flowers ſeſſile alternate; branchlets flexuoſe.

22. Conyza virgata. *Winged-ſtalked Fleabane.*

Lin. ſpec. 1206. *Reich.* 3. 777. *Plum. ſpec.* 9. *ic.* 98. *f.* 1. *Brown. jam.* 318. *n.* 2.

Guaphalium virgatum. *Lin. amæn.* 5. 405.

Leaves decurrent lanceolate ſerrulate; ſtems wand-like; flowers ſpiked, in ſcattered heaps.

23. Conyza decurrens.

Lin. ſpec. 1206. *Reich.* 3. 777.

Leaves decurrent lanceolate ſerrulate; flowers axillary ſeſſile glomerate.

24. Conyza aurita.

Lin. ſyſt. 753. *ſuppl.* 367.

Leaves dentate-ſinuate; earlets ſubdecurrent.

Species from Hortus Kewenſis.

25. Conyza Inuloides. *Cluſter-flowered Fleabane.*

Ait. hort. kew. 3. 182.

Chryſocoma dichotoma. *Lin. ſuppl.* 359. *Jacq. ic. collect.* 1. 44.

Leaves cuneiform-linear obtuſe notch-toothletted ſmooth; ſtem ſhrubby; anthers two-briſtled.

26. Conyza ſericea. *Snowy Fleabane.*

Ait. hort. kew. 3. 183.

Chryſocoma ſericea. *Lin. ſuppl.* 360.

Leaves linear-filiform, they and the ſtems tomentoſe-ſilky; flowers panicled.

27. Conyza ægyptiaca. *Egyptian Fleabane.*

Ait. hort. kew. 3. 183.

Erigeron ægyptiacum. *Lin. mant.* 112. *Jacqu. hort.* 3. 14. *t.* 19.—ſerratum. *Forſk. deſcr.* 148.

Leaves oblong-ſpatulate toothed hairy, flowers ſubpanicled globular; calycine leaflets ſubulate ſoft.

28. Conyza rugoſa. *St. Helena Fleabane.*

Ait. hort. kew. 3. 184.

Shrubby; leaves wedge-ſhaped ſerrate villoſe wrinkled netted; peduncles villoſe one-flowered; flowers radiate.

29. Conyza inciſa. *Ear-leaved Fleabane.*

Ait. hort. kew. 3. 184.

Leaves ovate ſubcordate hairy-viſcid toothed, eared at the baſe; diſk of the receptacle honey-combed.

30. Conyza patula. *Spreading Fleabane.*

Ait. hort. kew. 3. 184.

Serratula. *Mill. fig.* 165. *t.* 247. *dict. edit.* 7. *n.* 9.

Leaves elliptic ſerrate villoſe underneath; calyxes ſubglobular, leaflets lanceolate-ſubulate; branches ſpreading.]

Species from South America, in Miller's Dictionary.

31. Conyza tomentoſa.

Mill. dict. n. 5. *Houſt. Mſs.*

Arboreſcent; leaves oblong-ovate tomentoſe einereous underneath; flowers terminating, on branching peduncles.

32. Conyza ſalicifolia. *Willow-leaved Fleabane.*

Mill. dict. n. 6. *Houſt. Mſs.*

Leaves linear decurrent ſerrate; flowers corymbed terminating.

33. Conyza corymboſa.

Mill. dict. n. 7. *Houſt. Mſs.*

Arboreſcent; leaves lanceolate, flowers corymbed terminating, on branching peduncles.

34. Conyza viſcoſa.

Mill. dict. n. 8. *Houſt. Mſs.*

Herbaceous; leaves ovate ſerrate villoſe; flowers both axillary and terminating.

35. Conyza ſymphytifolia. *Comfrey-leaved Fleabane.*

Mill. dict. n. 10. *Houſt. Mſs.*

Leaves oblong-ovate ſcabrous; flowers racemed terminating; ſtem herbaceous.

36. Conyza ſcandens. *Climbing Fleabane.*

Mill. dict. n. 11. *Houſt. Mſs.*

Leaves lanceolate ſcabrous nerved ſeſſile; racemes recurved; flowers aſcending, peduncles lateral; ſtem ſhrubby climbing.

37. Conyza trinervia.

Mill. dict. n. 12. *Houſt. Mſs.*

Leaves ovate ſmooth three-nerved quite entire ſeſſile; flowers in ſpikes terminating; ſtem ſhrubby.

38. Conyza uniflora.

Mill. dict. n. 13. *Houſt. Mſs.*

Leaves lanceolate acute ſeſſile; flowers ſolitary lateral; calyxes coloured; ſtem ſhrubby branching.

39. Conyza ſpicata.

Mill. dict. n. 14.

Shrubby; leaves ovate three-nerved; flowers in axillary ſpikes.

40. Conyza pedunculata.

Mill. dict. n. 15.

Leaves ovate-lanceolate three-nerved; peduncles very long terminating; flowers in corymbs.

41. Conyza Baccharis.

Mill. dict. n. 16.

Leaves ovate-oblong obtuſe ſerrate half-ſtem-claſping; flowers in terminating corymbs.

From Swartz.

42. Conyza purpuraſcens.

Swartz prodr. 112. *Brown. jam.* 318. 1. *Sloan. jam.* 1. 258. *t.* 152. *f.* 1. *Mill. dict. n.* 17. (odorata.)

Leaves ovate-lanceolate ſerrate ſubtomentoſe, ſtem ſubherbaceous ſimple at bottom corymbed at top, flowers ovate.

[43. Conyza rigida.

Swartz prodr. 113. *Plum. ic.* 14. *f.* 1.

Leaves petioled obovate entire rugged, veined underneath, ſpikes flexuoſe, flowers in pairs, all directed the ſame way.

DESCRIPTIONS, *&c.*

The Conyzas are either herbaceous or ſhrubby; in a few of them the leaves are decurrent; the flowers are of the compound kind without any ray, in corymbs or panicles at the top of the ſtem and branches[a]. The genus Baccharis is ſcarcely diſtinct from this, in the opinion of Juſſieu, Lamarck, Gærtner, &c.

1. Root biennial. Stems a foot in height, upright, panicled at the end, purpliſh with a white woollineſs. Branches ſtraight. Leaves ovate-oblong, terminating in petioles, wrinkled, ſerrate,

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[a] Juſſieu.

ſpreading, bowed back. Flowers terminating, ſtraight.

Stem from two to three feet high and more, firm, ſomewhat angular, ſtriated, downy, branched towards the ſummit: (according to Withering, nearly cylindric, reddiſh, rough, with ſhort woolly hairs.) Lower *leaves* large; upper decreaſing, bluntly oval-lanceolate, petiolate, irregularly ſerrate, downy on both ſurfaces: (or woolly underneath, and hairy above): thoſe at the baſe of the flowering branches lanceolate, or linear lanceolate; ſcarce perceptibly ſerrate. Numerous flowering heads terminate the ſtem and branches, on ſhort downy peduncles; with each a ſmall lanceolate bracte. *Calyx* imbricated with numerous ſcales; the lower green, ſomewhat ſpreading; the upper yellowiſh, with green ſpreading tips; all linear-lanceolate: (according to Withering, ſcales purpliſh at the edge, with very ſhort woolly hairs on the outſide. *Corollas* yellow, yellowiſh, or duſky purple; florets without piſtils, in the circumference with piſtils; individuals with only piſtils ſlightly cloven into three, have at firſt ſight the appearance of a funnel-ſhaped floret; but are really more of the nature of a ligulate floret.) *Seeds* ſmall, blackiſh, longitudinally furrowed, crowned with a ſeſſile feather, with ſimple rays as long as the calyx [b].

The ſmell is ſlightly, but not ungratefully aromatic. Tragus reports it to be an emmenagogue, but it is ſcarcely known officinally [c].

Native of Denmark, Great Britain, Germany, Holland, France, Switzerland, Carniola, Piedmont: chiefly on dry mountainous paſtures; by hedge ſides and in woods: with us moſtly in a calcareous ſoil; as in Cambridgeſhire, at Shelford, Whittlesford, Hilderſham and Abington:—common alſo in woods in Norfolk, in a clayey ſoil. Charlton wood, and near Dartford and Greenhithe, in Kent. Near Harefield, in Middleſex. Finſhead, in Northampton. Scotland, but not common. It flowers from july to october.

2. Stems a foot or a foot and half in height, erect, hardiſh, green. Leaves reſembling thoſe of *Mezereon* or *Hyſſop*, only more obtuſe, ſmooth and ſtiff. Branches ſlender, ſtraight at the top of the ſtems. Flowers on ſhort peduncles, terminating: florets white, ſlender, reflex. Cultivated (1699) in Chelſea garden [d].

It flowers in auguſt and ſeptember.

3. Allied very nearly to *C. ſaxatilis* (n. 4.) Stem like that of Lavender, branched, and white. Peduncles ſtraight, uſually three-flowered at the end. Calycine ſcales brown at the edge [e].

Native of the South of Europe. Cultivated in 1570, by Matthias de L'Obel. It flowers from july to ſeptember [f].

4. Leaves heaped at bottom. Peduncles naked. Calycine ſcales black at the edge [g]. Stems firſt procumbent, then erect. Calyxes cylindric, patulous and membranaceous at the end. Very many, naked, female florets in the circumference.—Native of Spain, Italy, Iſtria, Carinthia, the Valais, Paleſtine, and the Cape of Good Hope [h]. Ray found it on walls and rocks about Meſſina and Sicily, abundantly.

Introduced 1774, by Monſ. Richard. It flowers in july and auguſt [i].

5. The whole plant hoary. Stems almoſt ſimple, columnar, ſtriated, with ſhort lateral branches. Leaves a finger's length, reflected at the edge, ſomewhat tomentoſe underneath. Panicle terminating, ſubdichotomous. Calyx ſubovate, ſhorter by half than the flower and down. Flower purple, mixed with the down. It has the air of *C. cinerea* (n. 17.) Found at the Cape, by Chevalier Thunberg [k].

6. This reſembles *C. ſaxatilis* very much, but the flowering ſtems have axillary bunches of ſmaller leaves. The leaves are broader, ſhorter, more obtuſe, all except the lowermoſt white on both ſides. Calycine ſcales not acute and patulous, but rather obtuſe, and cloſely imbricate. Corollas yellow, with very numerous florets. Smell ſtrong.—Native of Arabia [l].

It is very nearly allied to *C. ſaxatilis*, but the leaves towards the baſe are leſs attenuated and widened at the inſertion; the peduncles are ſhorter and thicker, with one or two ſcales, which are lanceolate, but not briſtle-ſhaped; outer calycine leaflets ovate, brown at the tip, the middle ones linear, obtuſe, with a brown line on the back, whereas in the ſaxatilis all the leaflets are lanceolate and acute; branches very thickly tomentoſe, as are alſo the leaves, but grow bald by age. In the cultivated plant the leaves are twice as broad, and not rolled back on the edge [m].

7. Leaves rugged on both ſurfaces, with four or five teeth on each ſide. Peduncles axillary, towards the end of the branches, becoming finally ſix times the length of the leaves.—Native of the Eaſt-Indies [n].

8. This has the air of an *Aſter*. Corymb ſubfaſtigiate. Flowers as in *C. ſaxatilis* (n. 4.) radiated. —Native of North America [o].

Introduced 1773, by Mr. William Young. It flowers in auguſt and ſeptember [p].]

9. From a thick fibrous root ariſe many upright ſtalks. Leaves rough, decurrent. The upper part of the ſtalk divides into many ſmaller branches, with leaves of the ſame form, but ſmaller. Flowers terminating, in round bunches, yellow, appearing in july. The ſeeds ripen in autumn.

[Native of Canada. Cultivated 1759, by Mr. Miller [q]. Compare with this *Inula bifrons*, a native of the South of Europe, and ſuppoſed not to be a different ſpecies, though it has a ray to the flower.

10. Native of the Eaſt-Indies.

11. Branches herbaceous, with a few ſcattered hairs on them. Leaves alternate, wedge-ſhaped at the baſe, green on both ſides, with a few ſcattering hairs, having three or four narrow ſerratures; not ſcabrous. Peduncles axillary, towards the top, with from two to four flowers. Calyx before it opens woolly.—Native of the Eaſt-Indies [r].

Loureiro deſcribes the ſtem as ſuffruticoſe, eight feet high, climbing, round and branching. Leaves broad-lanceolate, attenuated at the baſe, having a few teeth, ſubpubeſcent, ſcattered, petioled. Flowers yellow. All the corollets, both hermaphrodite and female ſhort, immerſed in a ſimple down.

12. Branches ſubhirſute, ſtriated, ſimple. Lower leaves obovate, upper ovate-lanceolate, veined, hardiſh, rugged on both ſurfaces, on very ſhort petioles. Racemes terminating and axillary, ſimple, ſcarce a ſpan in length, ſpreading, reflex or crenate downwards. Flowers alternate, ſeſſile, turned up, rounded: calycine ſcales ovate, the inner lanceolate [s]. Perhaps after all not diſtinct from C. arboreſcens, n. 20.

Native of Madagaſcar and Vera Cruz.

13. Stem ſuffruticoſe, ſix inches high, upright, round, hairy, whitiſh, branched. Leaves very white, quite entire, alternate. Flowers purple, peduncled, heaped. It has a pleaſant ſmell [t].] Mr. Miller ſays, that the peuncles are woolly, nine inches high, one, two or three-flowered, and that the flowers are of a dirty yellow. [According to Zanoni they are of a golden colour. The peduncles thicken towards the top. It ſometimes varies with a ſhort recurved ray [u]. Native of Candia, Sicily, and Cochinchina. —Cultivated 1714, by the Dutcheſs of Beaufort [x]. Boccone, who firſt deſcribed the plant, ſays that he had it from Alexander Balam, an Engliſhman, his very good friend, and well ſkilled in Botany.

14. *Root* annual. *Stem* erect, roundiſh, branched, ſlightly tomentoſe, ſpotted with purple; the branches erect, ſcattered. *Leaves* alternate, ſerrate, with acute

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[b] Woodw. Mſs.
[c] Haller.
[d] Moriſon.
[e] Linn. mant.
[f] Hort. kew.
[g] D'Aſſo.
[h] Linn. ſpec.
[i] Hort. kew.
[k] Linn. ſuppl.

[l] Linn. mant.
[m] Vahl.
[n] Linn. mant.
[o] Linn. ſpec.
[p] Hort. kew.
[q] Ibid.
[r] Linn. mant.
[s] Linn. cliff.
[t] Loureiro.
[u] Linn. ſyſt.
[x] Hort. kew.

unequal teeth, narrowed at the baſe into the petiole, ſcabrous on the upper ſurface, ſmooth and veined on the lower. *Flowers* in panicles at the ends of the branches, on long peduncles thickening towards the flower, and having one leaf on each: a ſolitary peduncle terminates the ſtalk. Common calyx ovate, converging at top; ſcales linear, the inner of the ſame length with the tubes of the corollas, the outer elongated, and diverging every way. Corolla uniform, conſiſting of twenty-five to forty hermaphrodite, red florets; thoſe of the ray reflex: tube very ſlender, narrowed towards the border, which is oblong-ovate, the diviſions lanceolate, erect, almoſt converging. Anther white, with five black lines. Germ ſtriated: ſtyle the length of the corolla: ſtigmas two, reflex. Seed obconic, longitudinally ſtriated. Down briſtle-form, of the ſame length with the tube of the corolla. Receptacle dotted.—Since there are no female florets, this is rather a ſpecies of *Serratula*[y]. Juſſieu doubts whether it belongs to this genus; the flowers being ſubſolitary, almoſt all the florets hermaphrodite, and the calycine leaflets all equal in length, the inner ones wider, the outer linear, and reſembling a calycle[z]. The leaves have an exceeding bitter taſte. Native of the Eaſt-Indies. Introduced 1770, by Monſ. Richard. It flowers in auguſt and ſeptember, and is biennial[a].

15. Down ferruginous[b]. Perhaps a ſpecies of Baccharis[c].—Native of the Eaſt-Indies.

16. Stem erect, panicled, pubeſcent. Leaves hoary, lanceolate-elliptic, repand-ſerrate, remote. Corollas purple. Styles ſhort. Down longer than the calyx[d].—Annual. Native of the Eaſt-Indies.

17. This is an odoriferous plant, with an upright ſhrubby ſtem, four feet high, the branches riſing in form of a corymb. Leaves ſeſſile, alternate. Flowers purple, lateral and terminating, ſeveral together; the corollets ſo ſhort as not to emerge from the calyx[e]. Native of the Eaſt-Indies and Cochinchina.

18. Stem ſuffruticoſe, four feet high, upright, round, ſmooth, branched at top. Leaves hardiſh, petioled, alternate. Flowers yellow, peduncled, terminating. Receptacle ſubvilloſe[f]. This has ſeldom more than three flowers crowded together[g].—Native of China, Cochinchina, Java and Amboina.

19. Stem herbaceous, a foot high, upright, ſimple, round, hairy, having few leaves; theſe are oblong, ſharpiſh, toothletted, hairy, ſcattered. Flowers yellow, crowded, terminating. Calyx hairy, ſhort. Naked female florets in the ray[h].] According to Miller, it is a biennial plant, about two feet high, with purple flowers in oblong ſpikes. [Burmann ſays, it varies with entire and toothletted leaves, and that there are ſeveral varieties of it.

According to Linneus, the ſtem is ſomewhat villoſe. Leaves oblong or oval, underneath very hirſute and pale. Flowers in racemes crowded: and it has the calyx of an Aſter. Native of Java, China and Cochinchina.

20. This is a ſhrub with a depreſſed rugged ſtem. Branches divaricate, ſubdivided, bent down, diverging, villoſe with a blackiſh ſhaggineſs. Leaves petioled, alternate, broad-lanceolate, nerved, wrinkled, pubeſcent. Racemes terminating and axillary, erect; flowers ſubſeſſile, alternate, pale purple. Calycine ſcales preſſed cloſe, pubeſcent. Corolla uniform: twelve hermaphrodite corollets in the circuit, a little higher than the others, giving the flower a radiate appearance[i]. It commonly riſes to the height of three feet and a half or more, in the low lands of Jamaica. The branches bend generally forwards, and bear their flowers in looſe ſpikes, (or rather racemes) along their extremities, where they are diſpoſed in a gradual ſucceſſion on the upper ſides only[k].

21. Native of South America.

22. It is hairy, and riſes generally to the height of two feet and a half or more. The leaves are ſomewhat hoary. The flower-branches are very long and ſlender, and diſpoſed in form of ſpikes at the top; the lower flowers are in threes, the upper ſolitary. The ſeeds are ſubhirſute[l].

Native of Jamaica and Carolina.

Introduced 1783, by Mr. William Young. It flowers in auguſt and ſeptember[m].

23. Root annual. Stature of *Filago*. Stem about a palm in heighth, erect, villoſe-tomentoſe, as is the whole plant. The leaves run very far down the ſtem, as in *Geniſta ſagittalis*. Glomerules of flowers aſh-coloured, from the axils of the leaves, globular.—Native of India[n].

24. Root-leaves larger than the reſt, ſtiffer, ſmoother, obovate, with red veins, widely ſerrate, and waved between the ſerratures. Stem-leaves oblong, ſublanceolate, ſoft, villoſe, ſerrate at the end, ſinuate in the middle, ſubpinnate at the baſe, the whole edge ſerrate-toothed, ſubdecurrent; with two or three foliaceous, ſpreading pinnas on each ſide. *Stem* erect, ſtiff, a foot high, reddiſh, hairy, branched: the branches erect, ſimple. *Flowers* from the top of the ſtem, peduncled, ſcattered in various ways. Calyx ovate; leaflets linear, ſpreading at the end; the outer broader, the inner formed into a cylinder. Florets minute, white; with minute, linear rays. Piſtils very long, erect.—It ſeems intermediate between this genus and *Baccharis*. The ſcent is that of *Stachys foetida*, but more pleaſant.—Native of the Eaſt Indies, in moiſtiſh places[o].

25. Stem proliferous, dichotomous, ſmooth; when the branch is terminated by a panicle immediately under it, the ſtem is divided into two branches, which are ſubdivided in the ſame manner. Leaves very ſhort, ſharply ſerrate, ſomewhat ſcabrous, with very minute, elevated dots. Corymbs terminating, ſimple. Peduncles hirſute, cloathed with ſubulate bractes. Calyx purpliſh. Flowers yellow.—All the plants in the Canary iſlands, even theſe of the *Syngeneſia* claſs, grow like ſhrubs[p].

Native of the iſland of Teneriffe. Mr. Fr. Maſſon. Introduced 1780. It flowers in july and auguſt[q].

26. This is eaſily known by the ſilky whiteneſs of the branches, leaves and peduncles, and by its yellow flowers. Leaves channelled, very long and flaccid. Branchlets ſimple, but with panicles of flowers at the end; the ſhorter ones are terminated with a panicle of very few flowers. Calyxes ſmooth, with ſubulate, yellow ſcales. The bark and wood have an acrid, pungent taſte; and the inhabitants uſe it againſt the toothach[r].

Native of the Canary iſlands. Mr. Francis Maſſon. Introduced 1779[s].

27. *Stem* erect, a foot and half in height, ſomewhat ſtriated, pubeſcent, and ſomewhat viſcid. *Leaves* alternate, ſeſſile, ſcarcely half-ſtem-claſping, ſpatulate or obovate-lanceolate, bluntiſh, ſubpubeſcent, having uſually about five teeth, but entire at the baſe. Branches from the upper axils. *Flowers* terminating, four or five, roundiſh, on purpliſh peduncles. Corollas yellow, with minute florets; in the ray naked, and very abundant: piſtils yellow, quickly vaniſhing; ſurrounding the diſk with a kind of broad downy ring.—Annual[t].

Native of Egypt. Introduced 1778, by Monſ. Thouin. It flowers in july[u].

28. Native of the iſland of St. Helena. Introduced 1772, by Sir Joſeph Banks Bart.—It flowers in November[x].

29. Native of the Cape of Good Hope. Mr. Francis Maſſon. Introduced 1774.—It flowers from june to auguſt[y].

30. Annual. *Stem* taper, herbaceous, a foot and half in height, covered lightly with a mealy down,

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[y] Retz.
[z] gen. 180.
[a] Hort. kew.
[b] Linn. ſyſt.
[c] Reichard.
[d] Linn. ſyſt.
[e] Loureiro.
[f] Ibid.
[g] Linn. ſpec.
[h] Loureiro.
[i] Swartz.
[k] Browne.

[l] Browne.
[m] Hort. kew.
[n] Linn. ſpec.
[o] Linn. ſuppl.
[p] Ibid.
[q] Hort. kew.
[r] Linn. ſuppl.
[s] Hort. kew.
[t] Linn. mant.
[u] Hort. kew.
[x] Ibid.
[y] Ibid.

and branching out almoſt the whole length. Branches ſlender, ſpreading almoſt horizontally, except that they turn up towards the end. *Leaves* oblong-oval, ſoft, bluntly indented on their edges; the lower about four inches long, and two inches and a quarter broad in the middle; hoary green on their upper, and pale green on their under ſurface, with a ſtrong, pale midrib: the leaves on the branches diminiſh gradually in ſize, but are of the ſame form. The *flowers* are produced at the end of the branches on ſhort peduncles, for the moſt part ſuſtaining three flowers. Calyxes ſoft and ſwollen in the middle; ſcales ſmall, acute. Corollas purple. The flowers appear in july, and there is a continual ſucceſſion till the cold of autumn puts a ſtop to them. The early flowers are generally ſucceeded by good ſeeds in favourable ſeaſons.—Native of the northern parts of China; and cultivated 1758, by Mr. Miller, who had the ſeeds from John Browning, Eſq. Maſter in Chancery, a curious cultivator of exotic plants at Chelſea [z].]

31. This riſes with a woody ſtalk ten or twelve feet high, dividing into many branches, the bark of which is covered with a brown nap. Leaves alternate, on ſhort petioles. Flowers in looſe ſpikes ranged on one ſide: they are white, and are ſucceeded by long flat ſeeds. It grows naturally at La Vera Cruz in New Spain, whence Dr. Houſtoun ſent the ſeeds to Mr. Miller.

32. This has a perennial root, from which ariſe ſeveral upright ſtalks three feet high. The flowers are produced at the end of the ſtalks in round bunches; they are ſmall, and of a purple colour; and are ſucceeded by oblong flat ſeeds. Native of La Vera Cruz in New Spain.

33. Stem ſtrong, woody, fourteen or ſixteen feet high, covered with an aſh-coloured bark, and divided at top into many woody branches. Leaves alternate, on ſhort petioles. The branches are terminated by roundiſh bunches of white flowers, on long peduncles, ſeveral together. Sent from La Vera Cruz by Dr. Houſtoun.

34. This is an annual plant, growing in low moiſt places, where the water ſtands in winter. It has an herbaceous, branching ſtalk, one foot high, with one oval ſeſſile leaf at each joint, covered with a white hairy down. The flowers are produced from the ſide of the branches on ſlender petioles, each for the moſt part ſuſtaining three flowers, which are white, and are ſucceeded by chaffy ſeeds. The whole plant is viſcous. Sent by Dr. Houſtoun from La Vera Cruz.

35. Root perennial. Stem three feet high. Leaves from four to five inches long, and one and a half broad in the middle, rough like thoſe of Comfrey. Stems terminated by branching peduncles, each ſuſtaining ſeveral yellow flowers, not much unlike thoſe of the common ſort. Native of La Vera Cruz, whence it was ſent by Dr. Houſtoun.

36. This has a climbing ſhrubby ſtalk, fourteen or ſixteen feet high, dividing into many branches. Leaves the ſize of thoſe of the Bay-tree, and full as thick in their texture, having many deep tranſverſe nerves, running from the midrib to the ſides; and of a pale green colour. Flowers large and white, produced in long ſpikes, ranged on the upper ſide only, from the ſide of the branches, and pointing upwards. They are ſucceeded by flat dark-coloured ſeeds. Sent from La Vera Cruz by Dr. Houſtoun.

37. Stalk ſhrubby, ſix or ſeven feet high, dividing into ſeveral woody branches. Flowers white, ſucceeded by oblong flat ſeeds. Native of Carthagena in New Spain, whence it was ſent by Mr. Robert Millar.

38. This riſes with a ſhrubby ſtalk eight or ten feet high, dividing into many long ſlender branches. Leaves three inches long, and three quarters of an inch broad in the middle; the ſmaller branches are ſet with very narrow, oblong, pointed leaves, which grow cloſe to the ſtalks; and at each joint is produced one pretty large white flower, with a purple calyx; theſe flowers come out the whole length of the ſmall branches, ſitting cloſe to the baſe of the leaves, ſo that the plants make a pretty appearance in flower.

Native of the ſame country, and ſent over by Mr. Millar.

39. This has a ſtrong woody ſtem, riſing ten or twelve feet high, divided at top into many ſhort woody branches, whoſe joints are very cloſe to each other. The leaves come out alternate on every ſide the branches, to which they ſit very cloſe; they are ſmooth, one inch long, and half an inch broad, ending in acute points, having three longitudinal veins. The flowers are white, and produced in ſhort cloſe ſpikes, which come out from the ſide of the branches, and are ſucceeded by oblong flat ſeeds.

Native of Carthagena in New Spain, and ſent over by Mr. Millar.

40. This riſes with a ſhrubby ſtem to the height of ſix or ſeven feet, dividing into ſeveral branches, which have a dark brown bark. Leaves ſmooth, having three longitudinal veins, ſtanding on ſhort foot-ſtalks, placed alternate on every ſide the branches. The flowers are produced on long naked peduncles, which extend five or ſix inches beyond the end of the branches; theſe are purple, and form a kind of round bunch: the calyx of the flower is compoſed of ſhort chaffy ſcales.

It grows naturally at Campeachy, whence the ſeeds were ſent by Mr. Robert Millar.

41. Stem ſhrubby, ten or twelve feet high, ſending out many ſtrong woody branches, covered with a dark-coloured bark. The flowers are purple, and are ſucceeded by flat ſeeds. Native of Campeachy.

42. This riſes with a ſhrubby branching ſtalk four or five feet high. The lower branches and ſtalk have ſpear-ſhaped leaves four inches long and one inch broad in the middle, on ſhort petioles: the leaves on the upper branches are much narrower, and end in acute points. The flowers are purple, and are produced in round bunches at the end of the branches.

[Browne ſays, that it ſeldom riſes ſixteen or twenty inches in height; that the ſtalk is generally pretty ſimple below the middle, but towards the top throws out many branches, which reach nearly to an equal height, and carry their flowers in a ſhady ſpreading form at the top; that the ſmell is agreeable, and that it is kept by ſome people among their cloaths, to preſerve them from moths and other inſects.

Native of Jamaica, in the low marſhy lands.

43. Native of Jamaica.]

PROPAGATION AND CULTURE.

1. Common great Fleabane being a native, is ſeldom allowed a place in gardens. If the ſeeds be permitted to ſcatter, the plants will come up the following ſpring, and require no other care but to keep them clean from weeds.

9. This is propagated by ſeeds, which may be ſown on a bed of light earth in the ſpring, and when the plants come up, they ſhould be thinned where they are too near, and kept clean from weeds; the following autumn they may be tranſplanted where they are deſigned to remain, and require no other care but to keep them clean from weeds. The ſecond year they will flower and produce ripe ſeeds, and will continue two years if the ſoil is not too good, for theſe plants often rot, when they are planted in a rich ſoil.

13. This rarely producing ripe ſeeds in this country, is propagated here by ſlips, which, if taken from the old plants in june, and planted on an eaſt-aſpected border, and covered with hand-glaſſes, will take root in ſix or eight weeks. But theſe ſlips muſt be frequently, but gently refreſhed with water, and the glaſſes ſhould be ſhaded in hot weather; and after they have been planted a fortnight, the glaſſes ſhould be raiſed on one ſide to admit air to the cuttings; and when they have taken root, they ſhould

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[z] Mill. fig.

be gradually expoſed to the open air. In autumn theſe ſhould be carefully taken up, preſerving the earth to their roots; ſome of them may be planted in pots, that they may be ſheltered under a frame in the winter; and the others ſhould be planted in a warm border of dry poor earth; where they will endure the cold of our ordinary winters very well, and continue many years. This is preſerved in gardens, more for the beauty of its ſilvery leaves than its flowers, which have not much to recommend them.

[14. Produces ſeeds freely, by which it may be propagated.]

19. This ſort is propagated by ſeeds, which ſhould be ſown in pots in the autumn, if they can be procured at that ſeaſon; but the pots ſhould be placed in a garden-frame in winter, to prevent the ſeeds ſuffering by cold and wet. If the ſeeds are ſown in the ſpring, the plants rarely come up the ſame year, therefore it will be proper to ſcreen this in winter; when this is obſerved, the plants will riſe the following ſpring. When the plants are fit to remove, they ſhould be each planted in a ſeparate pot, and placed into a very moderate hot-bed, where they muſt be ſcreened from the ſun until they have taken root; after which they ſhould be gradually hardened to bear the open air, into which they ſhould be removed the beginning of june, placing them in a ſheltered ſituation, where the ſecond ſeaſon they will flower, and if the ſummer is good, they will ripen their ſeeds.

6, 7, 10 to 12, 14 to 21, 22 to 24, 27, 31 to 43. Theſe are too tender to thrive in the open air in this country; the ſeeds therefore muſt be ſown upon a hot-bed the beginning of april, and when the plants are fit to remove, they muſt be each tranſplanted into a ſmooth pot filled with light ſandy earth, and plunged into a hot-bed, obſerving to ſcreen them from the ſun till they have taken new root; then they muſt have free air admitted to them every day, in proportion to the warmth of the ſeaſon; they muſt alſo be frequently watered in warm weather, but they ſhould not have it in too great plenty. As the plants advance in ſtrength, they muſt have a greater ſhare of air; and if the ſeaſon is warm, they may be expoſed to the open air for a few weeks in the heat of ſummer, provided they are placed in a warm ſituation; but if the nights prove cold, or much wet ſhould fall, they muſt be removed into ſhelter: if theſe plants are placed in a moderate ſtove in winter, they will thrive better than in greater heat, and in ſummer they ſhould have a large ſhare of air. With this management the plants will flower well in july, but in general they will not perfect their ſeeds here.

[22. And ſome other of the perennial ſorts may be increaſed by parting the roots.

26, 28, 29. Grow readily from cuttings.

27. Muſt be propagated from ſeeds.]

30. The ſeeds ſhould be ſown upon a moderate hot-bed the beginning of april; when the plants are fit to remove, they ſhould be tranſplanted into a freſh hot-bed, obſerving to ſhade them from the ſun till they have taken new root. In june they may be gradually hardened to the open air; and part of them may be planted in warm borders, where they will flower, and if the ſeaſon prove warm, ripen their ſeeds: but it will be prudent to keep ſome plants in pots, placed in an airy glaſs-caſe, in order to ſecure good ſeeds.

34. Sometimes ripens its ſeeds, if the autumn prove favourable; but there is little beauty in this ſpecies. The ſeeds of the other South-American ſorts muſt be procured from that country; and being long in coming, they rarely vegetate the firſt year.

36. Makes a fine appearance in the ſtove when it flowers, and as it retains its leaves all the year, in the winter it affords an agreeable variety among other tender plants.

[Moſt of the ſpecies require the protection of the bark ſtove, as 6, 7, 10, 11, 12, 14 to 21, 23, 24, 27, and 31 to 43.

3, 4, 5, 13, 22, 25, 26, 28, 29, 30, may be kept in a Green-houſe, dry Stove or glaſs caſe.

2; 8; 9 are hardy Perennials.

CONYZA. See *Baccharis, Bidens, Buphthalmum, Cacalia, Chryſocoma, Cineraria, Erigeron, Eupatorium, Gnaphalium, Inula, Pteronia, Senecio, Stoebe, Tarconanthus.*

Conyza lobata. See *Calea lobata.*

CONYZELLA. See *Erigeron.*

Conyzis affinis. See *Inula.*

CONYZOIDES. See *Erigeron.*]

COPAIFERA. (*From Copaiva, the Indian name, and fero, to bear.*)

Lin. gen. n. 542. *Reich.* 601. *Schreb.* 757. *Juſſ.* 365. Copaiva. *Jacqu. amer.* 133.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Leguminoſæ.* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. *Petals* four, oblong, acute, concave, very ſpreading.

STAM. *Filaments* ten, filiform, incurved, a little longer than the corolla. *Anthers* oblong, incumbent.

PIST. *Germ* round, compreſſed-flat, pedicelled. *Style* filiform, incurvate, length of the ſtamens. *Stigma* obtuſe.

PER. *Legume* ovate, bivalve, pointed with part of the ſtyle.

SEED ſingle, ovate, involved by a berried *Aril.*

ESSENTIAL CHARACTER.

Cal. none. *Pet.* four. *Legume* ovate. *Seed* one, with a berried aril.

SPECIES.

1. Copaifera officinalis. *Balſam of Capevi tree.*

Lin. ſpec. 557. *ſyſt.* 409. *Reich.* 2. 303. *mat. med.* 115. *Jacqu. amer.* 133. *t.* 86. *pict.* 67. *t.* 128. *Woodv. med. bot.* 373. *t.* 137. *Plenck, ic. t.* 343.

Copaiba. *Marcgr. braſ.* 130. *Piſ. braſ.* 56. *Raii hiſt.* 1593. 16. & 1759. 4.

DESCRIPTION, &c.

[This is a lofty elegant tree, with a handſome head: the extreme branches at the axils are flexuoſe, and have a ſmoothiſh bark of a browniſh aſh colour. Leaves alternate, pinnate, the midrib or rachis round and four inches long, leaflets three or four pairs without an odd one, lanceolate-ovate, ending in a blunt point, quite entire, ſhining, ſubcoriaceous, with ſeveral obliquely aſcending veins, the middle nerve prominent beneath, and ferruginous; they are from two to three inches long, and on ſhort petioles; the inner ones narrower by half than the others; the two uppermoſt oppoſite, but one of theſe frequently wanting, ſo that the leaf then appears to be unequally pinnate; the reſt are alternate. Racemes axillary, ſolitary, ſpreading, ſtiff, round, the length of the pinnas, looſely divided into about eight alternate, lateral common peduncles, an inch and half in length, with white flowers ſitting cloſely on them. The germ as it grows, from flat becomes globular.

Native of South America, frequent about Tolu, ſixty leagues from Carthagena, promiſcuouſly with the trees which yield balſam of Tolu, Peru, &c.[a]]

Introduced into Jamaica by Mr. Robert Millar, ſurgeon: [here in 1788, by Mr. Alexander Anderſon[b].

From this tree is obtained in very conſiderable quantities, by perforating the trunk, fluid balſam or reſin, which thickens by degrees; and which is known in medicine by the title of Balſamum Capivi.

This balſam has an agreeable ſmell, and a bitteriſh taſte; and when agitated with water, in ſome degree unites with it, rendering the liquor turbid and milky, but ſoon ſeparates, and riſes to the ſurface on ſtanding. Dropt on ſugar, or triturated with thick mucilages, or with whites of eggs, it becomes more permanently miſcible with water into an uniform milky fluid: it is generally taken in this form, or mixed with powdery or other matters into a bolus or electary. It mixes eaſily with diſtilled oils, and diſſolves in rectified ſpirit of wine into a tranſparent fragrant liquor, more agreeable than the balſam itſelf.

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[a] Jacquin.

[b] Hort. kew.

Balſam of Copaiba has been employed principally, and preferably to the other balſams, in fluor albus, and in ulcerations of the urinary paſſages. Fuller ſays he has known dry deep coughs, coughing up of blood and pus, voiding of chyle inſtead of urine, with great pain and weakneſs, cured by it; and that, notwithſtanding the warmth and bitterneſs of its taſte, he has found it to agree in hectic caſes. He obſerves that it gives the urine a bitter taſte, but not a violet ſmell, as the turpentines do; and that if taken in doſes of two or three drams, it proves, like them, purgative. The uſual doſe is from ten to thirty or forty drops.

In too large doſes, or too long continued, it has been found productive of conſiderable inconveniences; exciting febrile heats, pains in the head, &c.]

PROPAGATION AND CULTURE.

If freſh ſeeds of this tree could be procured from South America or the Weſt Indies, it might be raiſed from them. [It may alſo be increaſed from cuttings, but not very readily.] It muſt be conſtantly preſerved in the bark ſtove.

Copalli. See *Rhus copallinum.*

Coppices. See *Planting.*

[COPROSMA. (*From* κοπρος, *dung; and* οσμη, *ſmell: the firſt ſpecies ſmelling very ſtrong like dung.*)
Lin. gen. Schreb. n. 1593. *Forſt. gen.* 69. *Lin. ſuppl.* 24. *Juſſ.* 205.
Claſſ. 23. 1. Polygamia Monoecia.
Nat. order of *Stellatæ.—Rubiaceæ.* Juſſ.

GENERIC CHARACTER.

* *Hermaphrodite.*

Cal. *Perianth* one-leafed, inferior, very ſhort; permanent; with five acute diſtant toothlets.

Cor. one-petalled, funnel-form, five or ſix-cleft: *ſegments* acute, erect.

Stam. *Filaments* five, ſix or ſeven, capillary. *Anthers* oblong, bifid at the baſe, erect, ſlightly incurved, acuminate.

Pist. *Germ* oblong. *Styles* two, filiform, cohering ſlightly at the baſe, longer than the corolla, divaricating. *Stigmas* ſimple.

Per. *Berry* ovate-globular, two-ſeeded.

Seeds two, ovate, flat on one ſide, convex on the other.

* *Male.*

Cal. Cor. Stam. as in the Hermaphrodite.

ESSENTIAL CHARACTER.

Cal. one-leafed, five-toothed. *Cor.* five or ſix-cleft. *Stam.* five, ſix or ſeven. Herm. *Styles* two, long. *Berry* containing two flattiſh ſeeds.

SPECIES.

1. Coproſma foetidiſſima.
Lin. ſyſt. 274. *ſuppl.* 178. *Forſt. gen.* 69. *Fl. auſtr. n.* 138.
Flowers ſolitary.

2. Coproſma lucida.
Lin. ſyſt. 274. *ſuppl.* 178. *Forſt. gen.* 69. *fl. auſtral. n.* 137.
Peduncles compound.

DESCRIPTIONS, &c.

Theſe are Shrubs. Leaves oppoſite, with a ſtipule interpoſing. Peduncles axillary, one or many-flowered. Flowers male and hermaphrodite; corolla differently divided, and the number of ſtamens uncertain, from five to ſeven [c].

1. This has a ſmell abominably fetid. Diſcovered with the following november 12th, 1773, in Queen Charlotte's Sound New Zealand.

2. Leaves petioled, ovate, acuminate both ways, quite entire. Stipule ſolitary, ſharp, combining the leaves. Peduncles ſolitary, oppoſite, two-leaved, divided into other peduncles terminated by capitate flowers. Calyx and corolla greeniſh. The whole plant very ſmooth, reſembling Phyllis [d] in ſome reſpects, Pæderia in others [e].

Coral and Corallodendron. See *Erythrina, Piſcidia* and *Sophora.*

Corallaria. See *Adenanthera.*

Coralloides. See *Dentaria.*

Corallorhiza. See *Ophrys.*

Coral-tree. See *Erythrina.*

Coral-wort. See *Dentaria.*]

CORCHŏRUS. (*Gr.* Κόρχορος, *from* κορεω, *purgo; an ordinary pot-herb, ſaid to be very bitter; hence the proverb of Corchorus among the pot-herbs, to ſignify any thing mean and contemptible.*)
Lin. gen. n. 675. *Reich.* 730. *Schreb.* 917. *Gærtn.* 64, & 179. *Tourn.* 135. *Juſſ.* 290.
Claſſ. 13. 1. Polyandria Monogynia.
Nat. order of *Columniferæ. Tiliaceæ.* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved; *leaflets* linear-lanceolate, acute, erect, deciduous.

Cor. *Petals* five, oblong, obtuſe, narrower beneath, erect, length of the calyx.

Stam. *Filaments* numerous, capillary, ſhorter than the corolla. *Anthers* ſmall.

Pist. *Germ* oblong, furrowed. *Style* thick, ſhort. *Stigma* two-cleft.

Per. *Capſule* oblong, five-celled, five-valved. (three cells or more, divided by incomplete, tranſverſe partitions. *G.*)

Seeds very many, cornered, pointed.

Obs. C. ſiliquoſus *has a linear, compreſſed, two-valved, two-celled Silique.*
C. capſularis *and* hirſutus *have roundiſh retuſe capſules.*
C. æſtuans *and* tridens *have three bifid ſtyles.* R.

ESSENTIAL CHARACTER.

Cor. five-petalled. *Cal.* five-leaved, deciduous. *Capſ.* many-valved, many-celled.

SPECIES.

1. Corchorus olitorius. *Briſtly-leaved Corchorus,* or *common Jew's-Mallow.*
Lin. ſpec. 746. *Reich.* 2. 606. *mant.* 565. *fl. zeyl. n.* 213. *hort. upſ.* 147. *cliff.* 209. *Gærtn. fruct.* 308. *Gron. orient.* 170. *Comm. hort.* 47. *t.* 12. *Bauh. pin.* 317. *hiſt.* 2. 982. *Mor.* 2. 283. *ſ.* 3. *t.* 15. *f.* 4. *Pluk. alm. t.* 127. *f.* 3. *Cam. hort.* 47. *t.* 12.
Capſules oblong ventricoſe; the loweſt ſerratures of the leaves ſetaceous.

[2. Corchorus trilocularis.
Lin. ſyſt. 501. *Reich.* 2. 606. *mant.* 77. & 566. *Jacqu. hort.* 2. *t.* 173.
C. æſtuans. *Forſk. ægypt.* 4. 101.
Capſules three-celled three-valved three-ſided, angles bifid ſcabrous; leaves oblong, the loweſt ſerratures ſetaceous.

3. Corchorus tridens.
Lin. ſyſt. 501. *Reich.* 2. 606. *mant.* 566. *Pluk. phyt. t.* 127. *f.* 4. *Burm. ind.* 123. *t.* 37. *f.* 2.
Capſules linear, ſomewhat columnar ſcabrous; the loweſt ſerratures of the leaves ſcabrous.]

4. Corchorus æſtuans. *Horn-beam leaved Corchorus.*
Lin. ſpec. 746. *ſyſt.* 501. *Reich.* 2. 607. *mant.* 565. *Jacqu. hort.* 1. *t.* 85. *Gærtn. fruct.* 1. 308. *Pluk. phyt.* 127. *f.* 3. (Alcea.) *Brown. jam.* 232. *t.* 25. *f.* 1. (Triumfetta.)
Capſules oblong three-celled three-valved ſix-furrowed ſix-cuſped; leaves cordate, the loweſt ſerratures ſetaceous.

5. Corchorus capſularis. *Heart-leaved Corchorus.*
Lin. ſpec. 746. *ſyſt.* 501. *Reich.* 2. 607. *fl. zeyl. n.* 214. *hort. cliff.* 210. *upſ.* 147. *Pluk. alm. t.* 255. *f.* 4. (Alcea.) *Rumph. amb.* 5. 212. *t.* 78. *f.* 1. *Gærtn. fruct.* 2. 482. *Lour. cochinch.* 334.
Capſules roundiſh depreſſed wrinkled; the lower ſerratures of the leaves ſetaceous.

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[c] Juſſieu.

[d] Linn. ſuppl.

[e] Juſſieu.

6. Corchorus hirſutus.
Lin. ſpec. 747. *ſyſt.* 501. *Reich.* 2. 607. *Jacqu. amer.* 165. *hort.* 3. *t.* 57. *amer. pict.* 81. *t.* 157. *Breyn. prodr.* 3. 56. *Plum. gen.* 36. *ic.* 104.
C. tomentoſus. *Thunb. jap.* 228.
Capſules roundiſh woolly; leaves ovate obtuſe tomentoſe equally ſerrate.

[7. Corchorus japonicus.
Lin. ſyſt. 501. *Thunb. jap.* 227.
Capſules round ſmooth; leaves doubly ſerrate.

8. Corchorus hirtus.
Lin. ſpec. 747. *Reich.* 2. 608. *Jacqu. hort.* 3. *t.* 58.
Capſules oblong; they and the ſtem hairy; leaves oblong, equally ſerrate.]

9. Corchorus ſiliquoſus. *Germander-leaved Corchorus.*
Lin. ſpec. 746. *ſyſt.* 501. *Reich.* 2. 608. *hort. upſ.* 147. *Jacqu. hort.* 3. *t.* 59. *Swartz obſ.* 219. *Plum. ſpec.* 7. *ic.* 103. *f.* 1. *Sloan. jam.* 1. 145. *t.* 94. *f.* 1. *Raii ſuppl.* 516.
C. Coreta. *Lin. amœn.* 5. 398.
Coreta. *Brown. jam.* 147.
Capſules linear compreſſed two-valved; leaves lanceolate equally ſerrate.

Other ſpecies from Miller.

10. Corchorus tetragonus.
Mill. dict. n. 4.
C. flore flavo, fructu caryophylloide. *Pluk.*
Leaves ovate-cordate crenate; capſules four-cornered, reflected at the points.

11. Corchorus linearis.
Mill. dict. n. 5.
Leaves lanceolate ſerrate-toothed; capſules linear compreſſed two-valved.

12. Corchorus bifurcatus.
Mill. dict. n. 6.
Leaves cordate ſerrate; capſules linear compreſſed, having two horns at the points.

From Vahl, and Thunberg.

[13. Corchorus faſcicularis.
Vahl ſymb. 3. 69. *Lamarck encycl.* 2. 1. 105. *Pluk. amalth.* 85. *t.* 439. *f.* 6.
Capſules oblong ſubſeſſile hairy mucronate, two or three together, leaves lanceolate-oblong ſmooth, ſerratures equal.

14. Corchorus flexuoſus.
Thunb. in Linn. tranſ. 2. 335.
Leaves doubly-ſerrate cuſpidate, ſtem flexuoſe.

15. Corchorus ſerratus.
Thunb. in Linn. tranſ. 2. 335.
Leaves oblong ſerrate cuſpidate, branches ſmooth.

16. Corchorus ſcandens.
Thunb. in Linn. tranſ. 2. 335.
Leaves ovate ſetaceous-ſerrate oppoſite, ſtem and branches flexuoſe-ſcandent.]

DESCRIPTIONS, *&c.*

1. It is an annual plant, about two feet high, and dividing into ſeveral branches. Leaves ſome ſpear-ſhaped, others oval, ſome almoſt heart-ſhaped, deep-green, ſlightly indented on their edges, having near their baſe two briſtly reflex ſegments; they are on very long ſlender petioles; eſpecially the lower one. Flowers ſeſſile, ſolitary, yellow. [Stipules ſimple, red at the baſe. Leaves three-nerved. Capſules fuſiform, five-celled, furrowed, with about five teeth, or obtuſe [a]. Very obſcurely five-cornered, leſſening at top into a beak. Seeds of an almoſt pyramidal form, dark brown, fixed in a double row along the middle edge of the partitions [b].]

Native both of the Eaſt and Weſt Indies, and of Africa. Rauwolf ſays it is ſown in great plenty about Aleppo as a pot-herb, the Jews boiling the leaves to eat with their meat.

[Cultivated 1731, by Mr. Miller [c]. It flowers in july and auguſt, and the ſeeds ripen in autumn.

2. Root annual. Stems ſmooth and even, erect, a foot in height, round, green. Stipules ſetaceous, ſmall. Leaves alternate, petiolate, marked with lines, naked, the under ſurface ſcabrous, lanceolate, wave-ſerrate. Peduncles nearly oppoſite to the leaves, ſhort, two-cleft or two-flowered. Calyxes angular. Petals narrow, pale yellow. Capſules linear, of a triangular priſmatic form, ſcabrous, the angles ſtreaked with a line, obtuſe at the end, and ſimple [d].

Jacquin remarks, that the whole plant is ſomewhat rugged, that the peduncles ſuſtain from one to three flowers, on very ſhort pedicels, that the calyx is obſcurely tinged with purple, that the petals are obovate, either ſlightly emarginate or entire; he calls the pericarp a ſilique, and ſays that it is two inches long, three-celled and three-valved; and that the ſeeds, which are ſmall and blue, are ranged in a double row along the valves.

Native of Arabia, where it was found by Forſkæhl.

3. Stem ſmooth and even, green. Stipules three-parted, ſetaceous. Leaves marked with lines, lanceolate, wave-ſerrate. Capſules linear, ſcabrous. Styles three, very much divaricated, bifid [e].

Native of the Eaſt Indies.]

4. Stem ſtrong, two feet high, divided at top into two or three branches. Leaves on long petioles, and between them ſeveral ſmaller leaves nearly of the ſame form, ſitting cloſe to the branches. The flowers come out ſingly on the ſide of the branches. [Stem roughiſh, purpliſh, with divaricating branches. Stipules ſetaceous. Capſules linear, hexangular, the angles compreſſed, each pair approximating. Styles three, bifid. The teeth at the end of the capſule divaricate very much [f]. Capſule terminated by three very ſpreading beaks, bifid at the end: the valves have obſcure tranſverſe wrinkles within, inſtead of partitions; on the outſide they have a double wing at the back, which is notchletted, and ſomewhat waved. Seeds ſmall, variouſly cornered, blackiſh [g].]

Native of the Weſt Indies. [Cultivated 1739, by Mr. Miller [h].]

5. This riſes with a ſlender ſtalk about three feet high, ſending out ſeveral weak branches. At each joint is one leaf of an oblong heart ſhape, ending in a long acute point, ſerrate, and on a ſhort petiole. The flowers come out ſingly on the ſide of the branches, to which they ſit very cloſe; they are ſmaller than thoſe of the former ſorts.

[The leaflets of the calyx are concave, bent in, dotted on the outſide, and ſhorter than the corolla. Petals emarginate [i].

Native of the Eaſt-Indies, and China. Cultivated 1731 by Mr. Miller [k].

6. This ſhrub grows to the height of a man, with many round branches, the young ones villoſe. Leaves alternate, petioled, crenate, thickiſh, veined, hoary underneath. Peduncles lateral, umbelled, having from four to ſeven flowers, void of ſcent, each on its proper pedicel. Calycine leaflets oblong, concave, villoſe. Petals yellow, roundiſh, ſpreading very much, the length of the calyx. Stamens the length and colour of the corolla. Germ villoſe: ſtyle the length of the ſtamens: ſtigma obtuſe. Capſule ovate, a little bent in, lanuginoſe, obtuſe, two-celled.—It varies in Jamaica with oblong leaves [l]. This variety is figured by Jacquin, hort. t. 57. f. 2.

Thunberg deſcribes his C. tomentoſus thus. *Stem* ſhrubby, round, erect, branched, purple, ſmooth, two feet high and more. Branches alternate, at bottom purple and ſmooth, at top tomentoſe, erect, wand-like. Branchlets filiform, very ſpreading, tomentoſe. *Leaves* alternate, petiolate, nerved, ſpreading. Petiole very ſhort, tomentoſe; as is alſo the calyx. *Flowers* axillary and terminating, uſually ſolitary. Corolla orange-coloured. Capſule cylindric, woolly.—This is very diſtinguiſhable from the other ſorts by its tomentoſe leaves. Japan, flowering in ſeptember and october.

Native of the Weſt-Indies and Japan.

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[a] Linn. mant.
[b] Gærtner.
[c] Hort. kew.
[d] Linn. mant. & ſyſt.
[e] Ibid.
[f] Ibid.
[g] Gærtner.
[h] Hort. kew.
[i] Lin. ſyſt.
[k] Hort. kew.
[l] Jacquin.

7. *Stem* ſhrubby, two feet high and more, ſmooth. *Leaves* from alternate buds many, petiolate, ſubcordate, ovate, acuminate, gaſh-ſerrate, the ſerratures ſerrate, acute, all ſubſetaceous; nerved, villoſe, eſpecially the nerves underneath. Petiole a line in length. Flowers terminating, ſolitary, on ſhort peduncles. Corolla dark-yellow or orange-coloured.—Native of Japan, where it is alſo cultivated for the elegance of its flowers, which appear in february and the following months [m].

8. Root annual. Stem upright, round, branched, eſpecially at top, from two to three feet high. Leaves alternate, lanceolate, acute, finely ſerrate, on ſhort petioles, ſomewhat hairy, wrinkled on both ſides. Flowers without ſcent, axillary, peduncled, ſolitary or in pairs. Calycine leaflets hiſpid, ſpreading very much, flat, lanceolate-linear, acuminate, yellowiſh green. Petals yellow, ſhorter than the calyx, ſpreading much, very blunt, narrowed a little towards the baſe. Stamens the ſame length and colour with the petals. Germ oblong, columnar, hiſpid, with whitiſh, upright hairs. Style filiform, the length of the ſtamens: ſtigma capitate. Capſule linear, acute, hiſpid, brown, near an inch long, two-furrowed, two-valved. Seeds black, angular, ſmall. Native of the Weſt Indies [n].

9. It is an herbaceous plant, but branched like a ſhrub, with a round ſmooth ſtem, and alternate upright pubeſcent branches. Leaves petioled, alternate, ſmall, nerved, ſmooth, with ſmaller leaves in the axils. Stipules ſubulate, oppoſite [o].

Stem almoſt ſhrubby, erect, panicled, ſubpubeſcent. *Leaves* lanceolate or ovate-oblong, equally ſerrated without an elongated tooth at the baſe. Peduncles one-flowered (few-flowered, oppoſite to and ſhorter than the leaf, flowers ſmall, yellow, nodding, *Swartz.*) lateral, without bractes. Germs hairy. Siliques two-valved, compreſſed.——The vernal flowers have no petals, a four-leaved calyx, and four ſtamens: the autumnal, have five petals, a five-leaved calyx, and many ſtamens [p]. Cultivated 1732, by Mr. Miller. It flowers from june to auguſt [q]: in its own country almoſt the whole year. Very common in all the ſugar colonies, in dry ſandy places; ſeldom riſing above two feet and a half. It is generally uſed for beſoms by the negroes [r].]

10. Height about two feet, dividing into ſmall branches. Flowers very ſmall, pale yellow, ſucceeded by ſwelling, rough, four-cornered ſeed-veſſels, about an inch long, flatted at top, where there are four reflex horns, giving them ſome reſemblance to the Clove.

Native of both Indies.

11. Height three feet, with ſeveral weak ſide branches. Leaves about three inches long, and one inch broad in the middle, leſſening gradually to both ends, ſitting cloſe to the branches. The flowers come out ſingly oppoſite to the leaves; they are very ſmall, of a pale yellow, and are ſucceeded by ſeed-veſſels near two inches long, flat, two-celled, with ſmall angular ſeeds.

Native of Carthagena in New Spain.

12. This riſes with a ſtrong herbaceous ſtalk between three and four feet high, ſending out ſeveral ſide branches, which grow erect. Leaves on long ſlender petioles: and between them many ſmaller leaves nearly of the ſame form, ſitting cloſe to the branches. The flowers come out from the ſide of the branches, on ſhort peduncles, are very ſmall, of a pale yellow, and are ſucceeded by flat ſeed-veſſels near three inches long, ending in two horns; they are two-celled, and filled with ſmall angular ſeeds.

Native of Jamaica, whence the ſeeds were ſent by Dr. Houſtoun.

[13. Branches round, ſmooth. Leaves petioled, narrow, blunt, the lower ſerratures not briſtle-ſhaped. Fruits aſh-coloured with hairs, three-valved.—Native of the Eaſt Indies [s].

14. Stem round, ſlightly angular by the decurrent leaves, ſmooth, erect, two feet high. Leaves alternate, petioled, obliquely cordate, ovate, villoſe, patulous, two inches long. Flowers at the ends of the branches, yellow.

15. Stem erect, ſmooth. Branches round, purple, erect. Leaves alternate, petioled, ſerratures large, ſetaceous at the tip, the upper ſurface very finely villoſe-ſcabrous, the under ſmooth, two inches long, patulous.

16. Stem round. Branches oppoſite, ſimilar, divaricating. Leaves on very ſhort petioles, rounded at the baſe, acuminate, an inch long. At the ends of the branchlets are ſolitary, yellow flowers.

Theſe three are natives of Japan [t].]

PROPAGATION AND CULTURE.

All theſe ſorts are too tender to thrive in England in the open air, therefore their ſeeds muſt be ſown on a hot-bed in the ſpring; and when the plants are come up fit to remove, they ſhould be tranſplanted on a freſh hot-bed to bring the plants forward, otherwiſe they will not ripen ſeeds. After the plants are rooted in the new hot-bed, they muſt have free air admitted to them every day, in proportion to the warmth of the ſeaſon, for they muſt not be drawn up weak; when the plants have obtained ſtrength, they ſhould be tranſplanted each into a ſeparate pot, and plunged into a hot-bed, obſerving to ſhade them from the ſun till they have taken root; then they muſt have a large ſhare of air every day, and ſhould be frequently refreſhed with water; and in june they ſhould be gradually inured to the open air, and part of them may be ſhaken out of the pots, and planted in a warm border, where, if the ſeaſon proves warm, they will flower and perfect their ſeeds; but as theſe will ſometimes fail, it will be proper to put one or two plants of each ſort into pots, which ſhould be placed in a glaſs-caſe, where they may be ſcreened from bad weather, and from theſe good ſeeds may always be obtained. The ſixth ſort may alſo be treated in the ſame manner during the ſummer ſeaſon, but in autumn the plants muſt be removed into the ſtove, and plunged into the bark-bed, and theſe will flower early the ſecond year, and ripen ſeeds.

CORDIA. (*So named by Plumier, from Euricius Cordus, whoſe true name was Henricus Urbanus, and Valerius his ſon, German botaniſts of the ſixteenth century.*)

Lin. gen. n. 256. *Reich.* 276. *Schreb.* 350. *Juſſ.* 128. *Plum.* 14. Sebeſtena. *Dill. elth. t.* 255. *Gærtn.* 76.—Patagonula. *Lin. gen.* 208. *Reich.* 277. *Schreb.* 351. *Dill. elth. t.* 226.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aſperifoliæ*. *Borragineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, toothed at the top, permanent.

Cor. one-petalled, funnel-form. *Tube* patulous, length of the calyx. *Border* erect-ſpreading, cut into five, (four or ſix) obtuſe *diviſions*.

Stam. *Filaments* five, ſubulate. *Anthers* oblong, length of the tube.

Pist. *Germ* roundiſh, acuminate. *Style* ſimple, length of the ſtamens, bifid at top; *diviſions* bifid. *Stigmas* obtuſe.

Per. *Drupe* globoſe, acuminate, growing to the calyx.

Seed. *Nut* furrowed, four-celled.

Obs. C. ſpineſcens *has both calyx and corolla bell-ſhaped.* R.

ESSENTIAL CHARACTER.

Cor. funnel-form. *Style* dichotomous. *Drupe* with two-celled nuts, (two or four-celled, *G.*)

SPECIES.

1. Cordia Myxa. *Smooth-leaved Cordia, Sebeſten, or Aſſyrian Plum.*

Lin. ſpec. 273. *ſyſt.* 230. *Reich.* 529. *mat. med.* 67. *hort. cliff.* 63. *Plenck, ic. t.* 116.

Myxa ſ. Sebeſten. *Bauh. hiſt.* 1. 197. *Raii hiſt.* 1555. *Park. theat.* 252. *n.* 1.

Sebeſtena ſylveſtris & domeſtica. *Bauh. pin.* 446. *Alp. ægypt.* 30.—officinalis. *Gærtn. fruct.* 364.

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[m] Thunberg. [n] Jacquin. [o] Swartz. [p] Linn. ſpec. & ſyſt. [q] Hort. kew. [r] Browne. [s] Vahl.

[t] Thunberg.

S. domeſt. ſ. Myxa. *Comm. hort.* 1. 139. *t.* 72. *Blackw. t.* 398.

Prunus Sebeſtena. *Pluk. alm. t.* 217. *f.* 3.

Cornus ſanguinea. *Forſk. ægypt.* 33. *n.* 10.

Vidi-maram. *Rheed. mal.* 4. 77. *t.* 37. *Raii hiſt.* 1563.

Leaves ovate, ſmooth on the upper ſurface; corymbs lateral; calyxes ten-ſtriated.

[2. Cordia ſpineſcens.

Lin. ſyſt. 230. *Reich.* 530. *mant.* 206.

Leaves ovate acute ſerrate ſcabrous; petioles ſubſpineſcent.]

3. Cordia Sebeſtena. *Rough-leaved Cordia.*

Lin. ſpec. 274. *ſyſt.* 230. *Reich.* 530. *Jacqu. amer.* 42. *pict.* 26. *t.* 44. *Brown. jam.* 202. *Plum. gen.* 13. *ic.* 105. *Plenck, ic. t.* 115.

Sebeſtena ſcabra, fl. miniato criſpo. *Dill. elth.* 340, *t.* 255. *f.* 331.

Caryophyllus. *Sloan. jam.* 2. 20. *t.* 164. *Raii ſuppl.* 86. *Cateſb. car.* 2. *t.* 91.

Novella nigra. *Rumph. amb.* 226. *t.* 75. *Burm. ind.* 59.

Leaves oblong-ovate repand ſcabrous.

[4. Cordia Geraſcanthus.

Lin. ſpec. 273. *ſyſt.* 230. *Reich.* 531. *Jacqu. amer.* 43. *t.* 175. *f.* 16. *pict.* 27. *t.* 259. *f.* 12. *Swartz obſ.* 86. *Brown. jam.* 170. *t.* 29. *f.* 3. (*Geraſchanthus.*)

Leaves lanceolate-ovate ſcabrous; panicle terminating; calyxes ten-ſtriated.]

5. Cordia macrophylla. *Broad-leaved Cordia.*

Lin. ſpec. 274. *Reich.* 531. *Brown. jam.* 168. 2. *Mill. dict. edit.* 7. *add. n.* 2. (*Collococcus.*) *Sloan. jam.* 2. 130. *t.* 221. *f.* 1. *Raii dendr.* 41. 6. (*Prunus.*)

Leaves ovate villoſe a foot and half in length.

6. Cordia Collococca. *Long-leaved Cordia.*

Lin. ſpec. 274. *Reich.* 531. *Brown. jam.* 167. 1. *Mill. dict. edit.* 7. *add. n.* 1. (*Collococcus.*) *Sloan. jam.* 2. 95. *n.* 12. *t.* 203. *f.* 2. *Raii dendr.* 46. 15. *Pluk. phyt. t.* 158. *f.* 1. (*Ceraſus.*)

C. glabra. *Lin. ſpec. edit.* 1. 191.

Leaves cordate-ovate quite entire; flowers corymbed; calyxes tomentoſe within.

[7. Cordia Patagonula. *Spear-leaved Cordia,* or *Patagonula.*

Ait. hort. kew. 1. 259.

Patagonula americana. *Lin. ſpec.* 212. *ſyſt.* 230. *Reich.* 532. *Dill. elth.* 304. *t.* 226. *f.* 293.

Leaves oblong-lanceolate ſmooth on both ſurfaces, upper ones ſerrate; branchlets hairy.

8. Cordia aſpera.

Forſt. flor. auſtr. n. 109.

Leaves ovate acuminate rough; flowers in cymes wrinkled.

9. Cordia dichotoma.

Forſt. flor. auſtr. n. 110.

Leaves oblong-ovate ſcarcely crenate; corymbs dichotomous.

10. Cordia retuſa.

Vahl. ſymb. 2. 42. *Pluk. phyt. t.* 31. *f.* 1.

Leaves in bundles wedge-form retuſe three-toothed.

11. Cordia Micranthus.

Swartz prodr. 47.

Leaves elliptic lanceolate quite entire membranaceous veined, racemes compound lax.

12. Cordia elliptica.

Swartz prodr. 47.

Leaves elliptic acuminate entire coriaceous, branches compound diffuſed, drupes acuminate.

DESCRIPTIONS, *&c.*

1. Leaves like thoſe of the Alder, ſerrate-angulate, ſcabrous underneath[a], three inches long, oppoſite, flat, entire, obtuſe, on a round petiole, half an inch in length. Peduncles panicled, terminating, ſubcorymbed. Petals white, revolute. Fruit inferior, red, nearly an inch in diameter[b]. According to Gærtner, it is a black, berried drupe. Fleſh ſucculent. Shell bony, ovate, emarginate at top and bottom, perforated, of a turgid lenticular form, obſcurely ſcrobicular, ſubquadrilocular; two cells fertile, the others uſually barren or quite obliterated.

The timber of this tree is tough and ſolid, it is uſed for procuring fire by friction; the leaves bruiſed with thoſe of Datura Metel are applied to the forehead in the head-ach; a glue is prepared from the fruits, which are alſo eaten by children[c].

Native of Arabia and the Eaſt Indies. Cultivated 1640[d].]

Mr. Miller ſays it was very rare in this country till the year 1762, when the Daniſh travellers ſent ſome of the fruit from Egypt, and ſome plants were raiſed in the Chelſea garden.

[2. *Branches* ſtrict, tomentoſe, ferruginous. *Leaves* alternate, petiolate, tomentoſe, more ſcabrous on the upper ſurface, the ſize of Cherry leaves. *Petiole* very ſhort, ſeparating at the joint, but the baſe becoming a thorn as in *Volckameria,* rigid, and obliquely truncate on the outſide. *Raceme* from the axils of the leaves, ſimple or bifid, filiform, the length of the leaf. *Fruits* ſcattered, ſeſſile, black, the ſize of Currants. *Calyx* bell-ſhaped, obſcurely five-toothed. *Corolla* bell-ſhaped, five-toothed, twice as large as the calyx. *Style* filiform, twice bifid at top. *Stigmas* acute.—Native of the Eaſt Indies[e].]

3. Stems ſeveral, ſhrubby, eight or nine feet high, having towards the top rough alternate leaves on ſhort petioles, of a deep green on their upper ſide. Flowers terminating, in large cluſters upon branching peduncles, ſuſtaining one, two, or three flowers. Corolla large, with a long tube, ſpreading open at top, and there divided into five obtuſe ſegments; it is of a beautiful ſcarlet, and makes a fine appearance. A ſmall piece of the wood put on a pan of lighted coals, will perfume a whole houſe with a moſt agreeable ſmell.

[The younger leaves are ſerrate, the full grown ſcarcely repand, the upper certainly quite entire. Petioles round. No ſtipules. Calyx cylindric, oblong, with a trifid mouth. Corolla ſhaped as in Marvel of Peru, tawny-yellow, extremely wrinkled before it opens, like the Poppy. Style twice bifid[f].

In Jacquin's figure the colour is like that of the bloody Wall-flower, not ſcarlet[g].

It is adorned, ſays Browne, with large bunches of fine ſcarlet flowers, the moſt beautiful and agreeable of any I have yet obſerved in America.

Theſe come out at the tops of the branches fifteen or twenty together, the edge is fringed, but the ſurface ſinuous and curled; the colour at firſt is a high vermilion, becoming ſcarlet, and at length purpliſh; they have no ſcent. The fruit is in the form of an inverted Pear[h].

Native of both Indies and the Society Iſles.

From the juice of the leaves, with that of the fruit of a ſpecies of Fig, is prepared the fine red colour with which they dye their cloths in Otaheite. The Fig however will produce the colour with the leaves of ſeveral other plants[i].

Cultivated 1728, in Dr. Sherard's garden at Eltham[k].

4. Stem and branches unarmed, patulous, round, ſmooth. Leaves petioled, ſcattered, acuminate, entire, veined (eſpecially behind) ſmooth. Panicles large, compoſed of patulous, alternate, trichotomous, many-flowered branchlets; the laſt pedicels three-flowered. Flowers rather large, veined, permanent, ſhrivelling. Calyx tubular, five-toothed, ten-ſtreaked. Tube of the corolla ſpreading towards the opening, the bottom nectareous: border five-cleft; the ſegments blunt, entire. Filaments faſtened to the corolla from the baſe to the middle: anthers incumbent, linear, yellow. Germ oblong: ſtyle ſhorter than the ſtamens, dichotomous: ſtigmas blunt, yellow[l].

This tree riſes to a conſiderable height, but ſeldom exceeds twenty or thirty inches in diameter. It is pretty much branched towards the top, and furniſhed with oblong nervous leaves. The flowers have no ſcent, are very white, and grow in great numbers at the extremities of the branches; as the germ grows larger, they fade and turn of a dark or dirty brown colour, continuing upon the tree until the whole fruit, which ſeldom grows to a perfect ſtate, falls off. It is eſteemed one of the beſt timber trees in Jamaica, of which it is a native. The wood is of a dark brown colour, and gently ſtriped; it is tough and elaſtic, of a fine grain, and eaſily worked. They call it Spaniſh Elm, or Prince-wood[m]. It is found in other iſlands of the Weſt Indies, and is called by the French Bois de Chypre.

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[a] Linn. ſyſt.

[b] Forſkæhl.

[c] Forſkæhl.

[d] Hort. kew.

[e] Linn. mant.

[f] Linn. ſpec.

[g] Murray in Linn. ſyſt.

[h] Dillenius.

[i] Cook's firſt voyage, 2. 214, 215.

[k] Dillenius.

[l] Swartz.

5. This tree alſo riſes to a conſiderable height, (fifty feet) but is ſeldom above twelve or ſixteen inches in diameter, ſhooting generally by a ſtraight trunk. The leaves are very large and rough. The berries are white, (reddiſh, *Sloane*) the ſize of ſmall Cherries. The heart of the tree is of a yellowiſh colour, and pretty good timber. It is called in Jamaica the broad-leaved Cherry-tree[n].

6. This tree ſeldom riſes above fourteen or ſixteen feet, (Sloane ſays fifty feet) and ſpreads pretty much at top. The leaves are rugged, obliquely veined, and diſpoſed alternately. The berries are red, ſucculent, the ſize of our ſmalleſt European Cherries, and diſpoſed in umbellated groups. Turkeys and other poultry feed much upon them; the pulp is ſweetiſh, and of a clammy conſiſtence. In Jamaica it has the name of Clammy Cherry, or Turkey-berry tree[o].

Native of Jamaica and moſt of the other iſlands. Cultivated ſeveral years before 1759[p].

7. The appearance of this ſhrub is between that of Privet and Alaternus. Stem ſtraight; bark greeniſh aſh-colour ſpotted with white; the upper part and particularly the ends of the branches covered with long hairs. Leaves like thoſe of Privet, of a ſhining pale green, but in form approaching thoſe of Alaternus; ſmooth, but along the edges and on the middle nerve underneath having ſlender greeniſh hairs. The flowers come forth among the leaves in ſmall bunches, as in Privet: corolla ſcarcely tubular, cut almoſt to the bottom into five (ſometimes four) equal ſegments, white or herbaceous, having the ſmell of Elder flowers; calyx ſhort, cut into the ſame number of ſegments with the corolla, theſe are acuminate, of a greeniſh colour, and extend almoſt to the bottom. Stamens five (or four, when the diviſions of the calyx and corolla are four.) The flowers, when they decay, turn of a reddiſh brown, like the Privet.—Cultivated in the Eltham garden about 1728, from feeds that came from Patagonia in South America[q].

Linneus ſaw that this plant is nearly allied to the genus *Cordia*. He makes the eſſence of *Patagonula* to conſiſt in the largeneſs of the fructiferous calyx. The corolla alſo having little or no tube is wheel-ſhaped: and the fruit is a capſule. With the feeds we are not yet well acquainted. I have followed the ſkilful author of *Hortus Kewenſis*, in reducing it to this genus. It flowers moſt part of the ſummer.

8. Native of the iſland of Tongatabu.

9. Native of New Caledonia[r].

10. Branches round, ſmooth, ſomewhat hairy at the tip. Leaves ſeſſile, unequal, have three, and ſometimes four blunt teeth at the end, the middle ones ſmaller; the upper ſurface is ſhining, and over it are ſcattered ſhining ſcales, from the centre of which ariſe minute white ſolitary appreſſed hairs, it is ſcarcely rugged; and the lower ſurface is even, paler and void of dots. The buds are tomentoſe tubercles. Peduncles from the ſame bud with the leaves, ſolitary, one-flowered, pubeſcent, ſhorter than the leaves. Calyx five-parted; parts lanceolate, broader outwards, acute, hairy. Style ſometimes ſingle, dichotomous; ſometimes two ſtyles, which are bifid and the length of the corolla: ſtigmas acute. Fruit the ſize of Pepper, the calyx not growing to it, four-celled: in each cell ſeveral ſeeds. There is a tranſverſe furrow in the middle of the partition.

It has the habit of Cordia with ſcaly leaves, and a ſtyle commonly dichotomous; but it recedes, as is apparent, in ſome particulars[s].

11. Native of Jamaica and other iſlands of the Weſt Indies.

12. Native of Jamaica[t].]

PROPAGATION AND CULTURE.

Theſe plants, being natives of hot countries, are too tender to live through the winter in this country, unleſs they are preſerved in a ſtove: they are all propagated by ſeeds, which muſt be procured from the countries of their natural growth; theſe ſeeds muſt be ſown in ſmall pots, which muſt be plunged into a good hot-bed of tanners bark in the ſpring; and if the ſeeds are freſh and good, the plants will begin to appear in ſix or eight weeks after. Theſe muſt be brought forward in the hot-bed, by being treated as other tender exotic plants, obſerving frequently to water them in ſummer; and in july, if the plants have made much advance, they ſhould be gradually hardened, otherwiſe they will grow ſo weak as not to be eaſily preſerved through the winter. As theſe plants obtain ſtrength, they will become more hardy; but during the two firſt winters, it will be proper to plunge them into the tan-bed in the ſtove; but when they begin to have woody ſtems, they may be placed on ſhelves, in a dry ſtove; where, if they are kept in a moderate degree of heat, they may be preſerved very well (eſpecially the third ſort) which is ſomewhat hardier than the others. This may alſo be placed abroad in a warm ſituation, in the beginning of july, where the plants may remain till the middle of ſeptember, provided the ſeaſon continue warm, otherwiſe they muſt be removed into the ſtove ſooner.

[Cordia. See *Ehretia.*

Corduba. See *Aſparagus.*

Cordyline. See *Dracæna* and *Yucca.*]

COREOPSIS. (From κόρις, *cimex, a bug, or tick; and ὄψις, facies, appearance. The ſeed having ſome reſemblance of theſe inſects.)*

Lin. gen. n. 981. *Reich.* 1062. *Schreb.* 1325. *Gærtn. t.* 171. *Juſſ.* 188. Ceratocephaloides. *Vaill. act.* 1720.

Claſſ. 19. 3. Syngeneſia Polygamia Fruſtranea.

Nat. order of *Compoſitæ oppoſitifoliæ. Corymbiferæ* Juſſ.

GENERIC CHARACTER.

Cal. *Common* either ſimple ſubimbricate, or doubled: the *exterior* uſually with eight *leaflets*, which are coarſe, and placed in a circle: the *interior* with as many larger ones, membranaceous and coloured.

Cor. *Compound* rayed: *corollets* hermaphrodite numerous in the diſk. *Females* eight, in the ray.

Proper, of the hermaphrodite tubular, five-toothed. *Female* ligulate, four-toothed, ſpreading, large.

Stam. in the hermaphrodites: *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

Pist. in the hermaphrodites: *Germ* compreſſed. *Style* filiform, length of the ſtamens. *Stigma* bifid, acute, ſlender.

In the females: *Germ* like the hermaphrodites. *Style* and *ſtigma* none.

Per. none. *Calyx* ſcarce altered.

Seed in the hermaphrodite ſolitary, orbiculate, convex on one ſide, concave on the other, with a tranſverſe protuberance at top and bottom, ſurrounded by a membranaceous edge, with a two-horned tip. In the *females* none.

Rec. chaffy.

Obs. *This genus is* Bidens *with a ray.* G.

ESSENTIAL CHARACTER.

Cal. erect, many-leaved, ſurrounded at the baſe with ſpreading rays. *Down* two-horned. *Rec.* chaffy.

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[m] Browne.
[n] Ibid.
[o] Ibid,
[p] Mill. dict. edit. 7. addenda.
[q] Dillenius.
[r] Forſter.
[s] Vahl.
[t] Swartz.

SPECIES.

1. Coreopſis verticillata. *Whorl-leaved Coreopſis,* or *Tickſeed Sun-flower.*
Lin. ſpec. 1281. *Reich.* 3. 889. *Gron. virg.* 131. 308. *Curtis magaz. t.* 156.
Ceratocephalus delphinii foliis. *Vaill. act.* 1720. *Ehret. pict. t.* 9. *f.* 1.
Chryſanthemum marianum, &c. *Pluk. mant. t.* 344. *f.* 4.
Leaves decompound-linear.

[2. Coreopſis coronata.
Lin. ſpec. 1281. *Reich.* 3. 889.
Ceratoceph. fol. pentapteris acutis, fl. radiato. *Vaill. act.* 1720. *p.* 328.
Bidens pentaphylla, fl. rad. *Plum. ſpec.* 10. *ic.* 53. *f.* 2.
Leaves pinnate ſerrate marked with lines ſmooth.

3. Coreopſis leucantha.
Lin. ſpec. 1282. *Reich.* 3. 889. *amœn.* 4. 291.
Leaves pinnate ſerrate; ray of the flowers of a different colour from the diſk.

4. Coreopſis chryſantha.
Lin. ſpec. 1282. *Reich.* 3. 889.
Bidens triphylla, angelicæ fol., fl. radiato. *Plum. ſpec.* 10. *ic.* 53. *f.* 1.
Leaves ternate ovate-oblong ſerrate; ray of the flowers concolor.]

5. Coreopſis tripteris. *Three-leaved Coreopſis.*
Lin. ſpec. 1282. *Reich.* 3. 890. *hort. upſ.* 269. *Gron. virg.* 131. *Mor. hiſt.* 3. 21. *n.* 45. *ſ.* 6. *t.* 3. *f.* 44. *Raii ſuppl.* 215. 80. (*Chryſanthemum.*)
Leaves ſubternate quite entire.

[6. Coreopſis alba. *Climbing Coreopſis.*
Lin. ſpec. 1282. *Reich.* 3. 890. *Brown. jam.* 321. *n.* 3. *Herm. par. t.* 124. *Pluk. alm. t.* 160. *f.* 3. (*Chryſanthemum.*)
Leaves ſubternate cuneate ſerrate.

7. Coreopſis reptans. *Trailing Coreopſis.*
Lin. ſpec. 1281. *Reich.* 3. 890. *amæn.* 5. 407. *Sloan. jam.* 1. 261. *n.* 24. *t.* 154. *f.* 2. 3. *Smith ſpicil.* 20. *t.* 22.
Leaves ſerrate ovate, upper ones ternate; ſtem creeping.

8. Coreopſis baccata. *Berried Coreopſis.*
Lin. ſyſt. 782. *ſuppl.* 380.
Leaves ſerrate ovate; ſeeds berry-form.

9. Coreopſis auriculata. *Ear-leaved Coreopſis.*
Lin. ſpec. 1282. *Reich.* 3. 890. *Gron. virg.* 131. *Pluk. alm. t.* 83. *f.* 5. & *t.* 242. *f.* 4. *Mor. hiſt.* 3. 21. *n.* 46. *ſ.* 6. *t.* 3. *f.* 45. (*Chryſanthemum.*)
Leaves quite entire ovate; the lower ones ternate.]

10. Coreopſis lanceolata. *Spear-leaved Coreopſis.*
Lin. ſpec. 1283. *Reich.* 3. 891. *hort. cliff.* 420. *Dill. elth.* 55. *t.* 48. *f.* 56. *Mart. cent. t.* 26. (*Bidens.*)
Leaves lanceolate quite entire ciliate.

[11. Coreopſis Bidens.
Lin. ſpec. 1281. *Reich.* 3. 891. *fl. ſuec. n.* 772. *Mor.* 3. 17. *n.* 23. *ſ.* 6. *t.* 5. *f.* 22. (*Chryſanthemum.*) *Barr. ic.* 1209. (*Eupatorium.*)
Bidens cernua β. *Hudſ. angl.* 356. *With.* 883.
Leaves lanceolate ſerrate oppoſite ſtem-claſping.]

12. Coreopſis alternifolia. *Alternate-leaved Coreopſis.*
Lin. ſpec. 1283. *Reich.* 3. 891. *hort. upſ.* 270. *Gærtn. fruct.* 2. 457. *Jacqu. hort.* 2. 50. *t.* 110. *Pluk. alm. t.* 159. *f.* 3. *Mor.* 3. 25. *n.* 83, 84. *ſ.* 6. *t.* 7. *f.* 75, 76. *Raii hiſt.* 337. 2. (*Chryſanthemum.*) *Zan. rar.* 85. *t.* 58.
Leaves lanceolate ſerrate alternate petiolate decurrent.

[13. Coreopſis aurea. *Hemp-leaved Coreopſis.*
Ait. hort. kew. 3. 252.
Leaves ſerrate; root-leaves three-parted; ſtem-leaves trifid and entire lanceolate-linear.

14. Coreopſis craſſifolia. *Thick-leaved Coreopſis.*
Ait. hort. kew. 3. 253.
Leaves obovate-oblong obtuſe quite entire pubeſcent.

15. Coreopſis anguſtifolia. *Narrow-leaved Coreopſis.*
Ait. hort. kew. 3. 253.
Leaves alternate linear-lanceolate quite entire even; petals of the ray oblong trifid, the middle ſegment largeſt.

16. Coreopſis procera. *Tall Coreopſis.*
Ait. hort. kew. 3. 253.
Leaves elliptic acuminate ſerrate petiolate veined decurrent; the lower in whorls, the upper alternate.]

17. Coreopſis radiata.
Mill. dict. n. 5.
Leaves linear-lanceolate, ſharply ſerrate, oppoſite; ray of the flower large, entire.

[18. Coreopſis leucorhiza.
Lour. cochinch. 508.
Leaves pinnate, with five leaflets, ſerrate-gaſhed, ray ſix-flowered, down three-horned.

19. Coreopſis biternata.
Lour. cochinch. 508.
Leaves biternate, ovate-lanceolate, ſerrate, panicle diffuſed, ray ſix-flowered.

20. Coreopſis fœtida.
Cavan. hiſp. 55. *n.* 85. *t.* 77.
Leaves three-lobed, lobes acuminate, ſerrate, middle one longer.]

DESCRIPTIONS, *&c.*

1. Root perennial. Stems many, ſtiff, angular, upwards of three feet high. Leaves oppoſite; leaflets very narrow and entire. Branches oppoſite. Peduncles long, ſlender, one-flowered. Ray yellow; diſk dark purple.

[Leaves often in whorls. Calyx like that of *Bidens,* with a ſpreading calycle [a].

Being a ſhowy plant, growing very tall, and continuing long in flower, it is a great ornament to the ſhrubbery. The florets, though yellow, are uſed in North America to dye cloth red [b].

Native of North America. Cultivated 1759, by Mr. Miller [c]. It flowers from july to ſeptember.

2. The plant is altogether that of *Bidens frondoſa,* but it has the flowers of *C. verticillata,* with a large eight-petalled, ſtriated, oval ray.—Native of Virginia. Annual [d].

3. Stem three or four feet high, four-cornered, ſmoothiſh, the oppoſite ſides channelled. Branches oppoſite. Leaflets five, ſeldom three, ovate, undivided, ſmooth, equal, even, the three outer often confluent, almoſt decurrent by the outer ſide, quite entire at the tip. Petioles channelled, connected on both ſides by villoſe hairs. Flowers terminating, alternate, two or three, on longiſh peduncles. Calyx five-parted, within a ſmaller five-leaved involucre or outer calyx. Ray of the corolla uſually with five white florets, which are ovate, three-toothed at the end, the middle one longeſt, three-nerved underneath. Diſk ſmall, convex, yellow. Seeds with a three-toothed crown, hiſpid backwards. The diſk of ſeeds becomes pyramidal [e].

The flower has the appearance of *Leucanthemum.* The plant is like the foregoing.—Native of America. Annual [f].

Linneus had it from Miller.

4. Stem quadrangular, ſimple, jointed. Leaves on the ſtem oppoſite, ſmooth; on the flowering branches alternate, ſmaller. Flowers terminating, on long peduncles, ſolitary, with ſix three-toothed florets in the ray, which however are often wanting. Native of South America [g].]

5. Root perennial. Stems ſtrong, round, ſmooth, ſix or ſeven feet high. Flowers in bunches at the top of the ſtem, on long peduncles. Ray of the corolla pale yellow; diſk dark purple.

[Moſt of the leaves are ternate, but on the ſtem they are ſometimes almoſt pinnate. It has the calyx of *Bidens* with a ſpreading calycle.——Native of North America [h].

6. This is a climber. The florets of the margin are all neuter, and riſe immediately from the bottom of the inward ſcales. The ſeeds are bidented. Native of the hills in Jamaica [i], and of the iſland of Santa Cruz [k].

7. Root ſmall, fibrous, annual with us. Stem climbing, weak, five feet high, branching, leafy,

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[a] Linn. ſpec.
[b] Curtis.
[c] Hort. kew.
[d] Linn. ſpec.
[e] Linn. amoen.
[f] Linn. ſpec.
[g] Plumier.
[h] Linn. ſpec.
[i] Browne.
[k] Linn. ſpec.

ſtriated, ſmooth, ſquare at the baſe, roundiſh above. Leaves oppoſite, petioled, acute, veiny, ſoft, ſlightly downy, bright green, paler beneath: petioles channelled hairy. Stipules none. Peduncles three to five, from the axils of the top leaves, terminating, erect, round, ſtriated, hairy, ſingle-flowered. There are ſometimes two or three lanceolate, entire bractes, at the baſe of the peduncles. Calyx nearly cylindrical, with a few of the outermoſt leaves ſpreading. Florets all gold-coloured; thoſe of the ray with about four teeth and veined; thoſe of the diſk five-cleft. Anthers half excluded, brown. Stigmas, downy above, obtuſe. Germ linear, ciliate on the edges. Scales of the receptacle lanceolate, about as long as the florets of the diſk[l].

Linneus ſays it is a large plant, having the calyx of *Bidens*, with a ſpreading calycle. Seeds awned.

Native of Jamaica, in the inland woody parts[m], and probably of Antigua[n].

This cannot be the ſecond Verbeſina of Browne, which he calls upright, and of which he ſays the leaves are entire.—It is named by that author (in his manuſcripts) C. viminea.

Introduced by the Marchioneſs of Rockingham[o].

8. *Stem* eight feet in height, herbaceous, erect. *Leaves* oppoſite, petiolate, three-nerved. *Flowers* at the ends often three, peduncled, very ſmall, like thoſe of *Rudbeckia*. Calyx conſiſting of ſixteen leaflets, broad-ſubulate, recurved, the length of the diſk. Ray of the corolla neuter, yellow, three-toothed, longer than the diſk. *Fruit* naked, almoſt globular, berried; the ſeed within ſomewhat four-cornered, dark-coloured. The fruit is exactly the form of a Blackberry.

Native of Surinam. Dalberg[p].

9. Stem from nine inches to a foot in height, upright, covered with a ſoft down. Lower leaves round or ovate, on petioles an inch in length: upper leaves ternate; the middle leaflet much larger. Flowers golden-coloured, with about eight florets in the ray.

Native of Virginia, whence it was firſt ſent by Baniſter[q].

10. Stems ſeveral, decumbent at bottom, and thence riſing obliquely, a foot and half or two feet in length. At each joint a pair of oblong leaves, with other ſmaller ones. Peduncles round, ſmooth. Florets in the ray eight or nine, broad, with four deep large teeth at the end. Calyx double, each conſiſting of eight or nine leaflets, the outer thick and ſpreading, the inner larger, upright and preſſed cloſe to the flower, tranſparent and of a pale ochre colour. The ſeeds while young are ſhort, flat and compreſſed, but afterwards take the form of a ſmall hemiſpheric beetle or bug; they are of a browniſh purple colour, and have a third awn between the two outer ones.—This plant laſts two or three years, and flowered firſt in the Eltham garden 1725, from ſeeds ſent from Carolina[r].

The ſeeds were received from Cateſby in 1724, and ſown in many gardens near London[s].

11. This is certainly a mere variety of *Bidens cernua* (which ſee) differing in nothing but the radiated flowers, and being frequently found bearing both ſorts from one root, as is well expreſſed in *Fl. dan. t.* 841.—*Coreopſis Bidens* in the Linnean Herbarium agrees with our ſpecimens[t].

12. Root woody, perennial. Stems ſeveral, annual, erect, angular, filled with white pith, winged, from five to ten feet high, ſimple, having only very ſhort ſubdiviſions at the top into roundiſh villoſe peduncles. Leaves rugged on both ſides, of a dirty green colour; the lower ones three or four together or two oppoſite, the reſt alternate, decurrent. Calyx ſpreading very much, or even wholly turned back, conſiſting of a double row of oblong, ſharp, ſmoothiſh leaflets, ſhorter than the florets of the diſk, and uncertain in their number. Florets in the ray from four to eight, yellow; border ſlightly toothed, very concave with the ſides rolled in. Anthers blackiſh. The flowers have but little ſcent, and coming late in october or november, ſeldom perfect their ſeeds with us[u].

Native of Virginia and Canada.] Mr. Miller ſays, in North America every where.—[Cultivated 1759, by Mr. Miller[x].

13. Native of North America. Introduced 1785, by Charles Earl of Tankerville. It flowers in auguſt and ſeptember, and is perennial.

14. Native of Carolina. Introduced 1786, by Mr. Adam Robſon. It flowers from auguſt to october, and is perennial.

15. Native of Carolina and Florida. Cultivated 1778, by John Fothergill, M. D. It flowers in june, and is perennial.

16. Native of North America. Mr. John Cree. Introduced 1765. It flowers in ſeptember and october, and is perennial[y].

Probably the ſame with alternifolia of Linneus; and alternifolia hort. kew. a different plant.]

17. Root annual. Stems upright, four feet high. Leaves acuminate, from three to four inches long, three quarters of an inch broad in the middle, deep green on their upper ſurface, and pale on their lower, on ſhort petioles. At all the upper joints of the ſtem two long ſlender peduncles come out, one on each ſide, having two or three pairs of ſmall leaves on them, and terminated by one flower, having ſeven oval entire florets in the ray, and many dark-coloured ones in the diſk. It flowers in auguſt, and if the autumn prove favourable ripens its ſeeds in october.

Native of South Carolina, whence the ſeeds were ſent by Dr. Dale to Mr. Miller.

[18. Stem herbaceous, a foot and half high, erect, four-cornered, grooved, ariſing from a ſimple, perpendicular, fuſiform, white, fleſhy root. Leaves quinate, lanceolate. Flowers entirely ſaffron-coloured, few together on terminating peduncles. Florets in the ray ſix, ovate, quite entire. Down of the ſeeds three-horned, branched with inverted briſtles. Calyx erect, many-leaved.

19. Stem herbaceous, two feet high, erect, four-cornered, four-grooved. Flowers entirely yellow, in a ſparſe, terminating panicle. Six florets in the ray. Down two-horned, branched. Receptacle flattiſh, naked.—Both theſe are natives of China, near Canton[z].

20. Root annual. Stem round, upright, a fathom in height, branched, covered with a ſhort glutinous nap. Leaves cordate, the lobes broad; they are glutinoſe, ſtrong-ſmelling, a little longer than the petioles, which are connate at the baſe, all oppoſite except the floral leaves, which are ſeſſile and lanceolate. Flowers corymbed. Calyx ovate, conſiſting of ſixteen ovate-acute, keeled leaflets, in a double row, the eight outer ones blackiſh-green, hirſute and glutinoſe. Corolla yellow: florets of the ray eight, border ovate, oblong, three-nerved, ſhortly emarginate; germ white, ſlightly four-cornered, oblong, barren. Germ of the hermaphrodite florets in the diſk ovate-four-cornered, the lateral angles compreſſed, the inner ones narrower; it has two briſtles at the top. Chaffs of the receptacle ovate-acute, keeled. Seeds obovate, obſcurely three-ſided, compreſſed, narrower at the baſe, with two white, capillary, upright toothlets.——Native of Mexico.

It flowered in the royal garden at Madrid in october and november, before the year 1791. This plant is one of the connecting links between this genus and Helianthus[*].]

PROPAGATION AND CULTURE.

1. 2. 5. 9. 12. 13 to 16. Theſe hardy ſorts may be propagated in plenty, by parting the roots; the beſt time for which is in autumn when the ſtalks begin to decay.—The firſt and fifth require a

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[l] Smith.
[m] Sloane.
[n] Smith.
[o] Ibid.
[p] Linn. ſuppl.
[q] Moriſon.
[r] Dillenius.
[s] Mart. cent.
[t] Woodw. Mſs.

[u] Jacquin.
[x] Hort. kew.
[y] Ibid.
[z] Loureiro.
[*] Cavanilles.

light loamy earth, and ſunny expoſure. The twelfth will thrive in almoſt every ſoil and ſituation.

10. The ſeeds of this muſt be ſown upon a gentle hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be ſet each in a ſeparate ſmall pot, and plunged into a freſh hot-bed to bring them forward. In june they ſhould be inured by degrees to the open air, and afterwards ſome of them may be ſhaken out of the pots, and planted in a warm border; where, if the ſeaſon be good, they will flower in the middle of july, and ripen their ſeeds in the beginning of ſeptember.

17. This is propagated by ſeeds, which ſhould be ſown on a warm border in autumn, and the plants will come up the following ſpring; for if the ſeeds are ſown in the ſpring, the plants ſeldom riſe till the year after. When the plants are fit to remove, they ſhould be carefully taken up, and either planted where they are deſigned to remain, or into a nurſery-bed, at four inches diſtance, to get ſtrength, obſerving to ſhade them from the ſun till they have taken freſh root: after which, thoſe which are planted out for good, will require no other treatment but to keep them clean from weeds; and as they advance in height, they ſhould be ſupported by ſticks, otherwiſe the ſtrong winds in autumn often break them; and thoſe which were placed in a nurſery-bed, when they have obtained proper ſtrength, ſhould be taken up and tranſplanted with balls of earth to their roots, where they are deſigned to ſtand for flowering.

As theſe plants continue to produce flowers till the froſt puts a ſtop to them, they merit a place in every curious garden, eſpecially thoſe which do not ramble and ſpread too much. The firſt is ſeldom preſerved, but in botanic gardens for the ſake of variety.

[Coreopsis. See *Rudbeckia anguſtifolia.*

Coreta. See *Corchorus.*]

CORIANDRUM. (Κοριαινον *of Theophr. & Dioſc. Coriandrum of Pliny. So named from* κορις, *a bug; the freſh leaves bruiſed, emitting a ſtrong ſcent, very like that of the bug.*)

Lin. gen. n. 356. *Reich.* 386. *Schreb.* 488. *Tourn.* 168. *Gærtn.* 22. *Juſſ.* 220.

Claſſ. 5. 2. Pentándria Digynia.

Natural order of *Umbellatæ*, or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel univerſal* with few rays: *partial* with very many. *Involucre univerſal* ſcarce one-leafed: *partial* three-leaved, halved, linear.

Perianth proper five-toothed, ſtanding out.

Cor. *Univerſal* difform, rayed. *Floſcules* of the diſk abortive.

Proper of the diſk hermaphrodite. *Petals* five, inflex-emarginate, equal.

Proper of the ray, hermaphrodite. *Petals* five, inflex-hearted, unequal, of which the exterior is very large, two-parted; but the neareſt lateral ones have a very large diviſion.

Stam. *Filaments* five, ſimple. *Anthers* roundiſh.

Pist. *Germ* inferior. *Styles* two, diſtant. *Stigmas* of the ray headed.

Per. none. *Fruit* ſpherical bipartile.

Seeds two, hemiſpheric, concave.

Obs. C. teſticulatum *is perhaps a plant of a different genus, ſince the univerſal involucre is one-leafed; partial none. Corolla univerſal uniform. Fruit twin.*

ESSENTIAL CHARACTER.

Cor. rayed: *pet.* inflex-emarginate. *Inv. univ.* one-leafed: *partial* halved. *Fruit* ſpherical.

SPECIES.

1. Coriandrum ſativum. *Common* or *Great Coriander.*
Lin. ſpec. 367. *Reich.* 704. *hort. cliff.* 100. *upſ.* 63. *mat. med.* 83. *Hudſ. angl.* 123. *With.* 302. *Sowerby Engl. bot. t.* 67. *Woodv. med. bot.* 492. *t.* 181. *Hall. helv. n.* 764. *Gærtn. fruct.* 93. *Plenck, ic. t.* 204. *Blackw. t.* 176. *Krock. ſileſ. n.* 444. *Lour. cochinch.* 180.
Coriandrum. *Cam. epit.* 523. *Bauh. hiſt.* 3. 2. 89. *fig. Raii hiſt.* 470. *ſyn.* 221. *Ger.* 859. *emac.* 1012. *f.* 1.—majus. *Bauh. pin.* 158. *Riv. pent. t.* 70, 71. *Mor. hiſt.* 3. 269. *ſ.* 9. *t.* 11. *f.* 1.—vulgare. *Park. theat.* 918. *f.* 1.
Fruits globular.

2. Coriandrum teſticulatum. *Small* or *twin-fruited Coriander.*
Lin. ſpec. 367. *Reich.* 705. *hort. cliff.* 100. *Lour. cochinch.* 180.
C. minus teſticulatum. *Bauh. pin.* 158. *Pluk. alm. t.* 169. *f.* 2. *Mor. f.* 2.
C. min. odorum. *Bauh. hiſt.* 3. 91. *fig. Raii hiſt.* 470.
C. alterum min. odorum. *Ger. emac.* 1012. *f.* 2. *Park. theat.* 918. *f.* 2.
[β. C. ſylveſtre. *Bauh. hiſt.* 91, 92. *f.* 1. *Riv. pent. t.* 72.—foetidiſſimum. *Bauh. pin.* 158. *Mor. ſ.* 9. *t.* 11.
C. alterum foetid. *Park.* 918. *n.* 3. *Raii hiſt.* 470.
Fruits twin.

DESCRIPTIONS, &c.

1. Root annual, ſmall. Stem a foot or a foot and half in height, ſmooth, branched. Root-leaves larger, doubly pinnate, pinnules broad, gaſhed on every ſide, ſerrate and even half-two-lobed: upper leaves very finely divided, alſo doubly pinnate; the pinnules linear, ſlender, divided into two or three ſegments. Univerſal involucre one-leafed or none; the three leaflets of the partial involucre ſmall, filiform[a].

Petals white, or reddiſh. It flowers in june and july, in corn fields, by road ſides, and on dunghills. The ſeeds ripen in july and auguſt.

The leaves have a ſtrong diſagreeable ſcent. The ſeeds are grateful to the taſte, and incruſted with ſugar are ſold by the confectioners. The Edinburgh college uſe them as correctors in the bitter infuſion and the preparations of Senna, nothing ſo effectually covering the diſagreeable taſte of that medicine. They have been conſidered as ſuſpicious, if not deleterious; but I have known ſix drams of them taken at once, without any remarkable effect[b]. Native of the South of Europe, China, and Cochinchina.

This plant, though found wild in Eſſex, where it has been long cultivated, about Ipſwich, and in a few other places, is not a native of this country.

2. The ſcent of this is much ſtronger than that of the common ſort. Root annual. Stem angular. Umbel uſually ſimple, very ſeldom compound. Univerſal involucre one-leafed: partial none. Petals not rayed. Anthers purpliſh. Germs twin at bottom[c].

According to Loureiro, the ſtem is almoſt upright, round, pale, ten inches high, with many weak diffuſed branches. Leaves decompound, the ſegments linear, ſlender, ſmooth. Umbels compound, ſmall, concave; both involucres many-cleft, ſubulate. Fruit twin, green tinged with brown, ſtronger both in ſmell and taſte than the common ſort.

Native of the South of Europe, China, and Cochinchina.—Cultivated 1739, by Mr. Miller[d].]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſowing their ſeeds in the autumn, in an open ſituation, on a bed of good freſh earth; and when the plants are come up, they ſhould be hoed out to about four inches diſtance every way, clearing them from weeds; by which management theſe plants will grow ſtrong, and produce a greater quantity of good ſeeds. The firſt ſort was formerly cultivated in the gardens as a ſalad herb, and in the Eaſt Indies is ſtill much cultivated; for the plant is of great uſe in moſt of their compound diſhes, as a culinary herb, and the ſeeds are alſo much eſteemed for the like purpoſes; but in Europe neither of them are now much uſed.

The ſecond ſort will riſe eaſily from ſeeds, if they are ſown in the autumn; but thoſe which are ſown

[a] Krocker, chiefly from Haller. [b] Withering. [c] Linn. ſpec. [d] Hort. kew.

in the ſpring rarely ſucceed, or at leaſt do not come up till the following ſpring.

[For the field culture of Coriander, ſee Carum or Caraway.

The produce of Coriander is from ten to fourteen hundred weight on an acre, and the price varies from 16s. to 42s. a common price is 24s. for a hundred weight.

If great care be not uſed, the largeſt and beſt part of the ſeed will be loſt. To prevent this, women and children are employed to cut it, plant by plant, and to put it immediately into cloths, in which it is carried to ſome convenient part of the field, and there threſhed upon a ſail-cloth. A few ſtrokes of the flail get the ſeeds clean out, and the threſhers are ready for another bundle in a few minutes.

There is a ready ſale for Coriander ſeed with the diſtillers, druggiſts and confectioners. The former purchaſe very large quantities[e].]

CORIARIA. (*Has its name, from its uſe in tanning hides.*)

Lin. gen. n. 1129. *Reich.* 1235. *Schreb.* 1540. *Juſſ.* 441. *Niſſol. A. G.* 1721. *t.* 12. *Dill. gen.* 12.

Claſſ. 22. 9. Dioecia Decandria.——Polygamia. *Gouan.*

GENERIC CHARACTER.

* *Male.*

Cal. *Perianth* five-leaved, very ſhort; *leaflets* ſubovate, concave.

Cor. *Petals* five, very like the calyx, connected.

Stam. *Filaments* ten, length of the corolla. *Anthers* oblong, two-parted.

* *Female.*

Cal. *Perianth* five-leaved, very ſhort; *leaflets* ſubovate, concave.

Cor. *Petals* five, cuſpidate, calyciform, converging.

Stam. *Filaments* ten, (five within the calyx; five within the petals,) very ſhort. *Anthers* barren.

Pist. *Germs* five, compreſſed, inwardly conjoined. *Styles* as many, briſtle-form, long. *Stigmas* ſimple.

Per. none: five fleſhy, ovate-lanceolate, three-ſided *petals*, with one of the angles looking inwards, covering the ſeeds.

Seeds five, kidney-form.

Obs. *Hermaphrodite flowers have been ſeen by others.*

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* five-petalled, very like the calyx.

Male. *Anthers* two-parted.

Female. *Styles* five. *Seeds* five, covered with ſucculent-berried petals.

SPECIES.

1. Coriaria myrtifolia. *Myrtle-leaved Sumach.*

Lin. ſpec. 1467. *ſyſt.* 891. *Reich.* 4. 270. *hort. upſ.* 299. *cliff.* 462. *Gouan. hort. monſp.* 508. *flor.* 431. *illuſtr.* 80. *Allion. pedem. n.* 1758. *D'Aſſo. aragon. n.* 964.

C. hermaphroditica. *Turr. farſet.* 13. (*fem.*)

Rhus myrtifolia monſpeliaca. *Bauh. pin.* 414. *Raii hiſt.* 1698. *Angl. hortul.* 64. *t.* 20. *f.* 1. *Lob. ic.* 2. 98. *Ger.* 1291. *f.* 2. *emac.* 1474. *f.* 2. *Park. par.* 609. *f.* 5. *theat.* 1450. *f.* 3. *Bauh. hiſt.*

Leaves ovate-oblong.

[2. Coriaria ruſcifolia.

Lin. ſpec. 1467. *Reich.* 4. 270. *Feuill. peruv.* 3. 17. *t.* 12.

Leaves cordate-ovate ſeſſile.

3. Coriaria ſarmentoſa.

Forſt. flor. auſtr. n. 377.

Procumbent diffuſed; leaves cordate-ovate acuminate quite entire five-nerved ſubpetiolate; racemes axillary elongated nodding.]

DESCRIPTIONS, &c.

1. This ſhrub ſeldom grows more than three or four feet high. It creeps at the root, and ſends forth many ſtems.

[In the male plant, the flower-buds are often in pairs from the ſcar of the fallen leaves. Male aments cylindric, oppoſite, in pairs (one from each bud, leafleſs; pairs from one to five, below the polygamous aments. Flowers ſeparated by fleſhy, concave ſcales. Hermaphrodite buds alſo ſolitary or in pairs, above the former, in ſeveral pairs. Aments like the others, except that they have frequently a pair of leaves at the baſe; the flowers are ſeparated by ſimilar ſcales, and have ſome males mixed with the hermaphrodites. The other buds, which occupy the ends of the branches, have male flowers only, in leafleſs aments.

In the female plant, very many flower-buds are placed along the branches, oppoſite by pairs. Aments long; peduncled, more leafy, having from one to four leaves, the outmoſt gradually larger. Raceme looſer, few-flowered; the ſcales ſeparating the flowers are narrower and more acuminate[f].

This plant therefore, according to Gouan, is polygamous, having hermaphrodite and male flowers in the firſt, female and male in the ſecond deſcribed above; hermaphrodite and male on a third. Medicus deſcribes a plant with hermaphrodite flowers only.

It is a native not only of the South of France, but alſo of Spain, and the county of Nice.—Cultivated 1629, by Parkinſon. It flowers from may to auguſt[g].]

The plant with male flowers only was common in England, till that which bears hermaphrodite flowers was raiſed in the Chelſea garden from ſeeds ſent out of Italy, which produced great quantities of ſeeds, that vegetated.

[It is conſiderably aſtringent, and is uſed not only in tanning leather, but in dyeing black colours[h].]

This ſhrub ſending up many ſtems forms a thicket, and therefore is uſeful to fill up vacancies in plantations of ſhrubs; but it is improper for ſmall gardens, becauſe it takes up too much room, and there is no great beauty in the flowers.

[2. Leaves ovate-oblong, ſubcordate, ſubſeſſile. Flowers hermaphrodite.

Native of Chili.

3. Native of New Zealand.]

PROPAGATION AND CULTURE.

1. It may be propagated plentifully from the ſuckers, which are produced from the creeping roots in great abundance; theſe ſhould be taken off in march, and planted into a nurſery to form good roots, where they may continue one or two years, and then muſt be removed to the places where they are to remain.

This plant delights in a loamy ſoil, which is not too ſtiff, and ſhould be placed where it may have ſhelter from the north and eaſt winds; where it will endure the cold of our ordinary winters very well, and will flower better than if it is preſerved in pots and ſheltered in the winter, as hath been by ſome practiſed.

Coridis folia. See *Linconia.*

Corindum. See *Cardioſpermum.*

Coriotragematodendros. See *Myrica.*

CORIS. (*A name in Dioſcorides and Pliny.* Κορις *is alſo Cimex, a bug or tick. Others derive it from* κορη, *the pupil of the eye.*)

Lin. gen. n. 243. *Reich.* 260. *Schreb.* 329. *Juſſ.* 96. *Tourn.* 423.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, bellied, converging, five-toothed; externally crowned with ſpines, of which the five ſuperior ones are ſimple; the inferior ones toothed.

Cor. one-petalled, irregular. *Tube* the length of the calyx, cylindrical. *Border* flat, five-parted: *diviſions* oblong, emarginate, obtuſe; the two inferior ones ſhorter, and more diſtant.

Stam. *Filaments* five, briſtle-form, length of the corolla; declining. *Anthers* ſimple.

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[e] Agric. Survey of Eſſex. Bath papers, vol. 4. Young's Annals, vol. 21.

[f] Gouan illuſtr.

[g] Hort. kew.

[h] D'Aſſo.

Pist. *Germ* roundiſh, ſuperior. *Style* filiform, length of the ſtamens, declining. *Stigma* thickiſh.

Per. *Capſule* globoſe, placed in the bottom of the calyx, one-celled, five-valved.

Seeds very many, nearly ovate, ſmall.

ESSENTIAL CHARACTER.

Cor. one-petalled, irregular. *Cal.* ſpinous. *Capſ.* five-valved, ſuperior.

SPECIES.

1. Coris monſpelienſis. *Montpelier Coris.*
Lin. ſpec. 252. *Reich.* 491. *hort. cliff.* 68. *upſ.* 46. *mat. med.* 63. *Villars dauph.* 2. 464. *Dalech. hiſt.* 1158. *Lob. ic.* 402. *Tabern. ic.* 840.
C. cærulea maritima. *Bauh. pin.* 280. *Raii hiſt.* 882. *Garid. aix.* 127. *Mor. hiſt.* 3. 362. *ſ.* 11. *t.* 5. *f.* laſt.
C. cær. monſpeliaca. *Ger. emac.* 544.
C. monſpelienſium. *Park. theat.* 571.
C. monſ. purpurea. *Bauh. hiſt.* 3. 424.
Symphytum petræum. *Camer. epit.* 699.

DESCRIPTION, &c.

This plant ſeldom grows above ſix inches high, and ſpreads near the ſurface of the ground like Heath. In june, when it is full of flowers, it makes a very pretty appearance.

[The ſtem is red. The leaves are alternate, linear, thickiſh, ſpreading. The flowers are in ſpikes[a], purpliſh or blueiſh. Stigma ſimple, not five-cleft[b]. Native of the South of France. Cultivated in 1739[c].

Linneus ſays the root is annual, in the hortus kewenſis it is marked as biennial, and according to Villars it is perennial.]

There are two varieties of this plant, one with a red, and the other with a white flower.

PROPAGATION AND CULTURE.

This may be propagated by ſowing the ſeeds in the ſpring, on a bed of freſh earth; and when the plants are about an inch high, they ſhould be tranſplanted, ſome of them into pots filled with freſh light earth, that they may be ſheltered in winter; and the others into a warm border, where they will endure the cold of our ordinary winters very well, but in ſevere froſt they are generally deſtroyed; for which reaſon, it will be proper to have ſome plants in pots, which may be put under a common hot-bed frame in winter, where they may be covered in froſty weather; but when it is mild, they ſhould have a great ſhare of free air: theſe plants ſometimes produce ripe ſeeds in England, but as they do not conſtantly perfect their ſeeds, it will be proper to increaſe them from ſlips and cuttings, which will take root, if planted about the end of auguſt on a very gentle hot-bed, and ſhaded from the ſun and duly watered.

Coris. See *Euphraſia* and *Hypericum.*

CORISPERMUM. (*From* κόρις, *a bug or tick, and* σπέρμα, *ſeed.*)
Lin. gen. n. 12. *Reich.* 12. *Schreb.* 16. *Juſſ. A. G.* 1712. *Gærtn.* 75. *Juſſ.* 86.
Claſſ. 1. 2. Monandria Digynia.
Nat. order of *Oleraceæ.* *Atriplices* Juſſ.

GENERIC CHARACTER.

Cal. none. (two-leaved. *Corolla* none, *G.*)

Cor. *Petals* two, compreſſed, incurved, acuminate, oppoſite, equal.

Stam. *Filament* one, (one to three, *G.*) filiform, ſhorter than the petals. *Anther* ſimple.

Pist. *Germ* acute, compreſſed, *Styles* two, (one, *G.*) capillary. *Stigmas* acute.

Per. none.

Seed ſingle, oval, compreſſed, gibbous on one ſide, with the margin acute.

Obs. *In the loweſt flowers there are often two, three, four, or five ſtamens; in the reſt one.*

ESSENTIAL CHARACTER.

Cal. none. *Pet.* two. (*Cal.* two-leaved. *Cor.* none, *G.*) *Seed* one, oval, naked.

SPECIES.

1. Coriſpermum hyſſopifolium. *Hyſſop-leaved Tick-ſeed.*
Lin. ſpec. 6. *Reich.* 10. *hort. upſ.* 2. *cliff.* 3. *Juſſ. act. par.* 1712. *p.* 244. *Gærtn. fruct.* 361. *Pallas roſſ.* 112. *t.* 98. *Gmel. ſib.* 2. 10.
Rhagroſtis ſemine paſtinacæ. *Buxb. cent.* 3. *t.* 55.
Spikes terminating, leaves linear, nerveleſs, awnleſs.

2. Coriſpermum ſquarroſum. *Rough-ſpiked Tick-ſeed.*
Lin. ſpec. 6. *Reich.* 10. *hort. upſ.* 3. *Pallas roſſ.* 113. *t.* 99.
Rhagroſtis fol. arundinaceis. *Buxb. cent.* 3. *t.* 56.
Spikes axillary ſquarroſe, leaves lanceolate-acuminate pungent nerved.

DESCRIPTIONS, &c.

1. [Root annual. Stem varying from a long ſpan to a cubit in height, upright in dry ſoils, but in moiſt ones ſpreading and diffuſed; the branches aſcending; the lower ones oppoſite, in length frequently reaching above the middle of the ſtem; the others alternate, ſtriated with green and red like the ſtem, having pale grooves between. Leaves alternate, ſoft, linear-acute, with a very fine needle's point. From each axil a branchlet terminated by a ſpike of flowers. Spikes more or leſs crowded or elongated, with alternate imbricating bractes, ovate or lanceolate-acuminate, membranaceous with a white or red edge, one-flowered; and increaſing with the fruit. From each bracte proceeds a ſingle flower; which has no corolla, but only a white pellucid little membrane, oppoſite to the bracte, involving the genitals, and as the fruit grows decaying together with the filaments. Stamens in moſt of the flowers three, between the germ and the little membrane, the middle one longer and ſtouter; the ſide ones frequently withering, or wanting. In other ſpikes, often on the ſame plant, the flowers have five ſtamens. The anthers project beyond the corolla, are twin and yellow. Germ very ſmall, ovate; with two very ſmall ſtyles; quickly growing into an oval flat ſeed, a little convex on the outſide, with a ſharp edge round it, and a ſmall inciſure at the place of the ſtyles. The ſeeds are ripening at the baſe of the ſpike, whilſt the flowers are coming out at the top. The ſeed contains a little ſpire, having the radicle at one end, and at the other divided into two leaflets; whence its natural affinity to Salſola and Polycnemum.

It varies much in different parts of the Ruſſian empire; being ſmooth and very ſucculent, becoming red in winter, a foot and half high and more, with very broad bractes, long imbricate ſpikes, and very large ſeeds; or in dry ſoils very ſlender, hoary, with ſmall ſpikes, bractes and ſeeds, or about the lake Baikal, not tall, but very robuſt, with ſhort ſpikes like ſtrobiles, and wide bractes, the whole plant red in winter; or in the Caſpian deſert, a cubit high or more, branching very much, with ſpikes above a ſpan long, and remote bractes.

It is common all over the Ruſſian empire in ſandy ſoils, eſpecially on the banks of lakes and rivers, and in low moiſt places: where it affords paſture for the camels, with the next ſpecies, and the various ſorts of Atriplex and Salſola[d]. It is alſo found in the South of France. It was cultivated by Mr. Miller in 1739[e].

2. This varies in ſize like the foregoing, but not in the proportion of the parts. Root annual. The whole plant dry, more rigid, pubeſcent with a hoary lanugo. Stem and branches round, with neat whitiſh ridges. In ſmall plants there are four oppoſite aſcending branches next the root, often longer than the middle ſtem, which is ſometimes hardly a finger's length, and ſimple. In larger plants, which ſometimes exceed a cubit in height, the ſtem is higher than theſe root-branches, and is branched alternately to the very top. The leaves have five rigid, prominent nerves. Spikes ſeſſile, very ſhort and crowded, muricated all round with very ſpreading ſpineſcent bractes. There is a ſeſſile flower to

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[a] Linn. ſpec.

[b] Forſkæhl.

[c] Hort. kew.

[d] Pallas.

[e] Hort. kew.

each bracte, uſually one-ſtamened, with very fugacious anthers; ſtyles longer; ſeeds ſmaller, not margined, mucronate-bifid with the ſtyles.—Native of Ruſſia, but more confined and local[f]. Cultivated by Mr. Miller in 1759[g].

Gmelin is of opinion that theſe are not ſpecifically different: but neither he nor Linneus ſeem to have been acquainted with the ſecond ſort. Linneus probably made out his firſt ſpecies from the laſt variety mentioned above, and his ſecond from the firſt, ſecond, and third varieties[h].]

PROPAGATION AND CULTURE.

Theſe plants having little beauty are ſeldom cultivated, except in botanic gardens. The ground will be plentifully ſtocked with the firſt ſort if it be permitted to ſcatter its ſeeds.

The ſecond ſort will not grow but in marſhy places, it will ſoon extend over the ſurface of ſtanding water, when once it is eſtabliſhed.

[Corispermum. See *Callitriche.*]

Cork-tree. See *Quercus.*

[Cornel. See *Cornus.*

Cornelia. See *Ammannia.*

Cornelian-Cherry. See *Cornus.*]

Corn-flag. See *Gladiolus.*

Corni species. See *Cluytia.*

Corn-marigold. See *Chryſanthemum.*

Corn-salad. See *Valeriana.*

[**CORNUCOPIÆ.** (*So named from the manner in which the flowers grow within their involucre, like a Cornucopia or horn of plenty.*)

Lin. gen. n. 72. *Reich.* 78. *Schreb.* 101. *Juſſ.* 33.
Cornucopioides. *Scheuch.* 3.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

Cal. *Perianth* common one-leafed, funnel-form, very large; *mouth* crenated, obtuſe, from ſpreading-upright, many-flowered. *Glume* one-flowered, two-valved; valves oblong, obtuſely acuminate equal.

Cor. one-valved; in figure, ſize, and ſituation very much reſembling the valves of the glume of the calyx.

Stam. *Filaments* three, capillary. *Anthers* oblong.

Pist. *Germ* turbinate. *Styles* two, capillary. *Stigmas* cirrhoſe.

Per. none. *Corolla* including the ſeed.

Seed ſingle, turbinate, on one ſide convex, on the other flat.

Obs. *Rather too nearly allied to* Alopecurus.

ESSENTIAL CHARACTER.

Invol. one-leafed, funnel-form, crenate, many-flowered. *Cal.* two-valved. *Cor.* one-valved.

SPECIES.

1. Cornucopiæ cucullatum. *Hooded Cornucopiæ.*
Lin. ſpec. 79. *Reich.* 146. *hort. cliff.* 490. *Haſſelqu. itin.* 452. *edit. angl.* 242. *Pet. gaz. t.* 73. *f.* 5. (*Juncus.*) *Smith ſpicil. t.* 14.
Gramen orientale, vernum, &c. *Scheuch. gram.* 117. *t.* 3. *f.* 1.
Spike beardleſs, with a crenate hood, or *involucre.*

2. Cornucopiæ alopecuroides.
Lin. ſyſt. 103. *Reich.* 146. *mant.* 29.
Spike bearded within a hemiſpheric hood, or *involucre.*

DESCRIPTIONS, &c.

1. Root annual, fibrous, branched. Culms numerous, aſcending, jointed, round, ſmooth, ſtriated, branched, leafy, dark purple at the joints. Leaves ſheathing, ſtriated; ſheath inflated, ſhorter than the internodes, ſpreading, pointed. Stipule ſolitary, in the boſom of the leaf, entire. Flowers ſeveral, ariſing from the ſheaths of the upper leaves. Involucre ſlender, incurved, horny, cylindrical, ſtriated, rough when drawn backwards through the hand, gradually ſwelling upwards, and enlarged at the top into an hemiſpherical cup, neatly notched in its margin, purpliſh, durable. Flowers in a little head or ſpike, projecting ſomewhat beyond the involucre, green often tipped with purple. Calyx and corolla ſtriated, obtuſe. Filaments projecting very far. Styles connected at the baſe, ſpreading in the upper part, twiſted, the length of the ſtamens. Stigmas acute. Seed ſmall. Of all graſſes, this is perhaps the moſt ſingular, as well as the moſt uncommon[i].

Native of the vales about Smyrna, whence it was ſent to England by Sherard, when he was conſul at Smyrna: and afterwards to Linneus by Haſſelquiſt.

Introduced at Kew in 1788, by John Sibthorp, M. D.[k] But it has conſtantly been cultivated in the Chelſea garden ſince the time of Rand[l].

2. This very much reſembles our common Foxtail graſs (*Alopecurus pratenſis.*) Culms aſcending, even. Leaves even. Spike terminating, ovate, looſe, with the florets on very ſhort pedicels. Glume of the calyx two-valved, equal, ovate. Glume of the corolla one-valved, the length of the calyx, to which is oppoſed a ſpreading awn, twice the length of the flower. Sheath of the upper leaf ventricoſe, as in *Phalaris.* The ſingular mark of this ſpecies is a hood in form of a pitcher, quite entire, of the ſame conſiſtence with the leaf, ſurrounding the baſe of the ſpike like a common calyx. Obſerved in Italy, by Arduini[m].]

Cornucopiæ. See *Valeriana.*

CORNUS. (*Cornus Plinii,* κρανεια, *Theophr. from cornu, a horn; on account of the horny hardneſs of the fruit.*)

Lin. gen. n. 149. *Reich.* 155. *Schreb.* 194. *Tourn.* 410. *Gærtn.* 26. *Juſſ.* 214. *L'Heritier.*
Virga ſanguinea. *Dill.*

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Stellatæ γ. Caprifolia* Juſſ.

GENERIC CHARACTER.

Cal. *Involucre* generally four-leaved, many-flowered; *leaflets* ovate, the oppoſite ones ſmaller, coloured, deciduous.

Perianth very ſmall, four-toothed, ſuperior, deciduous.

Cor. *Petals* four, oblong, acute, flat, ſmaller than the involucre.

Stam. *Filaments* four, ſubulate, erect, longer than the corolla. *Anthers* roundiſh, incumbent.

Pist. *Germ* roundiſh, inferior. *Style* filiform, length of the corolla. *Stigma* obtuſe.

Per. *Drupe* roundiſh, umbilicated.

Seed. *Nut* heart-ſhaped, or oblong, two-celled.

ESSENTIAL CHARACTER.

Invol. generally four-leaved. *Pet.* four, ſuperior. *Drupe* with a two-celled nut.

SPECIES.

1. Cornus florida. *Great-flowered Dogwood.*
Lin. ſpec. 171. *Reich.* 330. *hort. cliff.* 38. *upſ.* 29. *Gron. virg.* 17. *Kalm. canad.* 2. 321. & 3. 104. *Pluk. alm. t.* 26. *f.* 3. *Cateſb. cor. t.* 27. *L'Herit. monogr.* 4. *n.* 3.
Arboreous: involucre very large: leaflets obcordate.

2. Cornus maſcula. *Cornelian Cherry.*
Lin. ſpec. 171. *Reich.* 331. *hort. cliff.* 38. *upſ.* 29. *L'Herit. monogr.* 4. *n.* 4. *Hall. helv. n.* 815. *Scop. carn. n.* 170. *Krock. ſileſ. n.* 244. *Allion. pedem. n.* 873. *Villars dauph.* 2. 308. *Pallas roſſ.* 1. 50. *Blackw. t.* 121. *Gærtn. fruct.* 127. *Plenck, ic. t.* 64.
C. ſylveſtris mas. *Bauh. pin.* 447. *Lob. ic.* 2. 169. *Dod. pempt.* 802. *Duham. arb.* 1. 182. *t.* 74.
C. mas. *Ger.* 1282. *emac.* 1466. *Park. theat.* 1520. *f.* 1. *Raii hiſt.* 1536.
C. mas pumilio. *Cluſ. hiſt.* 1. *t.* 13.
β. C. hortenſis mas. *Bauh. pin.* 447.
C. ſativa ſ. domeſtica. *Bauh. hiſt.* 1. 211.
γ. C. fol. eleganter variegatis. *Du Roi. harb.* 1. 171.
δ. C. hort. mas, fructu ceræ coloris. *Bauh. pin.* 447. 1. *Duham. arb.* 3. *Du Roi.* 171.
Arboreous: umbels equalling the involucre.

[3. Cornus japonica.
Lin. ſyſt. 159. *Thunb. jap.* 63.
Arboreous: umbels exceeding the involucre: leaves ſerrate.]

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[f] Pallas.

[g] Hort. kew.

[h] Pallas.

[i] Smith.

[k] Hort. kew.

[l] Smith.

[m] Linn. mant.

4. Cornus ſanguinea. *Common Dogwood.*
Lin. ſpec. 171. *Reich.* 331. *Fl. ſuec. n.* 139. *hort. cliff.* 38. *Hudſ. angl.* 70. *With.* 160. *Engl. bot. t.* 249. *Relh. cant. n.* 131. *Hall. helv. n.* 816. *Scop. carn. n.* 171. *Neck. gallob.* 90. *Pollich pal. n.* 165. *Krock. ſileſ. n.* 245. *Pallas roſſ.* 1. 50. *Fl. dan. t.* 481. *Villars dauph.* 2. 308. *Duham. arb.* 1. 182. *t.* 75. *L'Herit. corn. n.* 5. *Gærtn. fruct.* 126.
C. foemina. *Baub. pin.* 447. *Lob. ic.* 2. 169. *Tabern.* 1046. *Garid. aix.* 127. *Ger.* 1283. *emac.* 1467. *Park. theat.* 1521. 3. *Raii hiſt.* 1591. *ſyn.* 460.
Virga ſanguinea. *Dod. pempt.* 782. *Baub. hiſt.* 1. 214.
Arboreous: cymes depreſſed; branches ſtraight; leaves ovate, concolor.

5. Cornus alba. *White-berried Dogwood.*
Lin. ſyſt. 159. *Reich.* 332. *mant.* 40. *L'Herit. corn. n.* 7. *Pallas fl. roſſ.* 1. 51. *t.* 34. *Ait. hort. kew.* 159.
C. tartarica. *Mill. dict. n.* 7. *fig. t.* 104.
C. ſylveſtris, fructu albo. *Amm. ruth.* 198. *t.* 32.
Arboreous: cymes depreſſed; branches recurved; leaves broad-ovate, hoary underneath.

6. Cornus ſericea. *Blue-berried Dogwood.*
Lin. ſyſt. 159. *Reich.* 332. *mant.* 199. *L'Herit. corn. n.* 6. *t.* 2. *Ait. hort. kew.* 158. *Gron. virg.* 20. *Pluk. phyt. t.* 169. *f.* 3.
C. amomum. *Mill. dict. n.* 5.
Arboreous: cymes naked, depreſſed; branches patulous; leaves ovate, ferruginous-ſilky underneath.

[7. Cornus alternifolia. *Alternate-leaved Dogwood.*
Lin. ſyſt. 159. *ſuppl.* 125. *L'Herit. corn. n.* 11. *t.* 6. *Ait. hort. kew.* 159.
α. C. corallina. *Red-twigged.*
β. C. vireſcens. *Green-twigged.*
Arboreous: leaves alternate.]

8. Cornus ſuecica. *Herbaceous Dogwood.*
Lin. ſpec. 171. *Reich.* 332. *fl. lapp. n.* 65. *t.* 5. *f.* 3. *ſuec. n.* 138. *L'Herit. monogr.* 2. *n.* 1. *With.* 161. *Lightf. ſcot.* 119. *Fl. dan. t.* 5. *Gmel. ſib.* 3. 163. *n.* 33. *Pallas roſſ.* 52. *Dill. elth.* 108. *t.* 91.
C. herbacea. *Hudſ. angl.* 71.
Periclymenum humile. *Bauh. pin.* 302. 3. *Tabern. ic.* 898. —— norvegicum. *Bauh. pin.* 302. 4. *Buxb. act.* 3. 268.
P. parvum prutenicum. *Bauh. hiſt.* 2. 109. *f.* 1.
Chamæpericlymenum. *Cluſ.* 1. 60. 1. *pannon.* 87. *t.* 88. *Ger.* 1113. *emac.* 1296. *n.* 5. *Park. theat.* 1461. *f.* 4. *Raii hiſt.* 655.
Herbaceous: with branches in pairs.

[9. Cornus canadenſis. *Canadian Dogwood.*
Lin. ſpec. 172. *Reich.* 332. *amœn.* 1. 257. *L'Herit. corn. n.* 2. *t.* 1.
Pyrola, alſines flore, braſiliana. *Bauh. pin.* 191. *prodr.* 100.
Herbaceous: with no branches.

10. Cornus circinata.
L'Herit. monogr. 7. *n.* 8. *t.* 3.
Branches warted, leaves orbiculate tomentoſe and hoary underneath, cymes depreſſed.]

11. Cornus ſtricta. *Upright Dogwood.*
L'Herit. corn. n. 9. *t.* 4. *Ait. hort. kew.* 159.
C. foemina. *Mill. dict. n.* 4?
Branches ſtrict: leaves ovate concolor almoſt naked: cymes panicled.

12. Cornus paniculata. *New Holland Dogwood.*
L'Herit. corn. n. 10. *t.* 5. *Ait. hort. kew.* 159.
C. candidiſſima. *Mill. dict. n.* 6?
Branches erect: leaves ovate, hoary underneath; cymes panicled.]

DESCRIPTIONS, &c.

1. This ſort ſeldom riſes above ſeven or eight feet high, but is generally well furniſhed with large leaves. It does not flower here very plentifully, nor does it produce berries in England, though it is very hardy.

There is a variety of it with a roſe-coloured involucre, which was found wild in Virginia by Baniſter, and afterwards by Cateſby. They are great ornaments to the woods in America, by their early flowering in the ſpring before the leaves appear, and by their berries hanging on all the winter.

[Cateſby ſays, that the bloſſoms break forth in the beginning of march, being at firſt not ſo wide as a ſixpence, but increaſing gradually to the breadth of a man's hand, being not of their full bigneſs till about ſix weeks after they begin to open. (This is the involucre.) It is greeniſh white, ſometimes roſe-coloured, and each of the four leaflets has a deep indenture at the end. The berries are from two to ſix in a cluſter, cloſely joined, on peduncles an inch long; they are red, oval, and the ſize of large haws: being bitter, they are little coveted by birds, except in time of dearth. The wood is white, has a cloſe grain, and is very hard like that of Box.]

It is common in our nurſeries, where it is known by the name of Virginia Dogwood, [and was cultivated in 1739, by Mr. Miller[a]. Cateſby ſays, that Fairchild had it in his garden. It flowers in april and may.

2. In its wild ſtate it is a ſhrub, four or five feet in height; but cultivated, it advances into a tree, twenty feet high. Shoots aſh-coloured and pubeſcent. Leaves in pairs, ovate-lanceolate, ſubhirſute. The flowers come out very early in the ſpring, before the leaves. Leaflets of the involucre lanceolate, often reflected, permanent. Peduncles one-flowered, ſomewhat villoſe, from twelve or fifteen to thirty in an umbel. Corolla yellow, ſpreading, and at length reflected, longer than the ſtamens. Top of the ſtyle bent in and papilloſe. Fruit oblong, of a high ſhining ſcarlet colour, the ſize and form of a ſmall Olive or Acorn. The geſtation endures about five months, and the greater part of the flowers drop without fruit[b].]

The Cornelian Cherry is very common in plantations of ſhrubs. If the ſeaſon be mild, the flowers will come out the beginning of february; and though there be no great beauty in them, yet they are produced in plenty at a ſeaſon when few other flowers appear. Formerly it was cultivated for the fruit, which was uſed to make tarts, and a rob de Cornis was kept in the ſhops.

[Cornel, ſays Evelyn, grows with us of good bulk and ſtature, and is exceedingly commended for its durableneſs in wheel-work, pins and wedges, in which it laſts like the hardeſt iron.

Native of France, Ruſſia, Germany, Switzerland, Auſtria, Carniola, Piedmont, the Milaneſe.—Cultivated in 1596, by Gerarde[c].

3. *Stem* erect, ſix feet in height: branches oppoſite, ſtriated, aſh-coloured, ſmooth. *Leaves* at the ends of the branches, oppoſite, petioled, ovate, acuminate, entire at the baſe, nerved, pale underneath, ſmooth, two inches broad and three long. *Petiole* angular, ſmooth. *Flowers* terminating, umbelled, white. *Umbel* decompound, with from three to five rays, much ſpreading. *Peduncles* and *pedicels* half-cylindric, channelled, ſmooth. Leaflets of the *involucre* lanceolate-ſetaceous, deciduous, many times ſhorter than the umbel. *Perianth* four or five-parted, ſmooth; diviſions ovate, acute. *Filaments* ſhorter than the corolla. *Germ* ſuperior; *ſtyle* very ſhort; *ſtigma* three-cornered. *Drupe* ovate, acute, compreſſed, red, ſmooth, the ſize of a ſmall Pea, with the ſtyle permanent. The fleſh thin and ſubacid. The ſtone hard and ſhaped like a lens. The kernel white and hard.—Native of Japan[d]. L'Heritier affirms, that this is a Viburnum.

4. Height from four or five to eight or ten feet. Leaves oppoſite, quite entire but ſometimes with the edge waving, ſtrongly nerved, ſlightly pubeſcent on both ſides, two inches and an half long, one and an half broad: petioles ſmooth, furrowed above, and four lines in length. Peduncles axillary, leafleſs; pedicels ſhort and very cloſe together: forming a five-cleft cyme, again ſubdividing. Small

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[a] Hort. kew.
[b] Haller and Scopoli.
[c] Hort. kew.
[d] Thunberg.

deciduous bractes at the baſe of the peduncles. Calyx four or five-toothed. Petals greeniſh white, lanceolate, revolute. A four-lobed ring ſurrounds the baſe of the ſtyle. Some of the flowers are female. Fruit round, obſcurely umbilicate; very dark-purple: the pulp ſoft and bitter; the ſtone round, bony, marked obſcurely with eight furrows, two-celled, with one plano-convex white ſeed in each cell[e].

Native of Europe in hedges, eſpecially in a calcareous ſoil. It flowers in june, and the berries ripen in auguſt.

This common ſhrub has a variety of names in different parts of our kingdom—as *Female Cornel, Dogberry tree, Hound's-tree, Hound's-berry tree, Prickwood* from its uſe in making ſkewers, *Gaten* or *Gatten-tree, Gater* or *Gatter-tree.*

Our common Dogwood, ſays Evelyn, is like the Cornel for compactneſs, and is made uſe of for cart-timber, and ruſtick inſtruments, for mill-cogs, ſpokes, bobins for bone-lace, and the beſt of tooth-pickers and butchers ſkewers. Being hard and even, it is fit alſo for the turner. In ſome countries abroad they extract an oil from the berries for lamps, by boiling them in water, and preſſing them. Haller obſerves, that theſe berries are very bitter and ſtyptic, but not uſed in medicine.]

Mr. Miller informs us, that the fruit is often brought into our markets, and ſold for Buckthorn berries, from which however it may eaſily be diſtinguiſhed; there being only one ſtone in this, whereas the Buckthorn has four ſtones; the latter alſo ſtains paper green, but the juice of the former is purple. Dogwood is called *Virga ſanguinea* by old authors, from the young ſhoots being of a fine red colour. A variety with variegated leaves is to be found in the nurſeries, but it is not much eſteemed.

5. [This very much reſembles the foregoing; differing only in its recurved branches and white berries. Many of the ſuckers are procumbent[f].

Stem woody, putting out many lateral branches near the ground, ſo that unleſs it is trained while young, it generally ſpreads low. The branches during ſummer are browniſh, but in winter change to a fine red. The flowers are produced in large cymes at the extremity of every ſhoot, towards the end of may, and are white. The fruit alſo becomes finally white; but unleſs theſe ſhrubs are planted in a ſtiff ground, they rarely produce much fruit, except in cold wet ſeaſons.

This ſpecies was firſt diſcovered by Gmelin; and afterwards was found by Meſſerſchmidt near Kamſchatka: it is frequent through all Siberia. Alſo in North America. The ſeeds were firſt ſent by Profeſſor Ammann of Peterſburgh to England[g].

Native of North America and Siberia.—Cultivated 1759, by Mr. Miller[h].

6. This ſhrub grows two fathoms in height, with an upright, round, branched, gray ſtem. Branches oppoſite, round, ſpreading, duſky purple; ſhoots round, with a ring at the joints, almoſt without ſpots and dark red, as in *C. ſanguinea,* the younger ones more or leſs pubeſcent. Leaves acuminate, entire, nerved; the rib and nerves raiſed beneath, ſcored above, ſpreading, flat, three inches long, an inch and half wide. Petioles round on one ſide, grooved on the other, one fourth of the length of the leaves, villoſe, reddiſh. Cymes terminating, peduncled, upright, depreſſed, ſcarcely convex, three or four-parted, with an intermediate ſolitary flower, villoſe, two inches wide. Flowers pedicelled, horizontal, white, with the diſk at firſt white, but afterwards brown, or dark purple.

The leaves are narrower, and deeper veined than in the foregoing; the flowers grow in ſmaller cymes; the fruit is ſmaller, and of a deep blue colour when ripe[i].] The ſhoots are of a beautiful red colour in winter; and in ſummer the leaves being large, of a whitiſh colour on their under ſide; and the bunches of white flowers growing at the extremity of every branch, this ſhrub is valuable; and in autumn, when the large bunches of blue berries are ripe, it makes a fine appearance. Native of North America.

[Cultivated 1759, by Mr. Miller[k].

7. Branches ſubdeterminate, round, gloſſy, dark purple; with whitiſh vague dots or lines. Leaves petioled, ovate, acute, quite entire, gloſſy, marked with lines, pale underneath. Stipules none. Panicles corymbed, flat above, white. Germ obovate. Perianth none. Petals obtuſe, ſeſſile, revolute, white. Filaments twice the length of the petals, from ſpreading erect. Style cylindric, ſhorter than the corolla. Stigma thickiſh.—Native of North America[l].

The branches are ſometimes red, and ſometimes green. It is ſingular in having the leaves alternate; the twigs alſo being dichotomous, this ſhrub has a different appearance from its congeners; the petioles alſo are longer than in the other ſpecies[m]. Cultivated 1760, by Mr. James Gordon. It flowers in ſeptember[n].

8. This elegant plant is about ſix inches high. Stem four-cornered, thinly branched, forked at top. Leaves oval, oppoſite, ſmooth, ſeſſile, ribbed with five nerves, the lower ones rounder. The involucre conſiſts of four white leaves reſembling petals, in the centre of which are twenty or more ſmall blackiſh flowers, on ſhort peduncles; the flowers are very ſmall, in a ſimple umbel: they are ſucceeded by a cluſter of berries which are red when ripe; in each of them is a heart-ſhaped ſtone. The berries have a ſweet wateriſh taſte, and are acceptable to children: they are ſuppoſed by the highlanders to create an appetite, and hence the Erſe name, Lus-a-chraſis, *Plant of gluttony*[o].

Native of the north of Europe, and the whole northern tract of the Ruſſian empire from the Baltic to the E. ocean; Cheviot and other hills in the north of England; and in mooriſh places by rivulets on the ſides of the highland mountains in Scotland.

It is commonly known under the name of *Dwarf Honeyſuckle:* and flowers in june.

9. This is only a hand in height, and has the habit of Trientalis or Paris. Stems ſeveral, upright, herbaceous, four-cornered, purpliſh, having ſome oppoſite, ſlightly-claſping leaves at bottom, which wither and fall off. The proper leaves are in whorls from four to ſix together, ſolitary at the top of each ſtalk; they are ſeſſile, roundiſh or ovate, acuminate, entire, nerved, have ſcarcely conſpicuous hairs ſcattered over the upper ſurface, are bright green, paler underneath, ſpreading, flat, eighteen lines long, and an inch broad. Umbels involucred, terminating, ſolitary, peduncled, upright, white. Flowers pedicelled, upright, white, with a violet-coloured bottom. Leaflets of the involucre ſeſſile, ſubcordate, acuminate, entire, marked with lines, white, ſometimes red at the tip, horizontal, the two inner ones ſmaller: the whole involucre is fifteen lines in diameter[p]. (Linneus ſays it is longer than in the foregoing ſort.)

Pallas ſuſpects it to be only a variety of that, and ſays that the ſpecimens of C. ſuecica or herbacea found in Kamtſchatka and Bering's iſland, exactly correſpond with the garden ſpecimens of C. canadenſis ſent from England, and the wild ones from Newfoundland.

Native of Canada, Labrador, and Newfoundland. Introduced 1774, by John Fothergill, M.D. It flowers in auguſt[q].

10. This ſhrub is the height of a man. Stem upright, branched, gray. Branches oppoſite, ſomewhat ſpreading, round, very thick, green, with browniſh warts; twigs like the branches, with rings at the joints, ſlightly tinged with purple. Suckers

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[e] Haller, Scopoli, Pollich, Gærtner.
[f] Linn. mant.
[g] Mill. fig.
[h] Hort. kew.
[i] Mill. fig. 70.
[k] Hort. kew.
[l] Linn. ſuppl.
[m] L'Heritier.
[n] Hort. kew.
[o] Withering & Lightfoot.
[p] L'Heritier.
[q] Hort. kew.

purple, with duſky linear ſpots. Leaves acuminate, entire or nearly ſo, with ſemiconcentric nerves, prominent beneath, ſcored above; the under ſurface glaucous; they are ſpreading, flat, four inches in length and breadth; the younger ones tomentoſe underneath. Petioles an inch long, rounded on one ſide, channelled on the other, ending in a claſping ring, and ſpotted like the ſuckers. Cymes terminating, ſolitary, peduncled, upright, without any involucre, three or five-parted, pubeſcent, three inches wide. Flowers pedicelled, upright, white, five lines wide. Peduncles round, tubercled with minute, ſubulate, looſe, caducous bractes, ſpotted like the ſuckers and petioles. Pedicels dotted with purple. Some cymes, inſtead of an involucre, have a two-leaved, oppoſite, ſubulate bracte, growing to the peduncle, decurrent and reflex. The proper perianth is acute, upright and permanent. Petals linear-lanceolate, at firſt ſpreading, afterwards reflex, ſeſſile, inſerted below the crown of the germ. Filaments inſerted at the petals, from erect diverging: anthers oblong, two-celled, peltate. Germ ſilky, whitiſh: ſtigma capitate, ſlightly quadrangular or polygonal. Fruit a berry-form drupe, hollowed at the baſe, retaining the ſtyle, ſoft, pale blue turning whitiſh, three lines in diameter: nut roundiſh, flatted, nerved, a line and half in diameter.

It is diſtinguiſhed by its orbicular, wrinkled, very green leaves, the cymes bracted at bottom, and its very thick tubercled branches.

It flowers in the ſummer, frequently twice, but very rarely ripens a few of the fruit in autumn.

It is a native of Penſylvania, and has been long cultivated, but not commonly, in France.

11. This grows to the height of two fathoms. Stems ſeveral, upright, browniſh. Branches oppoſite, round, in younger plants ſtrict, in older ones patulous: the twigs, and eſpecially the ſuckers, ſtiffiſh, having rings at the joints, purple, warted cloſely at the baſe. Leaves acuminate, entire; midrib purpliſh at the baſe; nerves remote, confluent at the tip, prominent beneath, ſcored above, ſmooth, bright green ſcarcely paler beneath, ſpreading, flat, from two to three inches long, from twelve to fifteen lines broad: petioles erect, only one ſixth of the length of the leaf, gibboſe on one ſide, channelled on the other, purple. Cymes terminating, with two branchlets coming out together from the uppermoſt leaves, peduncled, panicled, five-parted, bracted, from eighteen to twenty-four lines in diameter. Flowers pedicelled, white, with the diſk only red, four lines in diameter. Bractes minute, caducous. Perianth four-parted to the very baſe; ſegments linear, acute, ſpreading; it is ſubpubeſcent and permanent. Petals inſerted below the crown of the germ, ſeſſile, lanceolate, ſpreading, longer than the calyx. Filaments inſerted as the petals, ſlender, ſpreading a little, ſcarcely longer than the petals: anthers oblong, two-celled, peltate, incumbent, pale blue. Germ oblong, truncate, with a nectareous crown: ſtyle ſhorter than the ſtamens: ſtigma capitate. Drupe ſoft, blue, white within, from two to three lines in diameter. Nut ovate, two lines in length.

This has the habit of C. ſanguinea and ſericea, but recedes far from them, in having the flowers in panicles. Theſe are ſmaller than in C. paniculata; and the anthers are blue.

It was introduced long ſince from North America, but is yet ſcarce. The fruit appears too late to ripen here. The leaves continue green till froſt comes on.

12. This ſhrub is the height of a man. Stems very many, upright, much branched, round, gray. Branches oppoſite, patulous, like the ſtems. Twigs and ſuckers ſtiffiſh, having rings at the joints, pale purple, warted. Leaves acuminate, almoſt entire; the nerves very lax, prominent beneath, ſcored above; bright green, beneath glaucous, ſpreading, from two to three inches long, from fifteen to eighteen lines broad: the upper ones, whilſt young, reddiſh. Petioles one third or one fourth only of the length of the leaves, round on one ſide, channelled on the other, when young ſcarcely ending in a ring, purpliſh. Thyrſes or panicles terminating, with two branchlets coming out together from the uppermoſt leaves, ſolitary, peduncled, upright, without any involucre, three inches wide. Peduncles round, purpliſh when bearing fruit. Flowers pedicelled, upright, white, three lines in diameter. Perianth four-parted, pubeſcent, permanent; the teeth very ſmall, narrow and ſharp. Petals five, inſerted below the crown of the germ, narrow-lanceolate, acute, ſpreading, afterwards turned back, larger than the calyx. Filaments inſerted as the petals, ſetaceous, diverging, the length of the corolla: anthers oblong, two-celled, peltate. Germ globular, truncate, pubeſcent, with a nectareous crown, ſtyle ſcarcely ſhorter than the ſtamens: ſtigma capitate, depreſſed. Drupe retaining the ſtyle, ſcarcely excavated at the baſe, white, three lines in diameter. Nut roundiſh, marked with lines.

It is diſtinct from all the other ſorts in having the cymes elongated into a thyrſe or panicle. It is handſome, and very full of flowers, which come out in the ſpring, or early in the ſummer; in autumn it is loaded with fruit during ſeveral months[r].

Native of North America. This and the foregoing ſort were cultivated by Mr. Miller in 1758[s].]

Theſe American ſorts are equally hardy with our common Dogwood, grow as tall, and make a much better appearance.

[Moſt ſpecies of Cornus are Shrubs, ſome of which become ſmall trees; few are herbaceous. In the latter, the uppermoſt leaves are in whorls; in the former they are oppoſite except in the ſeventh, which has them alternate. The flowers are involucred or not, in umbels or cymes; hence Monſ. L'Heritier has made two diviſions of this genus: the firſt comprehending the *Involucred umbelled* ſpecies—1. florida. 2. maſcula. 8. ſuecica. 9. canadenſis: the ſecond, thoſe which have naked *cymes*; that is, all the reſt. The cymes are either depreſſed, or elongated into a ſort of thyrſe. The flowers are white, with ſome ſweetneſs. The fruit is red in C. ſuecica, canadenſis, florida and maſcula; white in C. paniculata and alba; blue in C. ſericea, circinata and ſtricta; blackiſh purple or brown in C. ſanguinea and alternifolia. The wood has a particular ſmell, and in moſt of the ſpecies is hard and tough, particularly in the ſecond, of which the modern Indians make their arrows, as the ancients did their ſpears[t].

> ———" bona bello
> " Cornus." *Virgil.*]

PROPAGATION AND CULTURE.

All the ſorts of Dogwood may be propagated by their ſeeds, which, if ſown in autumn ſoon after they are ripe, will moſt of them come up the following ſpring; but if the ſeeds are not ſown in autumn, they will lie a year in the ground before the plants will appear, and when the year proves dry, they will ſometimes remain two years in the ground; therefore the place ſhould not be diſturbed where theſe ſeeds are ſown, under two years, if the plants ſhould not come up ſooner. When the plants are come up, they ſhould be duly watered in dry weather, and kept clean from weeds; and the autumn following they may be removed, and planted in beds in the nurſery, where they may remain two years, by which time they will be fit to tranſplant where they are to remain. The beſt ſeaſon for this is the autumn. They are alſo propagated by ſuckers, and laying down the branches. Moſt of the ſorts produce plenty of ſuckers, (eſpecially when they are planted on a moiſt light ſoil,) which may be taken off from the old plants in autumn, and planted into a nurſery for a year or two, and then may be tranſplanted into the places where they are to remain; but thoſe plants which are propagated by ſuckers, rarely have ſo good roots as thoſe which are propagated by layers; and being much more inclinable to ſhoot out ſuckers, they are not near ſo valuable as plants raiſed from layers.

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[r] L'Heritier. [s] Hort. kew. [t] L'Heritier.

[Some of the ſcarcer ſorts from America are ſometimes engrafted into the fourth or fifth.]

8. The eighth ſort is very difficult to preſerve in gardens; the only method is, to remove the plants from the places of their natural growth, with good balls of earth to their roots, and plant them in a moiſt ſhady ſituation, where they are not annoyed by the roots of other plants. In ſuch a ſituation they may be preſerved two or three years, but it rarely happens that they will continue much longer.

Cornus. See *Amyris, Laurus, Memecylon.*

CORNUTIA. (*So called by Plumier from Jacob Cornutus, a phyſician of Paris, who publiſhed a hiſtory of Canadian plants,* 1635.)
Lin. gen. n. 766. *Reich.* 825. *Schreb.* 1028. *Juſſ.* 107. *Plum.* 17. *Agnanthus. Vaill. A. G.* 1722.
Claſſ. 14. 1. Didynamia Gymnoſpermia.
Nat. order of *Perſonatæ. Vitices* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, roundiſh, very ſmall, tubular, five-toothed, permanent.

Cor. one-petalled, ringent; *Tube* cylindric, much longer than the calyx. *Border* four-cleft, *upper diviſion* erect, roundiſh; *lateral* ones diſtant; *lower* roundiſh, entire.

Stam. *Filaments* four, of which two project beyond the tube of the corolla. *Anthers* ſimple, inclining.

Pist. *Germ* roundiſh; *Style* very long, two-parted; *Stigmas* thickiſh.

Per. *Berry* globoſe, at the baſe comprehended by the calyx.

Seed ſingle, kidney-form.

ESSENTIAL CHARACTER.

Cal. five-toothed. *Stam.* longer than the corolla. *Style* very long. *Berry* one-ſeeded.

SPECIES.

1. Cornutia pyramidata. *Hoary-leaved Cornutia.*
Lin. ſpec. 875. *Reich.* 3. 168. *hort. cliff.* 319. *Plum. gen.* 32. *ic.* 106. *f.* 1.
Agnanthus viburni folio. *Vaill. act. par.* 1722. 273.
Leaves oppoſite, ovate, flowers in terminating corymbs.

[2. Cornutia quinata.
Lour. cochinch. 387.
Leaves quinate, lanceolate-ovate, flowers in racemes.]

DESCRIPTIONS, &c.

1. It grows to the height of ten or twelve feet. The branches are four-cornered, and grow ſtraggling. Leaves oppoſite, [ovate, hoary, on very ſhort petioles, acuminate, deciduous. The petiole in falling is broken off a line diſtant from the branch, and remains a hard, truncate, blunt, perennial proceſs, ſupporting the branches that come out from the axils. Flowers in corymbs at the ends of the branches[u]:] they are of a fine blue colour, uſually appear in autumn, and ſometimes remain in beauty two months and more.

This plant was firſt diſcovered by Plumier in America. It is found in plenty in ſeveral of the iſlands in the Weſt Indies, as alſo at Campeachy and La Vera Cruz, from both of which places ſeeds were ſent to Mr. Miller, firſt by Dr. Houſtoun, and afterwards by Mr. Robert Millar.

[2. This is a middle-ſized tree, with ſpreading, round branches. Leaves acuminate, quite entire, ſmooth, on a long common petiole. Flowers greeniſh yellow. Corolla ſomewhat funnel-ſhaped; the upper lip trifid, the lower bifid and ſhorter. Native of China, in the woods near Canton[x].]

PROPAGATION AND CULTURE.

1. It is propagated by ſeeds, which ſhould be ſown early in the ſpring on a hot-bed; and when the plants are come up, they ſhould be tranſplanted each into a ſeparate halfpenny pot, filled with light freſh earth, and plunged into a hot-bed of tanners bark, obſerving to ſhade them until they have taken root; after which they ſhould have freſh air let into the bed, in proportion to the warmth of the ſeaſon, and ſhould be frequently watered, for it naturally grows on ſwampy ſoils. When the plants have filled theſe pots with their roots, they ſhould be ſhifted into others of a larger ſize, and plunged into a hot-bed again, where they ſhould be continued till october, when they muſt be removed into the bark-ſtove, and plunged into the tan, for otherwiſe it will be very difficult to preſerve them through the winter. The ſtove in which theſe plants are placed ſhould be kept to the temperate heat marked on Mr. Fowler's thermometers, which will agree better with them than a hotter ſtove. The third year from ſeeds theſe plants will flower, when they make a fine appearance in the ſtove, but they never perfect their ſeeds in England.

Theſe may alſo be propagated by cuttings, which, if planted into pots filled with earth, and plunged into a bark-bed, obſerving to ſhade and water them, will take root, and muſt be afterwards treated as the ſeedling plants.

Cornutia and Cornutioides. See *Premna.*

Corona imperialis, & regalis. See *Fritillaria.*

Corona solis. See *Buphthalmum, Helianthus, Silphium.*

Coronaria. See *Agroſtemma.*

CORONILLA. (*Diminutive from corona, a crown; the flowers crowning the branches in a corymb.*)
Lin. gen. n. 883. *Reich.* 956. *Schreb.* 1198. *Gærtn. t.* 155. *Juſſ.* 361. *Tourn.* 419. *Emerus Tourn.* 418. *Mill. dict. Securidaca. Tourn.* 224. *Gærtn. t.* 153. *Mill. dict.*
Claſſ. 17. 4. Diadelphia Decandria.
Nat. order of *Papilionaceæ*, or *Leguminoſæ.*

GENERIC CHARACTER.

Cal. *Umbellule* ſimple:
Perianth one-leafed, very ſhort, compreſſed, bifid, erect: the *three inferior teeth* ſmaller; the *two ſuperior* conjoined; permanent.

Cor. papilionaceous.
Standard heart-ſhaped, reflected on all ſides, ſcarce longer than the wings.
Wings ovate, converging at top, gaping at bottom, obtuſe.
Keel compreſſed, acuminate, aſcending, uſually ſhorter than the wings.

Stam. *Filaments* diadelphous (ſingle and nine-cleft), aſcending at almoſt a right angle, the tips widiſh. *Anthers* ſimple, ſmall.

Pist. *Germ* columnar, oblong. *Style* briſtled, aſcending. *Stigma* ſmall, obtuſe.

Per. *Legume* very long, columnar, ſtraight, contracted with an iſthmus between each ſeed; two-valved, one-celled, parting by joints.

Seeds many.

Obs. *In* Coronilla *of* Tourn. *the Legume is columnar as if jointed: ſeeds longiſh.*
In Securidaca Tourn. *the Legume is compreſſed, with one ſuture, flat, the other narrow. Seeds quadrangular.*
In Emerus Tourn. *the claws of the corolla are longer than the calyx: the Legume narrow and ſubulate: ſeeds cylindric.*

ESSENTIAL CHARACTER.

Cal. two-lipped $\frac{2}{3}$: the upper teeth connate. *Standard* ſcarcely longer than the wings. *Legume* contracted between the ſeeds.

SPECIES.

1. Coronilla Emerus. *Scorpion Sena.*
Lin. ſpec. 1046. *Reich.* 3. 490. *hort. cliff.* 363. 4: *fl. ſuec. n.* 636. *Hall. helv. n.* 389. *Scop. carn. n.* 911. *Villars dauph.* 3. 395.
C. major. *Riv. tetr. t.* 97.
Emerus *Cæſalp.* 117. major. *Mill. dict. n.* 1. *fig. t.* 132. *f.* 1.
Colutea ſiliquoſa ſ. ſcorpioides major. *Bauh. pin.* 397.
C. ſcorpioides. *Ger.* 1116. *f.* 2. *emac.* 1299. *f.* 2. *Bauh. hiſt.* 1. 381. *Raii hiſt.* 923.—major. *Park. theat.* 226. *n.* 2.
β. Col. ſil. minor. *Bauh. pin.* 397.

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[u] Linn. hort. cliff.

[x] Loureiro.

Col. ſcorpioides humilis. *Ger.* 1117. *f.* 3. *emac.* 1300. *f.* 3. *Bauh. hiſt.* 1. 382. 1. *Raii hiſt.* 924.—humilior. *Park. theat.* 227. *f.* 3.
Emerus minor. *Mill. dict. n.* 2. *fig.* 132. *f.* 2.
Shrubby: peduncles with about three flowers; claw of the corolla three times the length of the calyx; ſtem angular.

2. Coronilla juncea. *Linear-leaved Coronilla.*
Lin. ſpec. 1047. *Reich.* 3. 490. *Barr. ic.* 133. (*Dorycnium.*)
Colutea caule geniſtæ fungoſo. *Bauh. hiſt.* 1. 383. *f.* 2. *Raii hiſt.* 925.
Polygala major maſſiliotica. *Bauh. pin.* 349.
Shrubby: leaflets quinate and ternate, linear-lanceolate, ſomewhat fleſhy obtuſe.

3. Coronilla valentina. *Small ſhrubby Coronilla.*
Lin. ſpec. 1047. *ſyſt.* 669. *Reich.* 3. 491. *hort. upſ.* 234. *cliff.* 363. 1. *Gouan. monſp.* 377. *Mill. fig. t.* 107. *Retz. obſ.* 2. *n.* 69. *Curt. mag. t.* 185. *Gærtn. fruct.* 2. 344.
Polygala altera. *Bauh. pin.* 349. *Riv. tetr. t.* 92.
P. valentina. *Cluſ. hiſt.* 1. 98. *Park. theat.* 227. *f.* 5. *Bauh. hiſt.* 1. 383. *f.* 1.
Coronilla ſ. Colutea minima. *Lob. ic.* 2. 78. *Ger.* 1118. *f.* 5. *emac.* 1300. *f.* 5. *Raii hiſt.* 924. 5.
Shrubby: leaflets about nine; ſtipules ſuborbiculate.

4. Coronilla glauca. *Great ſhrubby Coronilla.*
Lin. ſpec. 1047. *ſyſt.* 669. *Reich.* 3. 491. *amœn.* 4. 285. *mant.* 444. *Mill. fig. t.* 289. *f.* 1. *Curt. mag. t.* 13. *Retz. obſ.* 2. *n.* 70.
Colutea ſcorpioides altera. *Cluſ. pannon. ic.* 46. *Gouan. monſp.* 378.—maritima glauco fol. *Bauh. pin.* 397. *prodr.* 157. *Raii hiſt.* 924.
Shrubby: leaflets ſeven, very obtuſe; ſtipules lanceolate.

[5. Coronilla coronata. *Crowned Coronilla.*
Lin. ſpec. 1047. *ſyſt.* 669. *Reich.* 3. 492. *Jacqu. auſtr.* 1. *t.* 95. *Hall. helv. n.* 388. *Jungh. cent.* 1. *f.* 4.
C. montana. *Riv. tetr. t.* 93. *Scop. carn. n.* 912. *t.* 44.
Colutea ſcorpioides 2. *Cluſ. hiſt.* 1. 98.—ſiliquoſa minor coronata. *Bauh. pin.* 397. *Raii hiſt.* 924.—montana Cluſii. *Ger.* 1117. *f.* 4. *emac.* 1300. *f.* 4. *Bauh. hiſt.* 382. *f.* 2.
Shrubby: leaflets nine, obovate, the inmoſt approximating to the ſtem; ſtipule oppoſite to the leaf, two-parted.]

6. Coronilla minima. *Leaſt Coronilla.*
Lin. ſpec. 1048. *ſyſt.* 670. *Reich.* 3. 492. *mant.* 444. *amœn.* 4. 327. *Jacqu. auſtr.* 3. *t.* 271. *Villars dauph.* 3. 396.
Ferrum equinum, ſiliquis in ſummitate. *Bauh. pin.* 349.—gallicum. *Park. theat.* 1092. 5. *Raii hiſt.* 925. 1.
Polygalon Cortuſi. *Bauh. hiſt.* 2. 351.
Lotus enneaphyllos. *Dalech. hiſt.* 510.
Underſhrubby, procumbent: leaflets nine, ovate; ſtipule oppoſite to the leaf, emarginate; legumes angular, knotty.

7. Coronilla argentea. *Silvery-leaved Coronilla.*
Lin. ſpec. 1048. *Reich.* 3. 493. *Mill. fig. t.* 106.
Colutea ſcorpioides odorata. *Alp. exot.* 17. *Raii hiſt.* 925. 9.
Shrubby: leaflets eleven, ſilky, the outmoſt larger than the reſt.

8. Coronilla Securidaca. *Hatchet Vetch.*
Lin. ſpec. 1048. *ſyſt.* 670. *Reich.* 3. 493. *hort. cliff.* 363. 3. *upſ.* 234.
Securidaca lutea. *Mill. dict. fig. t.* 232.—major. *Bauh. pin.* 348. *Raii hiſt.* 921.—vera. *Cluſ. hiſt.* 2. 236. *Mor. hiſt. ſ.* 2. *t.* 6. *f.* 10.
S. legitima. *Gærtn. fruct.* 2. 337.
Hedyſarum primum. *Dod. pempt.* 546. *Dalech. hiſt.* 445. *f.* 2 & 4.—majus. *Ger.* 1056. *f.* 1. *emac.* 1233. *f.* 1. *Park. theat.* 1087. *f.* 1.
Herbaceous: legumes ſickle-ſword-ſhaped; leaflets very many.

9. Coronilla varia. *Purple Coronilla.*
Lin. ſpec. 1048. *ſyſt.* 670. *Reich.* 3. 493. *hort. cliff.* 363. 2. *upſ.* 235. *Hall. helv. n.* 387. *Scop. carn. n.* 913. *Pollich. pal. n.* 691. *Riv. tetr. t.* 94. *Villars dauph.* 3. 397. *Garid. aix.* 129. *t.* 25. *Krock. ſileſ. n.* 201. *Mill. fig. t.* 106. *p.* 71. *Curt. magaz.* 258. *Fl. ruſt. t.* 15.
Hedyſarum purpureum. *Tabern. hiſt.* 516.
Securidaca 2. altera ſpecies. *Cluſ. hiſt.* 2. 237.—dumetorum major, fl. vario, ſiliquis articulatis. *Bauh. pin.* 349.—major articulata. *Park. theat.* 1088. 3. 1089. *fig.*
Herbaceous: legumes erect cylindric ſwelling numerous; leaflets very many ſmooth.

10. Coronilla cretica. *Cretan Coronilla.*
Lin. ſpec. 1048. *Reich.* 3. 494. *mant.* 445. *Jacqu. hort.* 1. *t.* 25. *Retz. obſ.* 1. 24.
C. cretica herbacea, fl. parvo purpuraſcente. *Tourn. cor.* 44.
Herbaceous: legumes five together, erect, columnar, jointed; leaflets eleven.

[11. Coronilla ſcandens. *Climbing Coronilla.*
Lin. ſpec. 1048. *Reich.* 3. 494. *Plum. ic.* 107. *f.* 3.
Stem climbing, flaccid.

12. Coronilla cochinchinenſis.
Lour. cochinch. 452.
Suffruticoſe, leaflets about fifteen pairs, peduncles ſubtriflorous, legumes erect toruloſe.]

13. Coronilla hiſpanica. *Spaniſh Coronilla.*
Mill. dict. n. 4.
Shrubby, leaflets nine, emarginate, ſtipules large, roundiſh.

14. Coronilla orientalis. *Levant Coronilla.*
Mill. dict. n. 8.
C. orient. herbacea, fl. magno luteo. *Tournef. cor.* 44.
Herbaceous, legumes numerous radiate thick, jointed, leaflets glaucous underneath.

DESCRIPTIONS, &c.

1. [Height from two to ſix feet, (eight or nine in gardens.) Stem not very ſtraight, branched and brachiate: (ſo weak as ſometimes to want ſupport.) Leaflets three or four pairs, gradually larger, almoſt cordate, glaucous, ſmooth. Peduncles umbelled, with from three to five flowers. Calyx broad, four-toothed, longer than the peduncle. Corolla yellow: ſtandard cordate, broad, erect or reflex, marked with lines at the baſe, very remote from the other petals; wings a little ſhorter than the keel, which is wide, with a ſharp beak. Before the claw of the ſtandard is a nectareous ſcale. Legume long, with a claw at the end, and the joints obſcurely diſtinct. Seeds cylindric [a].]

Mr. Miller, who kept this ſpecies diſtinct from the Coronillas, under its old name of *Emerus*, divided it into *greater* and *leſs*. The former, he ſays, is very common in the Engliſh gardens, but the latter in very few, and not known till he procured the ſeeds from Italy. The latter does not riſe to more than half the height, but has larger leaves; the flowers alſo are rather larger, and are on ſhorter peduncles. The leaves, fermented in a vat, in the ſame manner as is practiſed with Indigo, will afford a dye very nearly equal to what is procured from that plant.

Mr. Miller has a third ſort, which he names *Emerus herbacea*, diſcovered by Plumier in the French Weſt India iſlands, and by Houſtoun at La Vera Cruz. Stem herbaceous, upright, three feet high. Leaflets about twenty pairs, blunt, deep green. Flowers ſolitary, axillary, on peduncles two inches long, large, pale yellow. Legumes ſlender, compreſſed, more than ſix inches long, toruloſe, with a border on each ſide.

[The common ſort is a native of France, Germany, Switzerland, Auſtria, Carniola, Savoy.

I found it flowering in april, about Geneva, in many places.

Cultivated in 1596, by Gerarde [b].]

2. This riſes from two to four feet high, with many ſlender woody branches. The flowers ſtand upon pretty long axillary peduncles, in ſmall

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[a] Haller & Scopoli.

[b] Hort. kew.

bunches; they are of a bright yellow colour, and appear for ſix or ſeven months together, but have not produced ſeeds.

[It has branches like Broom; and ſmall leaves, that are ſomewhat fleſhy[c].

Native of the South of France.

Cultivated 1768, by Mr. Miller[d].]

3. This riſes three or four feet high. Flowers on long axillary peduncles in cloſe bunches. [*Leaflets* nine or eleven oblong-cordate or wedge-form retuſe, with a ſmall point or none, glaucous, ſomewhat fleſhy. *Stipules* large, cordate, white, edged with green. *Flowers* ſmall, deep yellow: claw of the ſtandard ſcarcely receding[e]: wings converging and concealing the keel. Joints of the legume from three to ſeven, elliptic, turgidly lenticular, valveleſs. Seeds ovate-oblong, ſlightly compreſſed, of a red-ferruginous colour[f].

It approaches very near to the *glauca*; but the leaflets are ſmaller, more numerous, and more truly glaucous; the ſtipules, which in the *glauca* are ſmall, narrow and pointed, in the *valentina* are large, almoſt round, and in the young plant ſtrikingly conſpicuous; as the plant comes into flower they drop off: this is not ſo much diſpoſed to flower the year through as the *glauca*, but produces its bloſſoms chiefly in may, june and july: the flowers of the *glauca* ſmell more ſtrongly in the day-time, thoſe of the *valentina* at all times diffuſe a very powerful odour: the latter are more diſpoſed to produce ſeed-veſſels[g]. Linneus remarks, that early in the ſpring the leaves have the colour of Rue; hence Mr. Curtis names it Rue-leaved Coronilla.

Native of Spain and Italy.

Cultivated 1656, by Mr. John Tradeſcant, jun.[h].]

4. This ſeldom is more than three or four feet high, with a woody branching ſtem. [Leaflets five or ſeven, glaucous, wedge-form, ſeldom obcordate, with a ſmall reflex point. Stipules ſmall, ſublanceolate. Flowers bright yellow, in a roundiſh bunch. Wings gaping widely at bottom, ſo as to diſcover the whole keel[i]. This, ſays Linneus, has little or no ſmell in the night. During the day the flowers are remarkably fragrant.—Native of the South of France. Cultivated 1739, in the botanic garden at Chelſea[k]. It is diſtinct from C. valentina in having the ſtems not erect, but decumbent. If it has never more than ſeven leaflets, it cannot be the plant figured by Miller in t. 289. f. 1., which indeed has large broad ſtipules, and more reſembles the *valentina*. Flowering from ſeptember to may; indeed almoſt the whole year.

5. Stems erect, little branched, round, ſmooth, about eighteen inches in height, woody at bottom only. Leaves unequally pinnate: leaflets four, five or ſix pairs, glaucous, ſmooth, ovate or retuſe, ending in a point; the end leaflet more obtuſe. Peduncles to three inches in length, round, ſmooth, ſupporting from twenty to twenty-ſix flowers on pedicels three, or blank lines in length. Calyx a line long, yellowiſh: corolla yellow; ſtandard ſeparate, not very large, reflex, ovate, obtuſe: wings ovate, not hooked, a little longer than the keel, which is broad and ſharply beaked. Legumes an inch long, round, deflected, ſcarcely contracted between the ſeeds, terminated by the aſcending ſtyle. The end of the keel is apt to be green, and this with the glaucous hue of the leaves, indicates that a blue colour may be produced from theſe yellow flowers by putreſcence[l].

Native of the ſouthern countries of Europe.—Introduced 1776, by Joſeph Nicholas de Jacquin, M. D. It flowers in july[m].

6. Root perennial. Stems ſeveral, woody, branched, two or three inches long, and proſtrate. Hence ſpring, annual, herbaceous, round branches, pale green, alſo proſtrate, leafleſs at top, and ending in a little bunch of flowers. Leaflets five pairs at moſt, obovate, ovate-roundiſh, or orbicular, blunt, quite entire, thick; glaucous on both ſides, veinleſs, ſmall; on very ſhort and ſlender petioles, having the taſte of Rue; end leaflet obcordate: midrib round on one ſide, grooved on the other. Stipule one-leafed, membranaceous, pale, converging ſo as to embrace the baſe of the leaf, bifid at top on the back, often deciduous. Flowers about ſix, yellow, ſweet-ſmelling. Calyx ſmall, green. Wings of the corolla very concave, blunt, twice as long as the keel. Legumes pendulous, ſlightly four-cornered, brown, jointed, rugged. Seeds oblong, brown. The whole plant is very ſmooth[n].

Stem, according to Linneus, the ſtature of *Lotus corniculata*. The loweſt leaflets of the petioles approximating to the ſtem (as in *C. coronata* and *varia*) like ſtipules, ſpreading, expanded in a plane, not leſs than the reſt.

Native of the ſouthern countries of Europe. Cultivated 1683, by Mr. James Sutherland[o].

7. This is a very humble ſhrub, rarely growing more than two feet high, when planted in a good ſoil; but in a dry barren place, not much above one foot. The ſtem is hard and woody, from which the branches are produced on every ſide near the ground, ſo as to form a low buſhy ſhrub. At the joints where the leaves are produced are two ear-ſhaped ſtipules. The flowers are on long ſlender axillary peduncles: they are yellow, and have a ſtrong ſweet ſcent: as the plants always produce great plenty of them, they make a fine appearance during the month of may, which is their ſeaſon for flowering. The ſeeds ripen in auguſt and ſeptember.—The ſilvery colour of this plant is occaſioned by its growing on a poor dry ſoil; and if it is removed into better ground, it will take a glaucous colour; and the contrary.

Native of the iſland of Crete[p].]

8. Root annual, compoſed of a few ſlender fibres, which run pretty deep in the ground. Stems herbaceous, trailing, a foot and half long, dividing into ſeveral branches. Leaves unequally pinnate, compoſed of ſeven or eight pairs of oval, ſmooth, blunt, emarginate leaflets, of a deep green colour; the innermoſt larger, and diminiſhing in ſize to the end. Peduncles axillary, in pairs; ſlender, from four to ſix inches long, with a large cluſter of yellow flowers at the top. [Legumes near four inches long, compreſſed, a little bent like a ſickle, but ſhaped like a broad ſword, terminated by the ſtigma which is ſhort, clawed, but not jointed; in the middle it is pubeſcent, and where the ſeeds lie obſcurely toruloſe; at the ſides it is ſmooth, and has a broad margin; within it is divided into ſeveral cells, but has only two valves; the ſeminal ſuture is divided by a deep furrow: partitions membranaceous, very thin, permanent. Seeds about twelve, of an oblong quadrangular form, compreſſed, ſmooth, of a red ferruginous colour[q].

It ſleeps with the leaflets converging above the petiole, and bent towards the baſe of it[r].

Native of Spain. Cultivated 1596, by Gerarde. Flowering in july[s].

9. Root perennial, creeping widely. Stems from four to ſix feet in height when ſupported, otherwiſe trailing. Leaves unequally pinnate; leaflets oblong, ſmall, ſome in pairs, others alternate, deep green; the loweſt uſually approximate to the ſtem, like ſtipules, as in *C. coronata*, or are very ſmall. The flowers come out many together in roundiſh bunches, on peduncles which are about the ſame length with the leaves. The corolla varies from a deep to a light purple, to whitiſh and even wholly white; and ſometimes there is a mixture of both. The legumes are ſlender, and from two to three inches in length.

Linneus obſerves, that the loweſt leaflets uſually approximate to the ſtem, like ſtipules, as in *C. coronata*, or are very ſmall. The peduncles are the length of the leaves.

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[c] Linn. ſpec.

[d] Hort. kew.

[e] Retz.

[f] Gærtner.

[g] Curtis.

[h] Hort. kew.

[i] Retz.

[k] Hort. kew.

[l] Haller & Scopoli.

[m] Hort. kew.

[n] Jacquin.

[o] Hort. kew.

[p] Mill. fig.

[q] Gærtner.

[r] Linn. ſyſt.

[s] Hort. kew.

Native of France, Germany, &c. flowering from june to autumn. Cultivated in the time of Parkinſon, 1640[t]: as an ornamental plant.

This plant was formerly propoſed to be cultivated as a proper food for cattle; and it was found that it grew very readily, and might be very beneficial to the farmer. Mr. Miller informs us that he remembers to have ſeen a large ſpot of ground planted with it at Deepden near Dorking in Surry, at a ſeat of the Honourable Mr. Howard; where, although it had been neglected for ſome years, it was growing ſo rank as to get the better of all the weeds, brambles, &c. He found ſome of the branches upwards of five feet long, and very tender their whole length; ſo that a ſmall ſpot of ground will ſupply a conſiderable quantity of fodder, eſpecially in dry ſeaſons. Horſes and cows ſeemed to eat it greedily[u].

Mr. Curtis remarks, that its bitterneſs will be an objection to its being cultivated for cattle. A gentleman, however, who has lately ſown it on my recommendation, aſſures me that cows eat it very readily.

10. Stems aſcending, angular, even, two or three feet long. Leaflets fifteen, ſmooth, very obtuſe, with a point; the odd one not larger than the others. Stipules ſmall, patulous. Involucres very ſmall, many-leaved, mortified at top. Corollas blood-red; the ſtandard marked with purple veins; the wings convex on the outſide; the keel dark purple at the end. Legumes bent in[x], acuminate,] near two inches long.

Native of Candia, whence Tournefort ſent the ſeeds to the Royal garden at Paris.

[Cultivated 1731, by Mr. Miller[y].]

11. This has a ſlender, hairy, twining ſtalk, of a brown colour, twiſting round any of the ſhrubs which ſtand near it, whereby it riſes eight or ten feet high; for the moſt part compoſed of five oval leaflets, one inch long, and half an inch broad, of a deep green. The flowers come out by pairs at each joint, ſtanding on very ſhort ſeparate peduncles erect; they are large, and of a pale yellow; theſe are ſucceeded by taper jointed pods, more than three inches long, which are covered with ſhort, ſoft, white, hairy down, and ſtand erect.

Diſcovered by Father Plumier in South America. Dr. Houſtoun ſent the ſeeds from Carthagena to Mr. Miller.

[12. Stem four feet high, upright, branched. Leaflets oblong, blunt, with a ſlender point. Flowers yellow, axillary. Calyx five-toothed, ſhort; the teeth nearly equal. Legume upright, filiform, toruloſe. Seeds ſubcylindric.

Native of Cochinchina[z].]

13. Mr. Miller deſcribes this ſort as being like the *glauca*, but the leaves having fewer leaflets; [in the ſpecific character, however, he ſays that the leaflets are eleven in this, whereas the *glauca* has only ſeven. From the largeneſs of the ſtipules I ſhould ſuppoſe it to be the ſame with the *Valentina*.] According to Miller, the flowers are larger than thoſe of *glauca*, and have little ſcent.

14. Root perennial. Stem annual, erect, upwards of two feet high. Leaflets five or ſix pairs, oblong. Peduncles ſtrong, upwards of ſix inches in length, ſupporting large bunches of yellow flowers, ſucceeded by ſhort thick pods about an inch long. It flowers in june and july, and in warm ſeaſons the ſeeds will ripen in autumn.

Diſcovered by Tournefort in the Levant, whence he ſent the ſeeds to Paris. There is a variety with large white flowers.

PROPAGATION AND CULTURE.

1. This ſhrub is eaſily propagated by ſowing the ſeeds, which it commonly produces in great quantity, in march, upon a bed of light ſandy earth. Keep it clear from weeds, and in very dry weather refreſh it often with water, but gently, ſo as not to waſh the ſeeds out of the ground. When the plants are come up, watering in dry weather will promote their growth. At michaelmas, if the plants have thriven well, draw out the largeſt, and tranſplant them into a nurſery, in rows at three feet diſtance, and one foot aſunder in each row. The reſt of the young plants may remain another year before they are tranſplanted into the nurſery, where they ſhould continue two years, when they will be fit to plant out where they are to remain. If they are left in the nurſery longer, they are apt to make downright roots, the cutting off which is often fatal to the ſhrub; and in removing them at any time, care ſhould be taken not to break or wound the roots.

It may alſo be propagated by laying down the tender branches, which will take root in about a year's time, and may then be tranſplanted into a nurſery, and managed in the ſame manner as the ſeedling plants.

2, 4, 7. Theſe are propagated by ſowing the ſeeds in the ſpring, either upon a gentle hot-bed, or on a warm border of light freſh earth; and when the plants are come up about two inches high, they ſhould be tranſplanted either into pots, or a bed of good rich earth, at about four or five inches diſtance every way, where they may remain until they have obtained ſtrength enough to plant out for good; which ſhould be either into pots filled with good freſh earth, or a warm ſituated border; in which, if the winter is not too ſevere, they will abide very well, provided they are in a dry ſoil.

Some plants of the ſecond ſort ſhould be ſheltered under a common frame in winter, becauſe they are often deſtroyed in hard froſts; but in mild weather they ſhould be expoſed to the air, otherwiſe they will draw up weak.

3, 5, 6. Theſe are propagated by ſeeds; which may be ſown on a bed of light earth in april, and when the plants are fit to tranſplant, ſome of them ſhould be planted in a warm border, cloſe to a warm wall or pale, to which the branches ſhould be trained; obſerving to ſhade them from the ſun till they have taken freſh root, and alſo to refreſh them with water when they require it. After they are well rooted, they will require no other culture but to keep them clean from weeds, and faſten their branches to the wall; the next year they will flower, and if they are on a dry ſoil, and in a warm ſituation, they will continue many years. Some of theſe plants ſhould be put into pots, that they may be removed into ſhelter in winter; where, if they are not too tenderly treated, they will flower great part of that ſeaſon; but theſe will rarely produce ſeeds, whereas thoſe in the full ground generally do, provided they are covered with mats in froſty weather.

8. Sow the ſeeds in borders of light freſh earth in the ſpring, where the plants are to abide, allowing them at leaſt two feet diſtance.

9. The roots creep very far under ground, by which it increaſes greatly, and when permitted to remain unremoved two or three years, it will overbear what plants grow near it; for which reaſon the roots ſhould be confined, and it ſhould be planted at a diſtance from any other plants. It will grow in almoſt any ſoil and ſituation, but thrives beſt in a warm ſunny expoſure, in which the flowers will be much fairer, and in greater quantities.

10. Sow the ſeeds on a bed of light earth in the ſpring, where the plants are deſigned to remain; thin them where too cloſe, and keep them clean from weeds. It is an annual, flowering in june, and ripening the ſeeds in autumn.—Native of the Archipelago, whence Tournefort ſent the ſeeds to Paris.

11. This plant is propagated by ſeeds, which ſhould be ſown early in the ſpring on a moderate hot-bed; and when the plants are come up, they ſhould be each tranſplanted into a halfpenny pot filled with freſh rich earth, and plunged into a hot-bed of tanners bark, obſerving to ſhade them until they have taken root; after which time they ſhould have air and water in proportion to the warmth of the

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[t] Hort. kew. [u] Mill. fig. [x] Linn. [y] Hort. kew. [z] Loureiro.

the ſeaſon; and when they have filled theſe pots with their roots, they ſhould be ſhifted into pots of a larger ſize, and plunged into the hot-bed again, where they muſt remain until autumn, when they ſhould be removed into the ſtove, and plunged into the tan. Theſe plants muſt be conſtantly kept in the bark-ſtove, and placed among plants which require a moderate heat; where they will thrive and flower, and ſhould be ſupported by tall ſticks, round which they will twine as Hops do; for if they have not this ſupport, they will twiſt round other plants, and ſpoil them. Theſe are very proper plants to place againſt an eſpalier on the back part of the ſtove, amongſt other climbing plants, where they will make an agreeable variety.

If the plants are carefully managed in the winter, they may be preſerved two or three years, and will annually flower in july, and ſometimes they will produce ripe ſeeds in England.

14. This ſort is propagated by ſeeds, which ſhould be ſown on a warm border of light earth in the ſpring, and when the plants come up they muſt be carefully cleaned from weeds; when they are fit to remove, they ſhould be tranſplanted into a warm border, where they are to remain, ſhading them from the ſun till they have taken freſh root, after which they will require no farther care in ſummer, but to keep them clean from weeds; and in autumn, when the ſtalks are decayed, if the ſurface of the ground is covered with ſome old tan to keep out the froſt, it will be a ſecure method to preſerve the roots. The ſecond year the plants will flower, and, if the ſame care is taken in winter, the roots may be continued ſome years.

Coronilla. See *Galega.*

Coronopus. See *Anthyllis, Cochlearia, Plantago.*

[CORRIGIŎLA. (*Diminutive from Corrigia, a thong of leather, or ſhoe latchet.*)

Lin. gen. n. 378. *Reich.* 409. *Schreb.* 516. *Gærtn.* 75. *Juſſ.* 313. *Polygonifolia Dill. gen.* 3.

Claſſ. 5. 3. Pentandria Trigynia.

Nat. order of *Holoraceæ. Portulaceæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved: *leaflets* ovate, concave, ſpreading, ſize of the corolla, membranaceous on the margin, permanent.

Cor. *Petals* five, ovate, ſpreading, ſcarce larger than the calyx.

Stam. *Filaments* five, ſubulate, ſmall. *Anthers* ſimple.

Pist. *Germ* ovate, three-cornered. *Style* none. *Stigmas* three, obtuſe. (Styles two. *G.*)

Per. none. Calyx converging.

Seed ſingle, ovate, three-ſided. (Nut ſmall, rounded-three-cornered. *G.*)

ESSENTIAL CHARACTER.

Cal. five-leaved. *Pet.* five. *Seed* one, three-ſided.

SPECIES.

1. Corrigiola litoralis. *Baſtard Knot-graſs.*

Lin. ſpec. 388. *Reich.* 743. *hort. upſ.* 70. *cliff.* 112. *Hall. helv. n.* 842. *Krock. ſileſ. n.* 483. *Fl. dan. t.* 334. *Gærtn. fruct.* 1. 358.

Polygonifolia. *Dill. giſs. app.* 95. *t.* 3. *Ephem. nat. cur. cent.* 6. *app. t.* 9. *f.* 20.

Polygonum littoreum minus, floſculis ſpadiceo-albicantibus. *Bauh. pin.* 281. *prodr.* 131. *Mor. hiſt.* 2. 593. *ſ.* 5. *t.* 29. *f.* 1. *Raii hiſt.* 213.

P. vel Linifolia per terram ſparſa. *Bauh. hiſt.* 3. 379.

P. alterum germanicum. *Park. theat.* 446. *n.* 8.

Alſine paluſtris minor, folio oblongo repens. *Lind. alſat. t.* 2.

DESCRIPTION, *&c.*

Stems many, ſlender, round, with a few branches at the end, two or three inches long, covered with leaves. Theſe are alternate, of a kind of ſpatulate form, acuminate, ſmall, ſeſſile, of a glaucous hue. Stipules in pairs, acute, ſilvery. Flowers in glomerate racemes, ſeſſile, terminating. Calyx of a whitiſh bay colour, converging: corolla white[a]. The fruit is a ſmall nut, covered with the permanent flower; it is cruſtaceous, wrinkled and tubercled, brown, one-celled and valveleſs. It incloſes a ſingle, ſubglobular, ſmooth, ruſeſcent ſeed. A filiform umbilical chord aſcends from the baſe of the nut to the top of the ſeed. The embryo is roundiſh, inverted, pale yellow, and ſurrounds the albumen like a ring[b]. It flowers in june and july; and is annual.

Native of France, Germany, Denmark, Switzerland, Piedmont, in ſandy ſoils, uſually near the ſea or rivers.—Found by Mr. Hudſon on Slapham ſands beyond Dartmouth, and near the Star point.

Corrigiola. See *Illecebrum.*

Corruda. See *Aſparagus.*

Cortex papetarius. See *Dialium.*

Cortex caryophylloides. See *Laurus.*]

CORTŪSA. (*So named by Matthiolus, in honour of his friend Jacob Ant. Cortuſus, profeſſor of botany at Padua.*

Lin. gen. n. 198. *Reich.* 211. *Schreb.* 259. *Boerh. ind.* 206. *Gærtn.* 50. *Juſſ.* 96.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Preciæ. Lyſimachiæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-cleft, ſpreading, very ſmall, permanent: *Diviſions* lanceolate, three-toothed.

Cor. one-petalled, wheel-ſhaped. *Tube* ſcarce any; *Border* flat, five-parted, ample, *diviſions* ovate, acute; *Throat* with an elevated ring.

Stam. *Filaments* five, obtuſe; *Anthers* two-plated, oblong, erect, affixed to the outward part.

Pist. *Germ* ovate. *Style* filiform, longer than the corolla. *Stigma* almoſt headed.

Per. *Capſule* oval, acuminate, half-five-valved.

Seeds numerous, compreſſed, cornered.

(Recept. columnar, free. *G.*)

ESSENTIAL CHARACTER.

Cor. wheel-ſhaped (funnel-ſhaped. *G.*), the throat having an elevated ring. *Capſ.* one-celled, oval, five-valved at the end.

SPECIES.

1. Cortuſa Matthioli.

Lin. ſpec. 206. *Reich.* 413. *hort. cliff.* 50. *Allion. act. helv.* 4. 271. *fl. pedem. n.* 340. *t.* 5. *f.* 3. *Krock. ſileſ. n.* 297. *Cluſ. hiſt.* 1. 307. *Gærtn. fruct.* 231. *t.* 50.

Sanicula montana latifolia laciniata. *Bauh. pin.* 243.

S. alpina, ſ. Cortuſa Matth. *Ger.* 645. *f.* 4. *emac.* 788. *f.* 3. *Park.* 533. 4. *Raii hiſt.* 1084.

Calyxes ſhorter than the corolla.

2. Cortuſa Gmelini.

Lin. ſpec. 206. *ſyſt.* 193. *Reich.* 414. *amœn.* 2. 340. *Gmel. ſib.* 4. 79. *t.* 43. *f.* 1. *Gærtn. fruct.* 232.

Calyxes longer than the corolla.

DESCRIPTIONS, *&c.*

1. This plant ſends out many oblong ſmooth leaves, a little indented on the edges, and forming a ſort of head, like the Auricula. The peduncles come out in the centre of the leaves, riſe about four inches high, and ſupport an umbel of flowers, each on a ſlender, ſhort pedicel; they are of a fleſh colour, and ſpread open like thoſe of the Auricula.

[Leaves petioled, cordate, villoſe, toothed. Scapes eight or nine inches in height, erect, round, ſmooth at the top; pedicels many, one-flowered, umbelled, with ſtipules underneath. Corolla white or gold colour within, reddiſh violet or purple on the outſide. Diviſions of the calyx obtuſe, reflected[c]. Capſule ovate-oblong, marked with a flattiſh furrow on each ſide, two-valved, the valves when ripe frequently bifid at the end[d].

Native of the Alps, Auſtria, Sileſia, Siberia, flowering in april and may. According to Allioni it is biennial. Cultivated 1596, by Gerarde[e].]

2. Very like the firſt, but the flowers much ſmaller, and the calyxes larger. [Leaves reniform-cordate, lobed, with notches, the lobes rounded; they have

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[a] Krocker.

[b] Gærtner.

[c] Krocker.

[d] Gærtner.

[e] Hort. kew.

hairs ſcattered over them, and the petioles are long. The ſcapes are higher than the leaves. The umbel has about three flowers: the corolla is white, and the leaflets of the involucre are ovate[f]. Capſule ſmall, ovate-globular, in a bell-ſhaped calyx, gaping at top into five oblong revolute ſegments. Seeds about twenty, ſubovate, variouſly angled, rough-dotted, reddiſh brown.—This is a genuine ſpecies of Androſace, and has nothing in common with Cortuſa but the long petioles of the leaves[g].

Native of Siberia.]

PROPAGATION AND CULTURE.

Theſe plants are with great difficulty kept in a garden. The only method by which I could ever preſerve them, has been by planting them in pots, and placing them in a ſhady ſituation, where they were duly watered in dry weather; in this place they conſtantly remained both ſummer and winter, for the cold will not deſtroy them; the earth for theſe plants ſhould be light, and not too rich, for dung is very injurious to them. As they very rarely produce any ſeeds in England, the only method to propagate them is, by parting the roots in the ſame manner as is practiſed for Auriculas; the beſt time for this is about Michaelmas, ſoon after which the leaves decay.

[Cortusa. See *Buchnera, Heuchera, Mitella, Thalia, Tiarella, Verbaſcum.*

Corydalis. See *Fumaria.*]

CORYLUS. (*Derivation uncertain; according to ſome, from* καρυα, *a walnut.*)

Engl. *The Haſel,* or *Nut-tree.*
Fr. *Coudrier, Noiſettier.*

Lin. gen. n. 1074. *Reich.* 1172. *Schreb.* 1450. *Gærtn. t.* 89. *Tourn.* 347. *Malp.* 220. 221. 224. *Juſſ.* 410.

Claſſ. 21. 8. Monoecia Polyandria.

Nat. order of *Amentaceæ.*

GENERIC CHARACTER.

* *Male flowers* diſpoſed in a long ament.

Cal. *Ament common* imbricated on every ſide, cylindric, permanent.

Scales one-flowered, narrower at the baſe, wider at the top, and more obtuſe, inflex, three-cleft; *middle diviſion* equal in length to the others, but as wide again, and covering the others.

Cor. none.

Stam. *Filaments* eight, (ſix or eight. *G.*) very ſhort, growing to the interior ſide of the calycine ſcale. *Anthers* ovate-oblong, ſhorter than the calyx, erect.

* *Female flowers* remote from the males, on a very ſmall ſubglobular ament, in the ſame plant, ſeſſile, included within the bud.

Cal. *Perianth* two-leaved, (one-leafed. *Juſſ.*) leathery, lacerated on the margin, erect, length of the fruit, during the time of floreſcence ſcarcely viſible on account of its ſmallneſs.

Cor. none.

Pist. *Germ* roundiſh, very ſmall. *Styles* two, ſetaceous, much longer than the calyx, coloured. *Stigmas* ſimple.

Per. none.

Seed. *Nut* ovate, ſcalped as it were at the baſe, but little compreſſed at the tip, ſlightly pointed. (Kernels one or two. *Juſſ.*)

Obs. *This genus is very nearly allied to* Carpinus.

ESSENTIAL CHARACTER.

Male. *Cal.* one-leafed, three-cleft, ſcale-form, one-flowered. *Cor.* none. *Stam.* eight.

Fem. *Cal.* two-leaved (one-leafed. *Juſſ.*) lacerated. *Cor.* none. *Styles* two. *Nut* ovate.

SPECIES.

1. Corylus Avellana.

Lin. ſpec. 1417. *Reich.* 4. 169. *hort. cliff.* 448. *fl. ſuec. n.* 873. *mat. med.* 204. *hort. upſ.* 286. *Ait. hort. kew.* 4. 363. *Gærtn. fruct.* 2. 53. *Pallas roſs.* 1. 2. *p.* 22.

α. C. ſylveſtris. *Common Haſel-nut tree.*

Bauh. pin. 418. *Lob. ic.* 192. 2. *Fuchſ.* 398. *Ger.* 1250. 2. *emac.* 1438. 2. *Park.* 1415. 5. *Blackw.* 293. *Berg. phyt.* 2. 71. *Hudſ. angl.* 423. *With.* 1090. *Lightf.* 586. *Hall. helv. n.* 1625. *Scop. carn. n.* 1192. *Pollich. pal. n.* 912. *Allion. pedem. n.* 1979. *Raii hiſt.* 1379. *Evel. ſylva. ed. Hunt.* 220. *fig.*

β. C. alba. *White Filbert-nut tree.*

C. ſativa, fructu albo minore ſ. vulgaris. *Bauh. pin.* 417.

γ. C. rubra. *Red Filbert-nut tree.*

C. ſativa, fr. oblongo rubente. *Bauh. pin.* 418. *Duham. arb.* 188. *t.* 77.

C. maxima. *Mill. dict. n.* 2.

Nux Avellana ſ. Corylus. *Ger.* 1250. 1. *emac.* 1438. 1.

δ. C. grandis. *Cob-nut tree.*

C. ſat. fr. rotundo maximo. *Bauh. pin.* 418.

ε. C. glomerata. *Cluſter-nut tree.*

C. nucibus in racemum congeſtis. *Bauh. pin.* 418.

Stipules lanceolate; leaves roundiſh-cordate from obtuſe acuminate; branchlets hairy.]

[2. Corylus roſtrata. *American Cuckold-nut tree.*

Ait. hort. kew. 3. 364. *Gron. virg.* 151.

Stipules lanceolate; leaves oblong-cordate, acute; branchlets ſmooth; calyxes of the fruit beaked.]

3. Corylus Colurna. *Conſtantinople* or *Byzantine Haſel-nut tree.*

Lin. ſpec. 1417. *Reich.* 4. 169. *hort. cliff.* 448. 2.

C. byzantina. *Herm. lugdb.* 91. *Seba muſ.* 1. *t.* 27, *f.* 2.

Avellana peregrina humilis. *Bauh. pin.* 418.

A. pumila byzantina. *Cluſ. hiſt.* 1. 11. *Ger.* 1251. 3. *emac.* 1439. 3. *Park. theat.* 1415. 4. *Raii hiſt.* 1380.

Stipules linear, acute.

DESCRIPTIONS, *&c.*

1. [The common Haſel-nut or Nut-tree, is properly a ſhrub. The trunk is covered with a whitiſh cloven bark, which is ſmooth on the branches, frequently of a bay colour, and ſpotted with white; on the ſhoots it is ſometimes ſmooth, ſometimes hairy, aſh-coloured and green, with white tubercles. Leaves alternate, gaſh-ſerrate, wrinkled, with hairs on both ſides ſtanding out, dark green above, bright green beneath, on very hairy round petioles, half an inch in length: the midrib beneath is white and hairy; from that ſeveral white nerves proceed vertically; and between theſe is a veiny net[a].

The male catkins appear in autumn, and wait for the expanſion of the female gems in the ſpring. The ſtyles are of a bright red colour, long and ſetaceous[b]. The flowering branches, eſpecially thoſe which bear the fertile flowers, are ſet with ſhort fine hairs terminating in globules. The catkins are in pairs, of a yellowiſh green colour: the middle ſegment of the ſcales pointed at the end. Anthers hairy[c].]

β. γ. White and Red Filberts. The ſhrubs of theſe varieties grow more erect than the common Haſel, and the ſtipules are different in ſhape. Mr. Miller having found theſe not to vary, except in the ſize and colour of the fruit, makes them a diſtinct ſpecies.

[The involucre is tubular, fleſhy at bottom, turgid, thick, torn at top; the nut ovate-oblong and large. The outer ſkin of the kernel, in γ, dark red.

δ. The Cob-nut has a very large round fruit.]

ε. The Cluſter-nut has the fruit growing in great cluſters at the ends of the branches.

[The haſel, ſays Swinburn, has the name Avellana from Avellino, a city of the kingdom of Naples, about which it is cultivated. It covers the whole face of the neighbouring valley, and in good years brings in a profit of 60,000 ducats (£.11,250). The nuts are moſtly of the large round filbert, which we call Spaniſh. They were originally imported into Italy from Pontus, and known among the Romans by the appellation of *Nux Pontica,* which in proceſs of time was changed into that of *Nux Avellana,* from the place where they had been propagated with the greateſt ſucceſs.]

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[f] Linn. ſyſt.

[g] Gærtner.

[a] Pollich.

[b] Lightfoot.

[c] Withering.

The common haſel-nut is wild in many woods and coppices in England, whence the fruit is gathered in plenty, and ſent to the London markets by the country people.

[It alſo ſerves very well for thickening woods; and when allowed to grow, will make poles of twenty feet, but it is generally cut down ſooner for walking ſticks, fiſhing rods, withes for faggotting, &c. for which purpoſes it is eſteemed a profitable wood.

The uſes of it recited by Evelyn are—for poles, ſpars, hoops, forks, angling-rods, faggots, cudgels, coals, and ſpringes to catch birds, withes and bands, the chips to purify wine, hurdles and wattling. He might have added, crates, ſpringles to faſten down thatch, the roots for inlaying or ſtaining. Where yeaſt is ſcarce, they twiſt the twigs, and ſteep them in ale during its fermentation, then hang them up to dry, and when they brew put them into the wort.

[2. This is remarkable for the length of the calyx, which continues to cover the nut entirely even after it is ripe.

Native of Virginia, in Dragon Swamps[d]. Introduced in 1745, by Archibald Duke of Argyle[e].

3. The leaves in this are a little laciniated at top. The raceme of nuts is very large[f].] The nuts themſelves are roundiſh, and in ſhape like thoſe of the common Haſel, but more than twice their ſize. The cups or involucres are alſo very large, ſo as almoſt to cover the nut, and are deeply cut at the brim.

Native of Conſtantinople. [Whence it was brought to Europe firſt in 1582, and again four years after, by David Ungnad Baron in Zorneck. Cluſius informs us, that when he left Frankfort in 1593, there was a ſhrub there above the height of a man, which had not then borne fruit, nor did it bear any two years after, though it continued to grow and flouriſh[g]. Linneus mentions a very large tree of it in the Leyden garden, in 1736, ſown there by Cluſius above a century before[h]. Cultivated here in 1665, by Mr. John Rea[i].]

PROPAGATION AND CULTURE.

All theſe ſorts may be propagated by ſowing their nuts in february; which, in order to preſerve them good, ſhould be kept in ſand in a moiſt cellar, where the vermin cannot come at them to deſtroy them, nor ſhould the external air be excluded from them, which would occaſion their growing mouldy.

The manner of ſowing the ſeeds being well known to every one, I need not here mention it, eſpecially ſince it is not the ſureſt way to obtain the ſorts deſired; for they ſeldom prove ſo good as the nuts which were ſown, or at leaſt not one in four of them will; and the method of propagating them by layers being not only the ſureſt, but alſo moſt expeditious, is what I would recommend to every one who would cultivate theſe trees for the ſake of their fruits.

[Having the ground well plowed and harrowed, let drills be drawn one yard aſunder, into theſe drop the nuts at about ten inches diſtance, and let them be covered with two inches of earth. They muſt be carefully weeded and thinned till the plants are left a yard aſunder each way. Or they may be raiſed in a nurſery, drawn from thence when they are from a foot to two feet high, and planted finally at the diſtance before mentioned. In twelve years they may be cut down for poles, but may afterwards be cut every ſeventh or eighth year.

The Filbert can only be kept true to its kind by ſuckers or layers; which laſt make the beſt trees. In ſome parts of Kent plantations of Filberts are much attended to. The trees are never ſuffered to riſe above ſix feet in height, and are regularly pruned like Gooſeberry buſhes. They are planted at the diſtance of twelve feet, and when full ſpread, the cup formed by the branches is ſix feet diameter. The ſpaces are cultivated with hoeing crops, the vigour of the trees depending on the ſtirring of the ground[k].

It is the uſual mode in Kent to raiſe them in hop-grounds, where ſometimes cherry, but more commonly apple-trees are alſo planted. They know nothing of raiſing them from layers, but do it from ſuckers, which it is the beſt way to train previouſly in a nurſery. The beſt ſoil is a ſtrong loam, with a clayey or marley bottom, in Kent termed coomey, whereon they bear greatly; the fruit is large and fine, and not maggotty. An acre has ſometimes been ſold for £.50[l].

CORYMBIFERA. See *Achillea.*]

CORYMBIUM. (*From* κόρυμβος, *a corymb.*)
Lin. gen. n. 1004. *Reich.* 1089. *Schreb.* 1361. *Gærtn. t.* 86. *Juſſ.* 176.

Claſſ. 19. 6. Syngeneſia Monogamia.

Nat. order of *Compoſitæ Diſcoideæ. Cinarocephalæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* two-leaved, one-flowered, inferior, long, priſmatic, ſix-cornered; *leaflets* erect, converging longitudinally, triangular on the back, truncated, obſcurely three-toothed, permanent: having two very ſmall leaflets at the baſe. (having a very ſhort four or five-leaved calycle. *Juſſ.*

COR. one-petalled, equal. *Tube* very ſhort. *Border* five-parted, ſpreading: *diviſions* lanceolate.

STAM. *Filaments* five, ſimple, erect, ſeated on the tube. *Anthers* oblong, erect, ſhorter than the corolla, growing together into a cylinder.

PIST. *Germ* within the calyx, inferior to the corolla, hirſute. *Style* ſimple, erect, length of the corolla. *Stigma* oblong, two-parted, ſpreading.

PER. none. Calyx unchanged.

SEED ſingle, oblong, almoſt the length of the calyx, covered with a wool reſembling down; in the manner of a pappus: (crowned with a pitcher-ſhaped chaffy calycle.) *Juſſ.*)

REC. naked.

OBS. *The calyx varies in ſhape.* R.

ESSENTIAL CHARACTER.

Cal. two-leaved, one-flowered, priſmatic. *Cor.* one-petalled, regular. *Seed* one, below the corolla, woolly.

SPECIES.

1. Corymbium ſcabrum.
Lin. ſyſt. 799. *Reich.* 3. 952. *ſuppl.* 392. *mant.* 120. *Burm. afr.* 189. *t.* 70. *f.* 1. *Gærtn. fruct.* 2. 42.
C. africanum. *Lin. ſpec.* 1317. *hort. cliff.* 494. *Mill. dict. n.* 1.
Bupleurifolia. *Pluk. alm. t.* 272. *f.* 5.
Leaves lanceolate channelled nerved recurved ſmooth ſhorter than the ſtem.

[2. Corymbium glabrum.
Lin. ſyſt. 799. *Reich.* 3. 952. *ſuppl.* 392.
Bupleuro ſimilis. *Pluk. alm. t.* 272. *f.* 4.
Very ſmooth; leaves enſiform plane nerved.

3. Corymbium filiforme.
Lin. ſyſt. 799. *ſuppl.* 392.
Leaves filiform very ſmooth erect, ſhorter than the ſtem.

4. Corymbium villoſum.
Lin. ſyſt. 799. *ſuppl.* 392.
Villoſe-woolly; ſtem-leaves claſping ſubulate ſtraight plane.]

DESCRIPTIONS, *&c.*

1. It riſes with an erect rough ſtalk about a foot high, with a ſingle leaf at each joint, which half embraces the ſtalk. The leaves are long, narrow, and triangular, having a downy ſubſtance intermixed with them at their baſe; the upper part of the ſtalk divides into ſeveral peduncles, which are terminated by purple flowers.

[Bulb ſubglobular, formed from the withered roots of the leaves. Stem purpliſh, ſcabrous. Leaves radical, filiform-ruſhy or ſetaceous, not broadiſh or channelled[m].

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[d] Gronovius.
[e] Hort. kew.
[f] Linn. cliff.
[g] Hiſt.
[h] Cliff.
[i] Hort. kew.
[k] Hunter's Evelyn.
[l] Belcher in Young's Annals, 8. 186.
[m] Linn. mant.

Corymb ſtrict, with twin flowers cloſe together: bractes four or five, linear. Calyx club-ſhaped, with navicular valves, not involving each other[n]. Perhaps it may be only a variety of C. filiforme[o]. Native of the Cape of Good Hope.

2. Panicle lax, diffuſe. Flowers diſtinct. Bractes two or three, minute. Calyx cylindric, with one valve embracing the other[p].

3, 4. Theſe, as well as the foregoing, are natives of the Cape of Good Hope.]

PROPAGATION AND CULTURE.

1. It is propagated by ſeeds, which ſhould be ſown in a ſmall pot filled with light earth as ſoon as they are received from abroad; the pots ſhould be plunged into a bed of tanner's bark, where the heat is near ſpent, and covered with a common frame in winter, to protect the ſeeds from froſt, ſnow, and hard rains. In the ſpring, if the pots are removed into a moderate hot-bed, the plants will ſoon appear: when they are about an inch high, they ſhould be each tranſplanted into a ſeparate ſmall pot, obſerving to ſhade them until they have got new roots; ſoon after which they ſhould be gradually inured to the open air, and in june they ſhould be placed abroad in a ſheltered ſituation; where they may remain till october, when they ſhould be placed in a common frame, where they may be protected from froſt, being too tender to live abroad in England.

[CORYNOCARPUS. (*From κορύνη, a club, and καρπος, a fruit.*)

Forſt. gen. n. 16. *Lin. ſuppl.* 21. *Schreb.* 394. *Juſſ.* 288.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Berberides.* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* inferior, five-leaved: *leaflets* oblong, concave.

COR. *Petals* five, roundiſh, narrowed at the baſe, erect. *Nectary.* Leaflets five, erect, ſhaped like the petals, but narrower, ſcarcely ſhorter, having a globular gland at the baſe, alternate with the petals.

STAM. *Filaments* five, ſubulate, from the baſe of the petals. *Anthers* oblong.

PIST. *Germ* ſuperior, globular. *Style* ſhort, filiform. *Stigma* obtuſe.

PER. *Nut* turbinate-club-ſhaped, one-ſeeded.

SEED. *Nucleus* oblong? an oblong kernel.

ESSENTIAL CHARACTER.

Nectaries five, petal-ſhaped, alternate with the petals, glandulous at the baſe.

SPECIES.

1. Corynocarpus lævigata.
Lin. ſyſt. 242. *ſuppl.* 156.

DESCRIPTION, &c.

Leaves alternate, petioled, obovate or wedge-ſhaped, ſubemarginate, entire, veined, very ſmooth. Panicle terminating, ſeſſile, large, wrinkled. Flowers white.—Native of New Zealand[a].

CORYPHA. (*From κορυφη, the top of any thing.*)

Lin. gen. n. 1221. *Reich.* 1337. *Schreb.* 1690. *Muſ. Cliff.* 11. *Gærtn. t.* 7. *Juſſ.* 39. *Codda-panna. H. M.* 2. 12.

Appendix. Palmæ.

Nat. order of *Palms.*

GENERIC CHARACTER.

CAL. *Spathe* univerſal compound, *Spadix* branching.

COR. three-parted. *Petals* ovate, obtuſe, ſpreading.

STAM. *Filaments* ſix, ſubulate, longer than the corolla. *Anthers* adnate.

PIST. *Germ* roundiſh. *Style* ſubulate, ſhort. *Stigma* ſimple.

PER. *Berry* globoſe, large, one-celled.

SEED ſingle, bony, large, globoſe.

OBS. Browne *deſcribes his Corypha in a different manner:* is it therefore of a different genus?

CAL. *Spadix* ſimply branched, imbricated with proper ſpathes. *Perianth* none.

COR. none.

STAM. *Filaments* ſix, ſhort, growing into the ſides of the germ. *Anthers* oblong.

PIST. *Germ* globoſe, ſmall; *Style* ſimple, ſhort. *Stigma* headed, ſomewhat funnel-form.

PER. *Drupe* one-celled.

SEED. *Nut,* with a bony aril.

ESSENTIAL CHARACTER.

Flowers hermaphrodite, ſix-ſtamened. *Spathe* many-leaved (none. *Cal.* ſix-leaved. *G.*) *Cor.* three-petalled (none. *G.*) *Piſt.* one. *Berry* globoſe, ſuperior, one-ſeeded. *Seed* bony, globoſe.

SPECIES.

1. Corypha umbraculifera. *Great Fan-Palm.*
Lin. ſpec. 1657. *ſyſt.* 984. *Reich.* 4. 633. *hort. cliff.* 482. *Gærtn. fruct.* 18.
Palma montana, fol. plicatili flabelliformi maximo ſemel tantum frugifera. *Raii hiſt.* 1367.
Codda-panna. *Rheed. mal.* 3. *p.* 1. *t.* 1—12.
Saribus. *Rumph. amb.* 1. 42. *t.* 8.
Fronds pinnate-palmate plaited, and having a thread between them; ſtipes ciliate-ſpiny.

2. Corypha minor.
Lin. ſyſt. 984. *Jacqu. hort. vind.* 3. *p.* 8. *t.* 8.
Fronds palmate fan-ſhaped plaited ſubbifid, having a few threads interpoſed; ſtipes unarmed.

DESCRIPTIONS, &c.

1. The cruſty covering of the ſeed cannot be accounted a ſhell, and therefore the pericarp is not a drupe; becauſe this cruſt forms the very papilla with which the embryo is covered[b].

This tree ſcarcely flowers before it is thirty or forty years old[c].

One ſpecies of this tree, which is the *Codda-panna* of the hortus malabaricus is very large; it has palmate-pinnatifid leaves, with a petiole (or ſtipe) of tender thorns; a ſecond, which is the *Saribus* of Rumphius, has the leaves plaited in a radiate form palmate-peltate, with the petiole as in the other; a third ſmaller, which is the *Sabal* of Adanſon, with palmate leaves, an unarmed petiole, and a fruit in the ſhape of a pea. Perhaps theſe may be different ſorts[d].

Rumphius is of opinion that his *Saribus* is a diſtinct ſpecies from the *Codda-panna* of the Hortus Malabaricus, and Loureiro deſcribes it as ſuch. The latter has alſo two other ſpecies; one which he calls *Corypha africana,* an inhabitant of the eaſtern coaſt of Africa; and the other, *Corypha pilearia,* which is figured in Rumphius, vol. 1. *t.* 9. and is *Rhapis Liguala.*

Native of Malabar and the iſland of Ceylon. The Marqueſas and Friendly iſlands.

Cultivated before 1742, by Robert James Lord Petre[e].

Knox deſcribes the great Fan Palm under the name of *Tallipot.* It is as big and tall as a ſhip's maſt, and very ſtraight. The leaves are of great uſe, one being ſo broad and large that it will cover fifteen or twenty men. Being dried, it is very ſtrong and limber; and though it be very broad when open, yet it will fold cloſe like a fan, and then is no bigger than a man's arm. The whole leaf ſpread is round, but is cut into triangular pieces for uſe: theſe they lay upon their heads as they travel, with the narrow end foremoſt, to make their way through thickets. Soldiers all carry them, not only to ſhade them from the ſun, and to keep them dry in caſe of rain on their march, but to make their tents for them to lie under. Theſe leaves all grow on the top of the tree. It bears no fruit until the laſt year of its life, and then yellow bloſſoms moſt lovely to behold, but ſmelling very ſtrongly, come out on the top, and ſpread abroad in great branches: theſe come to a fruit round and very hard, as big as our largeſt cherries; in ſuch abundance that one tree will yield ſeed enough for a country; but not good to eat. The flowers ſmell ſo ſtrong, that they cut down the trees where they are near houſes. The trunk within is a pith only, which they beat in a mortar to flour, and bake cakes of it, which taſte much like white bread[f].

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[n] Dav. van Royen, in Linn. ſyſt.
[o] Linn. ſuppl.
[p] Dav. van. Royen, in Linn. ſyſt.
[a] Linn. ſuppl.
[b] Gærtner.
[c] Linn. ex hort. malab.
[d] Juſſieu.
[e] Hort. kew.
[f] Hiſt. of Ceylon, p. 15.

The leaves alſo ſerve for covering their houſes, and for writing on with an iron ſtyle. Moſt of the books which are ſhown in Europe for the Egyptian papyrus, are made from the leaves of this Palm.

2. Leaves ſubradical, ſmooth, rigid, ſtriated; petiole without prickles, channelled or flat above, round underneath; the ſegments of the leaf are enſiform and acute. Spadix erect, round, ſmooth, from three to five feet high, axillary, clothed with membranaceous ſheathing ſpathes, whence iſſue along the whole of the ſpadix panicled racemes, angular, ſmooth and firm. Flowers ſeſſile, ſmall, without ſcent, all hermaphrodite, numerous. Perianth three-leaved, ſmall, permanent, whitiſh; leaflets roundiſh, concave, very blunt. Petals three, oblong, blunt, concave, deciduous, white, ſpreading. Filaments thick, white, the length of the corolla; three alternate with the petals, the other three lying on the petals ſo that the anthers only emerge from their tops: theſe are ſagittate and incumbent. Germ ſuperior, three-cornered-roundiſh, pale; ſtyle conical, three-furrowed, erect, white, a little ſhorter than the ſtamens; ſtigma blunt. Fruit the ſize of a pea, and of a ſweet taſte, ſmooth, black, not very ſucculent. Shell membranaceous, thin, brittle, browniſh, containing a flatted-roundiſh, bony, ſhining kernel.

It flowered firſt in Europe in the imperial garden at Schoenbrunn, in 1773 [g].]

COSTMARY. See *Tanacetum.*

COSTUS. (Κόστος, Gr. *a name borrowed from the Arabic.*)

Lin. gen. n. 3. *Reich.* 3. *Schreb.* 4. *Muſ. Cliff.* 14. § 2. 3. *Juſſ.* 63.

Claſſ. 1. 1. Monandria Monogynia.

Nat. order of *Scitamineæ.*—*Cannæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* three-toothed, very ſmall, ſuperior.

COR. *Petals* three, lanceolate, ſomewhat erect, concave, equal. *Nectary* one-leafed, large, oblong, tubular-inflated; two-lipped: *Lower lip* broader, longer than the corolla: *Border* ſpreading, three-cleft; middle diviſion three-parted. *Upper lip* lanceolate, ſhorter, doing the office of a filament.

STAM. The office of a *Filament* is performed by the upper lip of the nectary, to which grows a two-parted *Anther.*

PIST. *Germ* inferior, roundiſh; *Style* filiform, length of the filament. *Stigma* headed, compreſſed, emarginate.

PER. *Capſule* roundiſh, crowned, three-celled, three-valved.

SEEDS many, three-cornered.

OBS. *Linneus now calls the* Nectary *an interior ringent Corolla, whoſe upper lip is three-parted, and the middle emarginate.* R.

Juſſieu calls the corolla an interior calyx.

ESSENTIAL CHARACTER.

Cor. inner, inflated, ringent: the lower lip trifid.

SPECIES.

1. Coſtus arabicus. *Arabian Coſtus.*
Lin. ſpec. 2. *Reich.* 3. *upſ.* 2. *fl. zeyl.* 5. *mat. med.* 34. *Jacqu. collect.* 1. 143. *ic. rar.* 1. *t.* 1. *Blackw. t.* 394. *Bauh. pin.* 36. *Raii hiſt.* 1347.
Tsjana-kua. *Rheed. mal.* 11. 15. *t.* 8?
Leaves ſilky underneath.

[2. Coſtus glabratus.
Swartz prodr. 12. *Linn. hort. cliff.* 2. *Mer. ſurin. t.* 36.
Leaves ſmooth on both ſides, ſpike few-flowered, ſcales leafy at the tip, the upper ones faſtigiate.

3. Coſtus ſpicatus.
Swartz prodr. 12.
Alpinia ſpicata. *Lin. ſyſt.* 51. 2. *Jacqu. amer.* 1. *t.* 1.
Leaves ſmooth on both ſides, ſpike many-flowered, ſubovate, cloſely imbricate, ſcales ovate, ſimple.

4. Coſtus malaccenſis.
Retz. obſ. 3. 71. *n.* 18.
Leaves very finely tomentoſe underneath, raceme terminating, bunches ſix-flowered.

DESCRIPTIONS, *&c.*

1. Root perennial, irregular, two inches thick, knotty. Stems annual, ſimple, round, three or four feet high, near an inch in diameter at bottom, fleſhy, with a ſtrong bark, ſheathed all over. Leaves alternate, lanceolate, acuminate, quite entire, coriaceous, the largeſt a foot long, on a ſhort, thick, ſheathing petiole; green and ſmooth above, paler and very ſoft underneath. Spike very handſome, terminating, ſubſeſſile, ſolitary, erect, cloſe, as big as the hand cloſed. A pair of ſpathes to each ſeſſile flower; the outer ovate, acute, concave, coriaceous, broad, blood-red, the other oblong, only one third of the breadth, concave, purple at the tip, placed on the right ſide of the flower, which it embraces. Calyx in the flower green, with a purple tip, in the fruit entirely blood-red. Petal and nectary fleſh-coloured; ſometimes almoſt white. Anthers white. Seeds black, without ſmell, but having an unpleaſant taſte: there is a white fungoſe ſubſtance adhering to the baſe by which they are connected together [h].

Native of the Eaſt Indies. Cultivated 1752, by Mr. Miller [i].]

The roots were formerly imported from India, and were much uſed in medicine; but of late years they have not been regarded, the roots of Ginger being generally ſubſtituted for them.

[2. Spike or head of flowers imbricate, with ovate, blunt, concave ſcales, each one-flowered, permanent, green, not coloured [k].

Native of the Weſt Indies.

3. Root perennial, fleſhy, irregular, white. Stems ſomewhat jointed, almoſt upright, round, ſmooth, one or two feet in height. Leaves oblong, acuminate, attenuated at the baſe, ſhining, quite entire, alternate, on a very ſhort round petiole; the floral leaves below the ſpike commonly in fours. Spike conical, ſolitary. Spathes very cloſely imbricate, ſcarlet, thick, coriaceous, one-flowered. Flowers yellow without ſcent, quickly withering [l].

Native of the Caribbee iſlands, by the ſide of torrents.

In Martinico it is called *Canne de riviere,* and a decoction of the roots and ſtalks is often given in the Gonorrhœa, &c. as a cooling drink [m].

4. Stems ſeveral, approximating, upright, ſimple, a little compreſſed, ſmooth, clothed with the ſheaths of the leaves, half as high again as a man, ſomewhat incurved towards the top. Leaves alternate, ſubbifarious, the lower ones ſpreading, the upper ones almoſt upright, oblong, acuminate, roughened with briſtle-ſhaped toothlets on the edge; above ſmooth, even, with remotiſh nerves at an acute angle, bright green, a foot and half long, and more than a hand broad. Petioles faſtened to the ſheaths, ſemicylindric, channelled, ſmooth, ſhort. Sheaths opening on the ſide, ſmooth, ſtriated, longer than the ſpace between them, the mouth ovate-oblong, membranaceous, ciliate, acute. Raceme terminating, emerging from the ſheaths of the upper leaves, on one ſide, looſe, nodding. Common peduncle incurved, jointed towards the middle, ſheathed, round, ſomewhat hairy, red, more than a hand long, ſcarcely the thickneſs of the little finger. Partial peduncles involucred at the baſe, and ſomewhat compreſſed, becoming afterwards almoſt round, club-ſhaped at top, hairy, curved, much longer than the bunches of flowers. Theſe are crowded, ſeſſile, commonly ſix-flowered and involucred. Each flower has alſo its proper involucre. The involucre near the middle is faſtened to the common peduncle, and ſurrounds it at the baſe; it is inflated, oblong, acuminate, ending in a long twiſted apex, ſtriated, hairy, membranaceous, larger than the reſt, pale red. The ſecond, third and fourth are longer than the partial peduncles, but the reſt are ſmall; they are all inflated, membranaceous, and of one colour. The involucres of the bundles of flowers are perforated

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[g] Jacquin.

[h] Jacqu. collect.

[i] Hort. kew.

[k] Linn. cliff.

[l] Jacqu. amer.

[m] Ibid.

or bell-ſhaped, ſubtriquetrous, obſcurely toothed at the edge, membranaceous, ſmooth, ſhorter than the calyxes. All the flowers, eſpecially the laſt, are on very ſhort, club-ſhaped pedicels, ſomewhat compreſſed.

Native of thick woods near Tſing, in the neighbourhood of Malacca.

Characters of the fructification are given by Swartz, in his obſervations, from the three firſt ſpecies. Of the firſt by Jacquin in his Collectanea: of the ſecond by Linneus in his Hortus Cliffortianus: of the third by Jacquin in his Hiſtoria Stirpium Americanarum: and of the fourth by Retzius in his Obſervationes.]

PROPAGATION AND CULTURE.

Theſe are propagated by parting the roots; the beſt time for doing this is in the ſpring, before the roots put out new ſtalks. The roots muſt not be divided too ſmall, becauſe that will prevent their flowering. They ſhould be planted in pots, filled with light kitchen-garden earth, and plunged into the tan-bed in the ſtove, where they ſhould conſtantly remain, and may be treated in the ſame manner as the Ginger, which is fully treated of under the article AMOMUM.

[COTA. See *Anthemis.*]

COTINUS. See *Rhus.*

COTONEA MALUS. See *Cydonia.*

COTONEASTER. See *Meſpilus.*

[COTSCJOPIRI. See *Gardenia.*

COTTAM. See *Mentha.*

COTTON. See *Goſſypium.*

COTTON-GRASS. See *Eriophorum.*

COTTON, SILK. See *Bombax.*

COTTON THISTLE. See *Onopordum.*

COTTON-WEED. See *Athanaſia, Filago.*]

COTŬLA. (*From* κοτυλη, *a cavity or hollow.*)

Lin. gen. n. 968. *Reich.* 1050. *Schreb.* 1310. *Gærtn. t.* 165. *Juſſ.* 184. *Vaill. A. G.* 1719. *f.* 3. 21. 15. *Ananthocyclus Vaill. A. G.* 1719. *f.* 5. 24. *Dill. elth.* 23. *f.* 25. 26. *Lanciſia Pont. diſſ.*

Claſſ. 19. 2. Syngeneſia Polygamia Superflua.

Nat. order of *Compoſitæ Diſcoideæ, or Compound Radiated flowers.*—Corymbiferæ *Juſſ.*

GENERIC CHARACTER.

CAL. *Common* convex, divided into about ſixteen ovate parts, of which eight are exterior: of theſe the inferior ones are rather bigger than the interior ones.

COR. *Compound,* the length of the calyx, a little convex: *corollules* hermaphrodite, numerous in the diſk; *females* in the circumference more than twenty.

Proper of the hermaphrodites tubular, four-cleft, unequal: the outer *diviſion* larger. Of the *females* ſcarce any.

STAM. In the hermaphrodites *Filaments* four, very ſmall. *Anthers* tubular, the length of the corollule.

PIST. In the hermaphrodites *Germ* obovate; *Style* filiform. *Stigmas* two, obtuſe.

In the females, *Germ* obovate, compreſſed, two-edged, larger. *Style* filiform, length of the hermaphrodite. *Stigmas* two, ſimple.

PER. none. Calyx unchanged, permanent.

SEEDS of the hermaphrodites ſolitary, ſmaller, ovate-three-ſided, the interior angle obſcure. *Down* marginated; of the *females* ſolitary, larger, cordate, on one ſide flat, on the other gibbous, ſurrounded by an obtuſe border. *Down* bordered.

REC. almoſt naked, flat.

OBS. *In ſome the flowers are floſcular, in others radiated.* R.

C. Capenſis *has the calyx imbricated, and ſcarcely chaffy.*

ESSENTIAL CHARACTER.

Recept. almoſt naked. *Down* margined. *Corollules* of the diſk four-cleft; in the ray ſcarcely any.

SPECIES.

1. Cotula Anthemoides. *Dwarf Cotula.*
Lin. ſpec. 1256. *ſyſt.* 774. *Reich.* 3. 854. *Murr. prodr.* 230. *hort. cliff.* 417. 3. *Lour. cochinch.* 493.
Ananthocyclus. *Vaill. act.* 1719. *p.* 381. *Dill. elth.* 26. *t.* 23. *f.* 25.
Chryſanthemum. *Pluk. alm. t.* 274. *f.* 6.
[β. Artemiſia nilotica.
Lin. ſpec. 1188. *amæn.* 4. 289.
Leaves pinnate-multifid, dilated; flowers floſcular.

2. Cotula aurea. *Golden Cotula.*
Lin. ſpec. 1257. *ſyſt.* 774. *Reich.* 3. 855.
Leaves pinnate-ſetaceous, multifid; flowers floſcular, drooping.

3. Cotula ſtricta. *Silvery Cotula.*
Lin. ſyſt. 774. *Reich.* 3. 855. *mant.* 287.
Lidbeckia pectinata. *Berg. cap.* 306. *t.* 5. *f.* 9.
Lanciſia. *Gærtn. fruct.* 2. 422.
Leaves pinnatifid plane naked dotted; ſtem erect ſtrict; flowers radiate.]

4. Cotula coronopifolia. *Buck's-horn Cotula.*
Lin. ſpec. 1257. *Reich.* 3. 855. *hort. cliff.* 417. 2. *upſ.* 266. *Fl. dan. t.* 341. *Gærtn. fruct.* 2. 388.
Ananthocyclus. *Vaill. act.* 1719. *p.* 381. *Dill. elth.* 27. *t.* 23. *f.* 26.
Chryſanthemum. *Breyn. cent.* 156. *t.* 76.
Bellis. *Herm. lugdb.* 86. *Mor. hiſt.* 3. 30. *n.* 24. *f.* 6. *t.* 6. *f. ult.*
Leaves lanceolate-linear ſtem-claſping toothed; flowers floſcular.

[5. Cotula umbellata. *Umbelled Cotula.*
Lin. ſyſt. 774. *ſuppl.* 378.
Leaves lanceolate hirſute; flowers umbelled; ſtem erect.

6. Cotula quinqueloba.
Lin. ſyſt. 775. *ſuppl.* 377.
Leaves five-lobed ſubtomentoſe; ſtems erect.

7. Cotula viſcoſa. *Viſcid Cotula.*
Lin. ſpec. 1257. *Reich.* 3. 856. *hort. cliff.* 417. 4.
Lanciſia viſcoſa. *Gærtn. fruct.* 2. 422.
Leaves alternate lyrate-pinnate; flowers radiate.]

8. Cotula turbinata.
Lin. ſpec. 1258. *Reich.* 3. 856. *mant.* 473. *hort. cliff.* 417. 1. *upſ.* 266. *Vaill. act.* 1718. *p.* 380.
Lanciſia turbinata. *Gærtn. fruct.* 2. 422.
Chamæmelum æthiopicum lanuginoſum. *Breyn. cent.* 148. *t.* 73. *Mor. hiſt.* 3. 36. *ſ.* 6. *t.* 12. *f.* 14.
Receptacles underneath inflated turbinate; flowers radiate.

[9. Cotula tanacetifolia. *Tanſy-leaved Cotula.*
Lin. ſyſt. 775. *Reich.* 3. 856. *Berg. cap.* 242. *obſ.* 1.
Millefolium. *Pluk. mant. t.* 430. *f.* 7.
Leaves tripinnate, the ſmall ſegments acute; ſtem erect; flowers floſcular corymbed.

10. Cotula capenſis.
Lin. ſyſt. 775. *Reich.* 3. 857. *mant.* 287.
Lanciſia. *Gærtn. fruct.* 2. 422.
Matricaria capenſis. *Lin. mant.* 115.
M. Africana. *Berg. cap.* 296.
Chamæmelum. *Raii ſuppl.* 224. 17. *Pluk. mant.* 45.
Leaves pinnate, ſomewhat fleſhy and columnar, the loweſt ſubbipinnate; flowers radiate.

11. Cotula pilulifera.
Lin. ſyſt. 775. *ſuppl.* 378.
Leaves bipinnate; heads globular; ſtem erect.

12. Cotula ſericea. *Silky-leaved Cotula.*
Lin. ſyſt. 775. *ſuppl.* 377.
Leaves ſuperdecompound tomentoſe linear.

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13. Cotula pyrethraria.
Lin. mant. 116. *Reich.* 3. 857.
Leaves oppoſite ovate crenate petioled; peduncles one-flowered.

14. Cotula minuta.
Forſt. fl. auſtr. n. 301.
Leaves alternate, almoſt ſtem-claſping, oblong, toothed, flowers ſolitary, ſeſſile, oppoſite to the leaf.

15. Cotula bicolor.
Forſt. fl. auſtr. n. 540.

DESCRIPTIONS, *&c.*

1. Root annual. Stem about ſix inches high, at firſt erect, then procumbent, ſcarcely flexuoſe, tender, pubeſcent: branches alternate, more conſpicuouſly pubeſcent, incurved, turned up, ſpreading. Leaves pinnatifid-ſinuate; ſegments diſtant, ſparingly ſerrate or entire, blunt; they are ſmooth,

ſpreading, alternate, ſeſſile. Peduncles one-flowered, filiform, erect, villoſe. Flowers drooping, much compreſſed before they open, the ſize of a lentil. Florets yellow. Leaflets of the calyx ovate-oblong, obtuſe, concave, with a white membranaceous edge. Corollets in the ray none, but naked piſtils concealed beneath the calycine leaflets, with a bifid ſtigma. Seeds of the ray roundiſh compreſſed, flat on the inſide, a little keeled on the outſide: of the diſk rather oblong, almoſt triquetrous. Down none. Receptacle naked[a].

Native of Spain and the iſland of St. Helena. Cultivated 1732 by James Sherard, M.D.[b]

β. So nearly allied to *C. anthemoides*, that it is doubtful which genus it belongs to. Flowers nearly globular; leaflets of the calyx equal, with a membranaceous edge. Native of Egypt[c].

2. The flowers have no chaffs; the florets are four-cleft. Native of Spain and other ſouthern parts of Europe. Annual[d].

3. Stem herbaceous, five feet high, erect, ſomewhat angular, even, (as is the whole plant,) covered with a blueiſh dew. Leaves alternate, ſeſſile, lanceolate, with ſcattered hairs and crowded hollow dots, eſpecially underneath. Peduncles terminating, almoſt leafleſs, one-flowered. Calyx many-leaved, equal; leaflets lanceolate, acuminate, ciliate. Corollets of the diſk four-cleft[e]. This and ſome of the other ſpecies (viſcoſa, turbinata, capenſis) having radiate flowers, are ſeparated under the name of *Lanciſia* by Pontedera and Adanſon[f]. Juſſieu reduces this to the *Lidbeckia* of Bergius; and the *turbinata* to the *Cenia* of Commerſon. Native of the Cape of Good Hope.—It flowers in may and june. Introduced 1774, by Mr. Francis Maſſon[g].]

4. This ſort is an annual plant, which ſends out trailing ſtalks about ſix inches long, with ſucculent leaves, in ſhape like thoſe of Buckſhorn Plantain. The flowers grow from the diviſions of the ſtalks upon ſhort weak foot-ſtalks, being deſtitute of rays; they are of a ſulphur colour, and appear in july. The flowers of this and the eighth ſort ſtand erect, when they firſt appear, but ſo ſoon as the florets are impregnated, and their colour changes, the foot-ſtalks become very flaccid toward the top, and the flowers hang downward; but when the ſeeds are ripe, the foot-ſtalks become ſtiff, and the heads ſtand erect for the winds to diſperſe the ſeeds.

[Receptacle conical, depreſſed, tubercled, naked, rayed with the pedicels of the female florets. Seeds of the ray larger, obovate, emarginate at the tip, on a filiform pedicel, flattiſh or grooved on one ſide, keeled with an obtuſe angle on the other, ſmooth, compreſſedly triquetrous, whitiſh, bald. Seeds of the diſk ſmaller, oblong-elliptic, flattiſh, with a whitiſh rim, but ruſeſcent in the middle, ſeſſile, ſmooth, bald. No rim at the vertex of the ſeed[h].

This is a Cape plant; but has now eſtabliſhed itſelf in Europe. Cultivated in 1714[i].

5. Stems round, hirſute, a foot and half in height. Leaves alternate, much crowded, narrow-lanceolate, reſembling thoſe of *Protea argentea*, hirſute on both ſides, almoſt a finger's length. Umbel terminating, five-flowered. Peduncles one-flowered, hirſute, with ſome alternate almoſt leafy ſcales. Calyx ſubimbricate, villoſe; the inmoſt ſcales higher than the diſk, ſubulate, even on the inſide, and coloured. Corolla without any ray; diſk hemiſpheric. Seeds flatted, obovate, crowned; the edge obſcure, ſcarcely three-lobed. Receptacle naked.—Native of the Cape[k].

6. Stems ſimple, ſubpubeſcent. Leaves petioled, alternate, hoary underneath; lobes half-ovate, equal, mucronate. Peduncles one or two, long: (bracte lanceolate, ſmall) one-flowered, erect. Calyx with equal, pubeſcent ſcales.—It agrees very much in the flower with *C. ſtricta*; and they might make a ſeparate genus.—Native of the Cape[l].

7. This is a procumbent plant, or at leaſt declining, putting forth many ſuckers from the root. Stem a ſpan high. Leaves very like thoſe of common Groundſel (Senecio vulgaris), ſinuated, villoſe, viſcid. Flowers like thoſe of the firſt ſpecies, but on ſhorter peduncles, and with the calyx more rounded: the florets alſo much reſemble thoſe of C. anthemoides, but the females have a very ſlender linear corolla. Seeds naked, inſerted into the corolla on the inner ſide, near the tip. Receptacle conical, naked.

Found by Houſtoun at La Vera-Cruz, and ſent to Linneus by Miller[m].]

8. This ſends out many branching ſtalks, which ſpread on the ground. Leaves very finely divided, covered with a cottony ſubſtance. Flowers ſolitary, on long peduncles, from the ſide of the branches; they have a narrow border of white rays, with a pale yellow diſk. [Receptacle fiſtulous, with minute equal calycine leaflets at the edge of it. Ray of the corolla very ſhort, ovate, white, red underneath[n]. Seeds difform, thoſe in the ray on pedicels[o]. Annual. Native of the Cape of Good Hope.

Cultivated 1713, in the botanic garden at Chelſea. It flowers in july and auguſt[p].

9. Stem ſcarcely ſuffruticoſe, but rather entirely herbaceous, more than a foot high, upright, ſlightly angular, firm, pubeſcent, pale green, very much branched on every ſide. Branches ſcattered, almoſt ſimple, nearly erect, clothed all over with leaves and rudiments of branches, axillary, ſlender, corymbiferous. Stem-leaves ſcattered, at the origin of the branches, pinnate-multifid; pinnas almoſt oppoſite, doubly pinnatifid, glaucous, ſubvilloſe, petioled. Branch-leaves alſo petioled, pinnate; pinnas almoſt oppoſite, linear, toothed, blunt; teeth ovate-acute. Petioles linear, channelled above, convex beneath, claſping, appendicled at the baſe with ſtipules or gaſhed leaflets. Corymb of flowers compound, faſtigiate, large, terminating, conſiſting of ſeveral corymbiferous branches. Peduncles long, grooved, pubeſcent, ſubumbelled, one-flowered, with linear, alternate ſcales[q]. Scarcely any female florets; thoſe of the diſk four-cleft. Annual[r]. Native of the Cape of Good Hope.

10. This has the appearance of Chamomile. Stems many, very much branched, diffuſed, a ſpan in height, round, ſomewhat gloſſy. Leaves naked, without dots; the rib ſcarcely flatted; with cylindric teeth purpliſh or browniſh at the end. Peduncles terminating, longiſh, one-flowered, ſtriated. Calyx imbricate, a little ſcarioſe. Corollets of the ray diſtant, ſubpedicelled, marked with lines, neutral, white—of the diſk four-cleft. Diſk convex, yellow. Receptacle half-ovate. Annual. Native of the Cape[s].

11. Stem erect, ſubfaſtigiate, with a panicle. Leaves bijugous, like thoſe of Tanſey. Heads without any ray; florets four-cleft. Native of the Cape[t].

12. Root perennial. Stems herbaceous, ſhort, tomentoſe, ſimple, procumbent, white. Leaves petioled, white, ſilky, like thoſe of Wormwood. Scapes terminating, ſolitary, very long, naked. Flowers ſolitary, like thoſe of the fourth ſpecies. Calyx hemiſpheric, with the ſcales nearly equal, obtuſe and ſcarioſe at the end. Corolla floſcular, ſhorter than the calyx, yellow. Native of the Cape[u].

13. Stem herbaceous, dichotomous. Leaves ſomewhat obtuſe, ſlender. Peduncles terminating from the forks of the ſtem, longer than the leaves. Flower exactly ovate, white, with four-cleft corollets. Chaffs the length of the florets[x].

14. Native of New Caledonia. Found ſeptember 13th, 1774.

15. Native of the iſle of Tanna in the South Seas.]

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[a] Murr. prodr.
[b] Dill. elth.
[c] Linn. ſpec.
[d] Linn.
[e] Linn. mant.
[f] Gærtner.
[g] Hort. kew.
[h] Gærtner.
[i] Hort. kew. from Philoſ. tranſ.
[k] Linn. ſuppl.
[l] Ibid.
[m] Linn. cliff.
[n] Linn. mant.
[o] Gærtner from Pontedera.
[p] Hort. kew.
[q] Bergius.
[r] Linn. ſyſt.
[s] Linn. mant.
[t] Linn. ſuppl.
[u] Ibid.
[x] Linn. mant.

PROPAGATION AND CULTURE.

1, 2. If the ſeeds be permitted to ſcatter, the plants will come up in the ſpring, and require no other care but to keep them clean from weeds, and thin the plants where they are too cloſe.

3. This, and the other Cape ſorts muſt be raiſed on a moderate hot-bed in the ſpring, and when the plants have obtained ſtrength, they may be tranſplanted into a warm border, where they will ripen their ſeeds very well. [They all flouriſh beſt, however, under the protection of the dry ſtove; and ſeveral of them may be increaſed not only from ſeeds, but freely from cuttings.

COTULA. See *Anacyclus*, *Anthemis*, *Chryſanthemum*, *Eclipta*.

Cotula Spilanthus. See *Spilanthus urens*.

——— Verbeſina. See *Lavenia*.

COTYLEDON. (*The ſame with* κοτυλη, *cavitas, a hollow.* Κοτυληδων *of Dioſcorides.*)
Lin. gen. 578. *Reich.* 628. *Schreb.* 788. *Dill. elth.* 95. *Tourn.* 19.
Claſſ. 10. 5. Decandria Pentagynia.
Nat. order of *Succulentæ—Sempervivæ* Juſſ. 307.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, five-cleft, acute, very ſmall.
COR. *Petal* bell-ſhaped, five-cleft.
Nectary conſiſting of a concave ſcale, ſeated at the exterior baſe of each germ.
STAM. *Filaments* ten, ſubulate, ſtraight, the length of the corolla. *Anthers* erect, four-furrowed.
PIST. *Germs* five, oblong, thickiſh, ending in ſubulate *ſtyles*, which are longer than the ſtamens. *Stigmas* ſimple.
PER. *Capſules* five, oblong, bellied, acuminate, one-valved; gaping longitudinally inwards.
SEEDS very many, ſmall.
OBS. *In* C. laciniata *one fifth part of the number in all the parts of fructification is excluded.*

ESSENTIAL CHARACTER.

Cal. five-cleft. *Cor.* one-petalled; with five nectareous ſcales at the baſe of the germ. *Capſ.* five.

SPECIES.

1. Cotyledon orbiculata. *Round-leaved Navel-wort.*
Lin. ſpec. 614. *Reich.* 2. 377. *hort. cliff.* 176. 2. *Herm. lugdb.* 349. *t.* 551. *Mor. hiſt.* 3. 474. *ſ.* 12. *t.* 7. *f.* 39. (Sedum.)
α. *Oval-leaved Navel-wort.*
Leaves ovate-ſpatulate, ſtem erect.
β. *Oblong-leaved Navel-wort.*
Leaves oblong-ſpatulate, ſtem erect.
γ. *Branching Navel-wort.* Mill. dict. n. 6.
Leaves ovate-ſpatulate, ſtem very much branched and divaricated.
δ. *Round leaved Navel-wort.* Mill. dict. n. 5.
Leaves orbiculate-ſpatulate, ſtem erect.
Ait. hort. kew. 2. 106.
Leaves ovate-ſpatulate, obtuſe with a point, even; flowers panicled.

2. Cotyledon ſpuria. *Narrow-leaved Navel-wort.*
Lin. ſpec. 614. *ſyſt.* 428. *Reich.* 2. 377. *mant. Comm. rar. t.* 23. *Burm. afr.* 43. *t.* 19. *f.* 1.
Sedum afric. teretifolium, fl. hemerocallidis. *Mor. f.* 40.
Leaves ſpatulate, obtuſe with a point, naked.

3. Cotyledon ſpinoſa.
Lin. ſpec. 615. *ſyſt.* 428. *Murr. comm. gott.* 1776. 33. *t.* 5.
Craſſula ſpinoſa. *Lin. ſyſt. ed.* 13. *mant.* 388. *Gmel. ſib.* 4. 173. *t.* 67. *f.* 2.
Leaves oblong, ſpiny-mucronate; ſtem ſpiked.

4. Cotyledon hemiſphærica. *Thick-leaved Navel-wort.*
Lin. ſpec. 614. *Reich.* 2. 377. *hort. cliff.* 176. 3. *Dill. elth.* 112. *t.* 95. *f.* 111.
Leaves ſuborbiculate dotted with ſcurf, convex underneath, flowers ſubſeſſile.

5. Cotyledon ſerrata. *Notch-leaved Navel-wort.*
Lin. ſpec. 614. *Reich.* 2. 378. *hort. cliff.* 497. *Dill. elth.* 113. *t.* 95. *f.* 112. *Lour. cochinch.* 287.
Leaves oval crenate, ſtem ſpiked.

6. Cotyledon Umbilicus. *Common Navel-wort, Kidney-wort*, or *Wall Pennywort.*
Lin. ſpec. 615. *Reich.* 2. 378.
[α. C. repens. *Lin. ſpec. Yellow Navel-wort.*
C. lutea. *Hudſ. angl.* 194. *With.* 464. *Dodart. mem.* 265. *t.* 73. *Raii hiſt.* 1878. 2. *Mor. hiſt.* 3. 471. *n.* 5. (*Sedum.*)
Leaves peltate-crenate, ſtem almoſt ſimple, flowers erect, bractes toothed.]
β. C. tuberoſa. *Lin. ſpec. Common Navel-wort.*
C. Umbilicus. *Hudſ. angl.* 194. *With.* 463. *Lightf.* 233. *Blackw. t.* 263. *Cluſ. hiſt.* 2. 63. 1.
C. major. *Bauh. pin.* 285. *Raii hiſt.* 1878.
C. vera radice tuberoſa. *Bauh. hiſt.* 3. 684. 1.
Sedum. *Mor. hiſt.* 3. 470. *ſ.* 12. *t.* 10. *f.* 4.
Umbilicus Veneris. *Ger.* 423. 1. *emac.* 528. 1.—vulgaris. *Park. theat.* 740. 1.
Leaves peltate-crenate, ſtem almoſt ſimple, flowers pendulous, bractes entire.

[7. Cotyledon hiſpanica. *Spaniſh Navel-wort.*
Lin. ſpec. 615. *Reich.* 2. 379. *Loefl. itin. t.* 1. *Shaw. afr.* 177.
β. *Shaw. afr. t.* 178.
Leaves oblong, almoſt columnar, flowers faſcicled.

8. Cotyledon papillaris.
Lin. ſyſt. 428. *ſuppl.* 242.
Leaves oppoſite columnar-ovate, flowers corymbed.

9. Cotyledon mamillaris.
Lin. ſyſt. 429. *ſuppl.* 242.
Leaves alternate columnar-ovate, flowers alternate, ſubſeſſile.

10. Cotyledon triflora.
Lin. ſyſt. 429. *ſuppl.* 242.
Leaves ovate entire, flowers ſubpeduncled, in threes.

11. Cotyledon Cacalioides.
Lin. ſyſt. 429. *ſuppl.* 242.
Leaves columnar, flowers corymbed, ſtem ſhrubby.

12. Cotyledon reticulata.
Lin. ſyſt. 429. *ſuppl.* 242.
Leaves columnar, flowers net-corymbed, ſtem ſhrubby.

13. Cotyledon paniculata.
Lin. ſyſt. 429. *ſuppl.* 242.
Leaves oblong-ovate ſeſſile, panicle divaricated, racemed, ſtem ſhrubby.]

14. Cotyledon laciniata. *Cut-leaved Navel-wort.*
Lin. ſpec. 615. *ſyſt.* 429. *Reich.* 2. 378. *hort. cliff.* 175. 1. *Boerh. lugdb.* 1. *t.* 288. *Lour. cochinch.* 286.
Telephium. *Pluk. alm.* 362. *t.* 228. *f.* 3. *Bont. jav.* 132.
Planta Anatis. *Rumph. amb.* 5. 275. *t.* 95.
Leaves pinnatifid, flowers four-cleft, in a panicle.

[15. Cotyledon nudicaulis.
Lin. ſyſt. 429.
C. integra. *Medic. in comm. palat.* 3. 200. *t.* 9.
C. deficiens. *Forſk. ægypt.* 89.
Leaves ſpatulate-ovate, flowers four-cleft, in a cyme.

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16. Cotyledon faſcicularis. *Cluſter-leaved Navel-wort.*
Ait. hort. kew. 2. 106. *Burm. afr.* 41. *t.* 18.
Leaves wedge-ſhaped faſcicled terminating, trunk thickened, branches fleſhy ſubconic.

17. Cotyledon viſcoſa.
Vahl ſymb. 2. 51.
C. Mucizonia. *Ortega monogr. cum. fig.*
Leaves columnar, racemes terminating, villoſe-viſcid, ſtem branched.

18. Cotyledon lanceolata.
Vahl ſymb. 2. 51. *Forſk. ægypt.* 89.
Leaves lanceolate, ſerrate at the tip, panicle villoſe, flowers quadrifid.

19. Cotyledon alternans.
Vahl ſymb. 2. 51.
C. orbiculata. *Forſk. arab.* 112.
Leaves orbiculate-ſpatulate, quite entire, flowers panicled, ſmooth, quadrifid.

DESCRIPTIONS, &c.

1. This and moſt of the other ſpecies are natives of the Cape of Good Hope.—The firſt ſort varies much in the form of the leaves, &c. Some of theſe varieties are made diſtinct ſpecies, and are thus deſcribed by Mr. Miller.]

γ. This has a ſhort thick ſucculent ſtalk, which rarely riſes more than a foot high, branching out on every ſide, ſo as to ſpread over the pots in which it is planted. The branches become woody by age, and are cloſely beſet by thick round leaves of a grayiſh colour, with purple borders, plane on their upper ſide, but convex on their under, and very fleſhy, of an herbaceous colour within, and full of moiſture.

δ. This alſo has a thick ſucculent ſtalk, which by age becomes woody, and riſes three or four feet high, ſending out crooked branches, which grow irregular, with thick fleſhy ſucculent leaves about two inches long, and near as wide towards the top; they are narrow at the baſe, and rounded at the top, of a ſea green colour, with a purple edge, which is frequently irregularly indented. Flowers on thick ſucculent peduncles, from the ends of the branches, near a foot long, naked, and ſupporting eight or ten flowers, hanging down, tube long, brims turning back. Stamens and ſtyles longer than the tube, and hanging down.

[Introduced 1690, by Mr. Bentick. They flower from july to ſeptember [a].]

2. This has a ſhort greeniſh ſucculent ſtalk, ſeldom more than a ſpan high, dividing into ſeveral irregular branches. Leaves thick, ſucculent, four inches long, half an inch broad, and as much in thickneſs, having a broad concave furrow on their upper ſide, and convex on the under, bright green, with a purple tip. Peduncles terminating, near a foot high. Flowers on ſhort pedicels, yellow; tubes long, brims reflex, tipped with purple. Stamens longer than the tube.

[Stem very thick, with obtuſe branches, leafy at the end only. Leaves naturally oppoſite, (in monſtrous plants alternate) ſpatulate-lanceolate, fleſhy, obtuſe, petioled. Scape terminating, a foot high, ſubumbelled and divaricated [b].

Cultivated 1731, by Mr. Miller [c].

3. This is a perennial plant, a long ſpan in height. Stem, for one third part at bottom, where it is covered with leaves, perpendicular; the other two thirds, which are clothed with flowers, bent in form of an S, thick, angular, ſtiff. Leaves very much crowded, imbricate all round, ſucculent, compreſſed, flattiſh above, angular on the back, ending in a prominent bump, having a flexile white ſpine at the tip; the loweſt thinner, longer, broader and abrupt, with a cartilaginous border at the end, and ſpreading; the upper ones narrower, and more erect. Spike terminating, compound at the baſe: the loweſt ſpikelets elongated, many-flowered, ſpreading, peduncled, but the flowers ſeſſile; the ſpikelets above theſe are very ſhort, and have few flowers or four heaped together; above theſe the flowers are ſolitary and ſeſſile to the top of the ſtalk. Under each ſpikelet and flower is a ſucculent, ſubulate, incurved bracte, ending in a ſpine. Perianth five-parted, the parts connected at the baſe, nearly equal, lanceolate, concave, acute, converging. Corolla four times as long as the perianth, conſiſting of five white, linear, converging concave petals, connected at the baſe. Nectary ſurrounding the germ, compoſed of five roundiſh, concave, emarginate, yellow ſcales. Filaments almoſt equal, longer than the corolla: anthers cordate. Piſtils a little ſhorter than the ſtamens: germs ſuperior, ending in divaricate ſtyles [d].]

Native of Siberia, whence it was brought to the imperial garden at Peterſburgh. Mr. Miller received it from Dr. Anmann. It flowers in april, and ſometimes bears ſeed in England.

4. This has a thick ſucculent ſtalk, rarely more than a ſpan high, dividing into many branches. Leaves ſhort, thick, ſucculent, not more than half an inch long, and a quarter of an inch broad, grayiſh with green ſpots, ſeſſile. Peduncles terminating, ſix inches long, naked, ſupporting five or ſix flowers, alternate, ſeſſile, greeniſh, with purple tips.

[Cultivated 1732, by James Sherard, M.D. [e].]

5. Stalk upright, ſucculent. Leaves oblong, thick, ſucculent, alternate. Flowers purpliſh, in a looſe ſpike, two or three joined on the ſame peduncle, which is very ſhort. It is a biennial plant, and the ſeeds ripen in autumn.

Native of Candia and Siberia.

[Cultivated 1732, by Dr. Sherard [f].

6. Mr. Hudſon has diſtinguiſhed the yellow from the common Navel-wort, by the circumſtances of the flowers being upright, and the bractes toothed in the firſt, whereas in the ſecond, the flowers hang down, and the bractes are entire. Moriſon remarks alſo, that the root of the yellow Navel-wort is not round like a turnep, but oblong and creeping; the leaves larger and growing more cloſe, not ſo perfectly peltate, but more open about the inſertion of the petiole.—Mr. Woodward obſerves that the flowers are not always pendant in the ſmaller ſpecimens of common Navel-wort.

α. Yellow Navel-wort is found in Somerſetſhire, and in the weſt riding of Yorkſhire [g].

β. Root tuberous, roundiſh. The whole plant is ſucculent, and has a ſhining, froſted appearance. Stem nearly upright, ſlightly angular, from ſix to nine inches high, frequently purple. Leaves thick, fleſhy, circular, concave on the upper ſurface, with a hollow dimple nearly in the centre, juſt oppoſite to the inſertion of the petiole, which is round.] From this appearance this plant has the name of Navel-wort. The lower leaves in ſome plants are kidney-ſhaped. The ſtem-leaves reſemble the root-leaves, but are not ſo exactly circular, and the petiole not fixed ſo near the centre. Flowers in long terminating bunches, of a white greeniſh hue. The ſpike is ſometimes ſimple, ſometimes branched towards the bottom. At the baſe of each peduncle is a lanceolate bracte. Segments of the calyx lanceolate-ovate, extending more than half way down. Corolla tubular, five-cornered, the ſides flat; ſhrivelling, permanent: the ſegments acute, ſtriated. Nectary and anthers yellow. Filaments alternately longer and ſhorter [h].

Native of Judæa, Spain, Portugal, Italy, Britain: on moiſt rocks and walls. With us in an old gravel pit at Highberry-barn, near London. At Peterborough, Northampton—and Thorpe, between Peterborough and Wandesford. Slate-pit rocks at Smithland in Leiceſterſhire.—Church Brampton in Northamptonſhire. About Troutbeck in Weſtmoreland. In Cornwall and other parts of the weſt. Godſtow bridge in Oxfordſhire. About Malvern in Worceſterſhire. Skipton-Mallet in Somerſetſhire. Caernarvonſhire and Merionethſhire in Wales. In ſome of the Scotch iſlands—as Arran, Y-columbkil, &c.—It flowers from june to auguſt.

7. Root fibroſe. Stem ſimple, columnar, almoſt erect, a finger's length in height. Leaves bluntiſh, ſeſſile, ſomewhat hairy, flattiſh above, dotted with duſky red. Flowers in a terminating corymb. Corollas funnel-ſhaped, duſky red on the outſide, ſomewhat hairy: border plane, acute, red above, with three purple ſtreaks, and a purple tip. Filaments thickiſh and a little prominent: anthers very ſmall. Calyx ſhort.—The appearance of the herb is that of Sedum album.—Native of Africa, the Levant, and Spain.—Biennial [i].

8—13. Found at the Cape of Good Hope by Thunberg.—The 11th has its trivial name, from its yellow flowers reſembling thoſe of Cacalia. As the 12th alſo has from its reſemblance to Statice reticulata [k].

14. Stem leafy to the very top. Leaves dilated at the baſe, the ſegments three or five, unequally ſerrate, except the floral ones, which are linear and entire. The infloreſcence panicled. Calyx very

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[a] Hort. kew.
[b] Linn. mant.
[c] Hort. kew.
[d] Murray.
[e] Dill. elth.
[f] Ibid.
[g] Hudſon.
[h] Linn. With. Stokes, Hudſ. Woodw. Mſs.
[i] Linn. ſpec.
[k] Linn. ſuppl.

ſmooth and glaucous, as is alſo the corolla; the border of which is yellow on both ſides, uſually four-cleft, but in ſome few flowers five-cleft. Stamens eight ſhort, two long[l].]

According to Miller, the ſtem is upright, about a foot high, jointed and ſucculent. Leaves broad, deeply cut on their edges, of a grayiſh colour, oppoſite, almoſt embracing. Peduncles terminating, about ſix inches long, ſuſtaining ſeven or eight ſmall flowers of a deep yellow colour. Stamens not longer than the ſhort tube.

[Native of Egypt and the Eaſt Indies. It flowers in july and auguſt, and was cultivated by Mr. Miller in 1731[m].

15. Stem at the end almoſt naked. Leaves obſcurely ſerrate, linear at the baſe. Infloreſcence cymed; the peduncles dichotomous. Calyx and corolla pubeſcent on the outſide; the border of the latter ſcarlet on the upper ſurface, paler on the lower. Stamens eight, as in the foregoing, from which it is diſtinct[n].

16. This has been confounded with the ſecond ſort, and ſhould be placed next to it. It flowers from july to ſeptember; and was cultivated in 1759, by Mr. Miller[o].]

17. This has the appearance of a Sedum. Root annual. Stem filiform, brachiate, a palm in height. Leaves fleſhy, obtuſe. Peduncles at the ends of the branches, commonly ſimple, ſeldom branched. Flowers racemed, diſtant. Pedicels capillary, looſe. Leaflets of the calyx lanceolate, villoſe-viſcid. Corolla bell-ſhaped, pale yellow, with purple ſtreaks. Native of the mountains of Spain near Toledo, and elſewhere.

18. This reſembles Cotyledon laciniata in habit, infloreſcence, and ovate yellow corollas; but differs in having lanceolate leaves; and the ſtem, peduncles, calyx and corolla villoſe.

19. The whole of this plant is ſmooth. Partial peduncles alternate. Corolla ovate, like that of C. laciniata, membranaceous, narrowed at top; the ſegments lanceolate, reddiſh-yellow[p].]

PROPAGATION AND CULTURE.

1, 2, 4, 8—13, 16. The African kinds are all propagated by planting cuttings in any of the ſummer months, which ſhould be laid in a dry place for a fortnight or three weeks after they are taken from the plant, before they are planted; for theſe abound with juice through every part of the plant, which will certainly rot the cuttings, if they are not ſuffered to lie out of the ground, that the wounded part may heal over, and the great redundancy of ſap evaporate. The ſoil in which theſe plants thrive beſt, is one third freſh light earth from a paſture, one third ſand, and the other third part lime-rubbiſh and rotten tan, in equal quantities; theſe ſhould be well mixed, and laid in a heap ſix or eight months before it is uſed, turning it over five or ſix times, that the parts may the better incorporate; and before it is uſed, it will be proper to paſs it through a ſcreen, to ſeparate the large ſtones, clods, &c. therefrom.

Having prepared the earth, and your cuttings being in a fit order for planting, you muſt fill as many halfpenny pots with earth as you have cuttings to plant; then put one cutting in the middle of each pot about two or three inches deep or more, according to their ſtrength; then give them a little water to ſettle the earth cloſe about them, and ſet the pots in a warm ſhady place for about a week, to prepare the cuttings for putting forth roots; after which they ſhould be plunged into a moderate hot-bed of tanners bark, which will greatly facilitate their rooting; but obſerve to give them air, by raiſing the glaſſes at all times when the weather will permit, as alſo to ſhade the glaſſes in the heat of the day.

In about ſix weeks or two months time after planting, theſe cuttings will be rooted, when you muſt begin to expoſe them to the open air by degrees, firſt drawing the pots out of the tan, and ſetting them on the top, then raiſe the glaſſes very high in the day-time; and in about a week after remove the pots into a green-houſe, and there harden them for another week; after which they may be expoſed to the open air in a well defended place, obſerving not to ſet them in a place too much expoſed to the ſun, until they have been inured to the open air for ſome time.

In this place the plants may remain until the beginning of october, at which time you ſhould remove them into the conſervatory, placing them as near the windows as poſſible at firſt, letting them have as much free open air as the ſeaſon will permit, by keeping the windows open whenever the weather is good; and now you muſt begin to abate your waterings, giving it to them ſparingly; but you ſhould not ſuffer their leaves to ſhrink for want of moiſture, which is another extreme ſome people run into for want of a little obſervation; for when they are ſuffered to ſhrink for want of ſufficient moiſture to keep their veſſels diſtended, they are rendered incapable of diſcharging this moiſture whenever they receive it again. The 14th ſort ſhould be placed in a moderate ſtove in winter, nor muſt it be ſet abroad till midſummer, for it is much tenderer than any of the others.

The beſt method to treat moſt of theſe plants is, to place them in an open, airy, dry glaſs-caſe, among Ficoideſes and African Houſeleeks, where they may enjoy as much of the ſun-ſhine as poſſible, and have a free, dry, open air; for if theſe are placed in a common green-houſe among ſhrubby plants, which perſpire freely, theſe ſucculent plants imbibe too much of the damp air, and thereby becoming too replete with moiſture, often caſt their leaves, and ſometimes their branches decay, and the whole plant periſhes.

3. This ſort requires a very ſhady ſituation, for if it be expoſed to the ſun in ſummer, the plants will ſoon decay. It is propagated by off-ſets like the Houſeleek; and requires a pretty ſtrong ſoil.

5, 6, 7. If theſe ſorts be ſown upon a wall, they will thrive better than in the ground, and be leſs liable to ſuffer by froſt; ſo that where the ſeeds ſcatter themſelves on walls or rock-work, the plants thrive better than when they are cultivated.

14, 15. Theſe ſorts require a warm ſtove to preſerve them through the winter in England, nor ſhould they be expoſed abroad in ſummer; for if they receive much wet, the ſtalks are very ſubject to rot; ſo that they ſhould conſtantly remain either in the ſtove, or in ſummer ſhould be placed in an airy glaſs-caſe with other tender ſucculent plants, where they may have free air in warm weather, and be ſcreened from cold and wet; but in autumn they muſt be removed into the ſtove, where they ſhould be kept in a moderate temperature of warmth: theſe are propagated by cuttings, which ſhould be taken off in ſummer, and planted into ſmall pots, and plunged into a moderate hot-bed, and when they have taken root, they ſhould be removed into the ſtove. They muſt have but little water, eſpecially in winter.

[Cotyledon. See *Craſſula, Saxifraga, Sedum, Sempervivum.*

Cotyledon aquatica. See *Hydrocotyle.*

Cotyledonoides. See *Craſſula.* Cavalam. See *Cratæva.*

Coventry-bells. See *Campanula.*

Coumarouna. See *Dipteryx.*]

Courbaril. See *Hymenæa.*

[Coutoubea. See *Picrium.*

Cow-itch. See *Dolichos.*

Cow-Parsley. See *Chærophyllum.*

Cow-quakes. See *Briza.*]

Cowslip. See *Primula.*

[———— Virginian. See *Dodecatheon.*

Cow-weed. See *Chærophyllum.*]

Crab-tree. See *Malus.*

[Cracca. See *Ervum, Vicia.*

Crake-berry. See *Empetrum.*]

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[l] Murr. in ſyſt. [m] Hort. kew. [n] Murr. in ſyſt. [o] Hort. kew. [p] Vahl.

CRAMBE. (*From* κραμϐος, *ſiccus; on account of its growing in dry places? Rather from* κοραμϐλη, *on account of its ſuppoſed quality of dimming the eye-ſight.*)
Lin. gen. 825. *Reich.* 889. *Schreb.* 1071. *Juſſ.* 242. *Tourn.* 100. *Rapiſtrum Tourn.* 99.
Claſſ. 15. 2. Tetradynamia Siliquoſa.
Nat. order of *Siliquoſæ, Cruciformes* or *Cruciferæ.*

GENERIC CHARACTER.

CAL. *Perianth* four-leaved; *leaflets* ovate, channelled, ſomewhat ſpreading, deciduous.

COR. four-petalled, cruciform. *Petals* large, obtuſe, broad, ſpreading; *claws* erect-ſpreading, length of the calyx.

STAM. *Filaments* ſix, two the length of the calyx; four longer, with a two-cleft tip. *Anthers* ſimple, on the exterior branch of the filaments.

A *melliferous gland* between the corolla and the longer ſtamens on each ſide.

PIST. *Germ* oblong. *Style* none. *Stigma* thickiſh.

PER. *Berry* dry, globoſe, one-celled, deciduous.

SEED ſingle, roundiſh.

ESSENTIAL CHARACTER.

Filaments the four longer, two-cleft at the end, one only of the tips bearing an anther. *Berry* dry, globoſe, deciduous.

SPECIES.

1. Crambe maritima. *Sea Colewort.*
Lin. ſpec. 937. *Reich.* 3. 290. *fl. ſuec. n.* 615. *hort. cliff.* 340. *Hudſ. angl.* 299. *With.* 718. *Lightf.* 364. *Fl. dan. t.* 316.
Braſſica maritima monoſpermos. *Bauh. pin.* 112. *Park. theat.* 270. 4. *Lob. ic.* 1. 245. *Raii hiſt.* 838. *Pet. brit. t.* 48. *f.* 12.—marina anglica. *Ger.* 248. 16. *emac.* 315. 15.—marina repens monoſpermos. *Mor.* 5. *ſ.* 3. *t.* 2. *f.* 16.
β. Crambe ſuecica. *Mill. dict. n.* 2.
Leaves and ſtem ſmooth.

2. Crambe orientalis.
Lin. ſpec. 937. *Reich.* 3. 290. *Pall. itin.* 3. 584.
Leaves ſcabrous, ſtem ſmooth.

3. Crambe hiſpanica. *Spaniſh Colewort.*
Lin. ſpec. 937. *Reich.* 3. 290. *hort. upſ.* 193. *cliff.* 340.
Myagrum ſphærocarpon. *Jacqu. obſ.* 2. 20. *t.* 41.
Rapiſtrum. *Corn. canad. t.* 148. *Mor. hiſt.* 2. 266. *ſ.* 3. *t.* 13. *f.* 1.
Leaves and ſtem ſcabrous.

[4. Crambe Tataria.
Lin. ſyſt. 604. *Jacqu. miſc.* 2. 274. *t.* 25.
Tataria ungarica. *Cluſ. hiſt.* 191. *Bauh. hiſt.* 3. 2. 163. *Bauh. pin.* 153.
Leaves decompound-multifid.

5. Crambe fruticoſa. *Shrubby Colewort.*
Lin. ſyſt. 604. *ſuppl.* 299.
Shrubby; leaves ovate pinnatifid ſerrate hoary; racemes in a diſhevelled dichotomous panicle.

6. Crambe ſtrigoſa. *Rough-leaved ſhrubby Colewort.*
L'Herit. ſtirp. nov. 6. 151. *t.* 72. *Ait. hort. kew.* 2. 408.
Myagrum arboreſcens. *Jacqu. ic. collect.* 1. 39.
Freteſcent; leaves at the baſe unequal two-eared, ſtrigoſe.]

DESCRIPTIONS, &c.

1. The roots creep under ground, whereby it propagates very faſt. [The whole plant is ſmooth. The lower leaves are petioled, very large and ſpreading on the ground, variouſly waved, jagged and indented; ſmooth, glaucous, ſometimes tinged with purple: many ſtalks ariſe among theſe, two feet high, ſpreading and much branched, bearing ſimilar, but ſeſſile leaves. The flowers on long peduncles, white. Fruit at firſt ovate, terminated by the blunt ſtigma, afterwards nearly ſpherical: the ſize of large Peas[a].

On the ſandy and beachy coaſts of Sweden, Denmark, Britain: as at Rooſebeck in Low Furneſs, Lancaſhire; near Megaviſſey, in Cornwall; between Whitſtable and the iſle of Thanet; near Colcheſter; about Lyde in Kent, and elſewhere on the Eſſex and Kentiſh ſhores; thoſe of Suſſex and Dorſetſhire in great plenty, and elſewhere: flowering in may and june.

The young leaves, covered up with ſand, and blanched, are boiled and eaten as a great delicacy[b]. When full grown, they are ſaid to occaſion giddineſs. All ſorts of cattle eat them.

There is one variety with jagged leaves, and another with yellowiſh bloſſoms[c].]

β. The ſeeds of this were ſent me from Peterſburgh for the common ſort, from which it differs greatly. This has a perennial root, which ſends out ſeveral oblong, ſmooth, pointed leaves, irregularly cut on their ſides into acute ſegments almoſt to the midrib; theſe are very ſmooth, and of a ſea-green colour: between theſe ariſes the ſtalk, which grows three feet high, garniſhed below by oblong pointed leaves, which are acutely indented on their edges. The ſtalks branch out into many ſmaller, and theſe ſubdivide again into leſs, which have looſe ſpikes of white flowers like thoſe of the common ſort, which are ſucceeded by ſeeds of the ſame form. This differs greatly from the firſt in the ſhape of its leaves, which are longer, ending in points, and the ſegments do the ſame; whereas thoſe of the other are blunt, and not half ſo deeply cut. The ſtalks riſe more than twice the height of the firſt, branch out more, and the branches grow more erect; and theſe differences are conſtant, where the plants of both ſorts grow in the ſame ſoil.

2. This has a biennial root, from which ariſe many leaves in the ſpring, that are alternately divided to the midrib; and theſe diviſions are again alternately cut on their edges into many points, ſo that they have the appearance of pinnate leaves, and are of a grayiſh colour. Stems two feet high, branching, terminated by looſe panicles of ſmall white flowers, coming out in june. The ſeeds ripen in autumn. Native of the Levant.

3. [Root whitiſh, annual, fuſiform. Stems very branching, angular, near three feet high, rugged, with ſtiff pungent reflex hairs, and terminating in wand-like racemes, the firſt quite ſimple and very long, the following ones branched. Leaves roundiſh, veined, wrinkled, ſomewhat rugged, unequally tooth-repand, on angular petioles, having a ſingle appendix on each ſide at top; one of theſe is frequently deficient, but ſeldom both. Flowers in corymbs; calyxes yellowiſh; petals white. Fruits brown, ſhining, placed on a cylindric barren body, in which there is no trace of a cell, and this on a peduncle an inch in length[d].] It flowers in june, and the ſeeds ripen in autumn. Native of Spain and Italy.

[Cultivated 1759, by Mr. Miller[e].

4. Root perennial, fuſiform, as thick as the human arm, from two to four feet long, round, brown or blackiſh on the outſide when freſh, within fleſhy, white, with a tinge of dirty yellow, of a ſweet taſte. Stem from two to three feet high, angular, upright, ſmooth, branched. The root-leaves that firſt come out are often ſmall and entire; but afterwards theſe with the leaves on the ſtem and branches are diverſely and irregularly multifid, ſometimes very large, decompoundly or ſuperdecompoundly pinnatifid, dividing finally into oblong toothed ſharp ſegments, ſomewhat glaucous, ſmooth on both ſides, the upper ones are ſimple and oblong. Petioles angular, in the larger leaves ſmooth; but in the ſmaller ones, both theſe and the ribs are very thick and protuberant; they and the veins being ſomewhat hiſpid, with whitiſh hairs. The leaves, however, vary extremely in form and hairineſs, not only in different plants, but in the ſame individual. Flowers very numerous in terminating branched corymbs, ſmelling ſtrong of honey. Calyx greeniſh yellow. Petals white. Anthers greeniſh. Germ green, with a yellow ſtigma. Fruit the ſize of a pea, with a green ſhining fleſhy ſkin, becoming wrinkled and pale as it ripens. Seed blackiſh on the outſide: kernel pale yellow, with a ſubacrid and rather unpleaſant taſte.

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[a] Woodw. Mſſ. & Lightf.

[b] Lightf.

[c] Withering.

[d] Jacquin.

[e] Hort. kew.

It flowers about the middle of april, and the fruits ripen in june, but few of them come to maturity.

Native of Hungary, Tartary, Moravia, and Bohemia. Firſt noticed and deſcribed by Cluſius, who received it from Balthaſar de Bathyan, for the botanic garden at Vienna. Profeſſor Jacquin procured it again from Hungary in 1777.

The roots are eaten in a ſcarcity of bread by the Tartars and Hungarians; the hares alſo are very fond of them [f].

According to Jacquin, this is the Crambe orientalis of Linneus, and the fifth ſpecies of Royen; but probably not Rapiſtrum orientale acanthi folio of Tournefort, which is the true Crambe orientalis; and is deſcribed in obſ. bot. in the ſecond volume of Jacquin's miſcellanea, p. 337.

5. A ſtiff ſhrub, with leafy branches. Leaves alternate, petioled, deeply toothed, pinnatifid, or pinnate, with the diviſions ſerrate: hoary. The branchlets terminate in a large, diffuſed panicle, with alternate, divaricate, racemed branchlets; the racemes ſhort [g].

It approaches nearer to the character of Myagrum than of Crambe; for the filaments are not forked, and the ſilicles are almoſt two-jointed. The two genera might be very well united, and this removed to the order Siliculoſa [h].

Found by Maſſon, in the higheſt rocks of the iſland of Madeira [i].

Introduced 1777. It flowers moſt part of the year [k].

6. This is a rugged ſhrub. Stem erect, round, looſely branched, aſh-coloured, the height of a man. Leaves alternate, oblong-ovate, either undivided or eared, obliquely ſubcordate, acuminate, unequally toothed, wrinkled, nerved, bright green on both ſides, ſpreading, reclined: petioles round on one ſide, channelled on the other, ſtrigoſe. Panicles terminating, very long, compoſed of alternate compound racemes, peduncled, divaricate. Flowers pedicelled, erect, white. The leaves are four times as big as thoſe of C. fruticoſa, not hoary; and the ſtrigæ are ſtronger, but more lax [l].

Found in the Canary iſlands by Maſſon. Introduced 1779. It flowers in may and june [m].]

PROPAGATION AND CULTURE.

1. As this generally grows upon the gravelly ſhore, where the tide overflows it, the inhabitants obſerve where the gravel is thruſt up by the ſhoots of this plant, open it, and cut the ſhoots before they come out, and are expoſed to the open air, whereby the ſhoots appear as if they were blanched; and when they are cut ſo young, they are very tender and ſweet; but if they are ſuffered to grow till they are green, they become tough and bitter. This plant may be propagated in a garden, by ſowing the ſeed ſoon after it is ripe, in a ſandy or gravelly ſoil, where it will thrive exceedingly, and increaſe greatly by its creeping roots, which will ſoon overſpread a large ſpot of ground, if encouraged; but the heads will not be fit to cut until the plants have had one year's growth: and in order to have it good, the bed in which the plants grow ſhould, at michaelmas, be covered over with ſand or gravel about four or five inches thick, which will allow a proper depth for the ſhoots to be cut before they appear above ground; and if this is repeated every autumn, in the ſame manner as is practiſed in earthing of Aſparagus-beds, the plants will require no other culture. This may be cut for uſe in april and may, while it is young; but if the ſhoots are ſuffered to remain, they will produce fine regular heads of white flowers, which appear very handſome, and will perfect their ſeeds, by which they may be propagated.

[We are obliged to the Rev. Mr. Laurents for a more particular account of the culture of Sea Colewort or Sea Cale, which he obtained from the Weſt of England.

Prepare the bed intended to receive the ſeeds as for Aſparagus. Sow them in march. Before they are put into the ground, bruiſe the outer coat without wounding the ſeeds, to accelerate their growth. Set three ſeeds in a triangular form ſix inches apart; leaving a ſpace of two feet between the triangles. Bury the ſeeds three inches deep.

The plants will make their appearance in four or five months, but they ſhould not be cut until the third ſpring. About the end of november, when the leaves are rotten, clear them away, and cover the bed with a coat of half rotten dung.

In the ſecond year, about march, when the plants are beginning to perforate the ſurface, take or rake off lightly the coat of dung, and give the plants full liberty to grow. In november, or ſooner if the leaves be rotten, clear them off, and cover as in the former year.

In the third year, immediately after removing the dung in the ſpring, cover the plants with a thick coat of ſand or coal aſhes, or ſmall pebbles. As they grow, continue to keep them from the air, until they are cut for uſe.

In cutting them, remove the ſand, aſhes or pebbles, and then cover the roots again. Some of the plants will bear cutting two or three times in a ſeaſon.

After the laſt cutting is finiſhed, remove the cover, and let the plants grow until the leaves are decayed; and then clear and cover for the winter.

Some cover their plants with earthen pans or large garden pots, putting a tileſherd over the hole, for all air muſt be ſecluded in order to have them white [n].

2. May be propagated in the ſame manner.

3. Muſt be propagated by the ſeeds.

[5, 6. Are inhabitants of the green-houſe. The others are hardy. The two laſt grow freely from cuttings.

CRAMBE. See *Bunias* & *Myagrum*.

CRANBERRY. See *Vaccinium*.]

CRANE'S-BILL. See *Erodium*, *Geranium*, *Pelargonium*.

[CRANICHIS. (*From* Κρανος, *a helmet*.)

Lin. gen. *Schreb. n.* 1374. *Swartz prodr.* 120.

Claſſ. 20. 1. Gynandria Diandria.

Nat. order of *Orchideæ*.

GENERIC CHARACTER.

CAL. *Spathes* wandering. *Perianth* none.

COR. *Petals* five, oblong, ſubhorizontal: the three outer (or two upper lateral, and one anterior) ovate-lanceolate, equal, ſpreading; the two inner anterior ſcarcely ſmaller, more ſlender, ovate-lanceolate, erect.

Nectary or upper petal (between the outer ſuperior petals) galeate or vaulted, erect, ovate, gibbous, ſlightly keeled, entire at the tip, often bifid at the baſe, dotted within, covering and embracing the genitals behind.

STAM. *Anthers* two or four, pedicelled, placed on the apex of the ſtyle, turned towards the helmet; with an upright two-celled lid, faſtened to the column of the ſtyle in front; they are covered at the back.

PIST. *Germ* obovate, oblique, inferior. *Style* an erect column, ſhorter than the helmet, dilated at the tip, obtuſe, bearing the ſtamens at the back. *Stigma* funnel-form between the column of the ſtyle and the lid of the ſtamens.

PER. *Capſule* oblong or obovate, attenuated at the baſe, three-cornered, three-keeled, one-celled, opening under the ribs, cohering at the tip and baſe.

SEEDS numerous, very ſmall, like ſand or ſaw-duſt, affixed to a columnar receptacle.

ESSENTIAL CHARACTER.

Nectary galeated.

SPECIES.

1. Cranichis aphylla.

Swartz prodr. 120.

Bulbs in bundles, columnar acute, ſcape almoſt naked, petals converging.

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[f] Jacquin miſcell.

[g] Linn. ſuppl.

[h] Murr. in ſyſt.

[i] Suppl.

[k] Hort. kew.

[l] L'Heritier.

[m] Hort. kew.

[n] Young's Annals, vol. 3, p. 295.

2. Cranichis oligantha.
   Swartz prodr. 120.
   Bulbs in bundles, club-ſhaped, leaves petioled oblong acuminate ſhining, ſcape almoſt naked, ſpike filiform, petals converging.
3. Cranichis diphylla.
   Swartz prodr. 120.
   Bulbs in bundles, filiform naked, leaves petioled cordate acuminate twin, ſcape almoſt naked.
4. Cranichis ſtachyodes.
   Swartz prodr. 120.
   Bulbs in bundles, columnar obtuſe, leaves petioled ovate acuminate, ſcape ſheathed, ſpike columnar, petals revolute.
5. Cranichis muſcoſa.
   Swartz prodr. 120.
   Bulbs filiform in bundles, tomentoſe, root-leaves petioled ovate, ſtem-leaves ſheathed, nectary dotted within.

All theſe are natives of Jamaica.]

CRANIOLARIA. (*From* κρανιον, *a ſkull. So named from the figure of the ſeed-veſſel.*)
Lin. gen. 752. *Reich.* 810.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ.—Bignoniæ* Juſſ. 140.

GENERIC CHARACTER.

Cal. *Perianth inferior* four-leaved; *leaflets* linear, ſhort, ſpreading, permanent.
Perianth ſuperior ovate, inflated, large, cut lengthwiſe on one ſide.

Cor. one-petalled, unequal; *Tube* very long, very narrow. *Border* flat, two-lipped; *upper lip* entire, roundiſh: like the other diviſions, but larger. *Lower lip* three-cleft; *diviſions* roundiſh; the middle one wider.

Stam. *Filaments* four, length of the tube of the corolla, of which two are ſomewhat ſhorter. *Anthers* ſimple.

Pist. *Germ* ovate. *Style* thread-form, length of the tube of the corolla. *Stigma* thickiſh, obtuſe.

Per. coriaceous, ovate, ſharp on both ſides, two-valved.

Seed. *Nut* woody, depreſſed, ſharpened on both ſides, with a bent two-parted point, marked on each ſide with three-toothed furrows, (of the figure of a quadruped's ſkull,) two-cleft on the ſides.

Obs. *This genus is too nearly allied to* Martynia, *but the corolla is more equal.*
In Cr. annua *the inferior calyx is two-leaved.* R.

ESSENTIAL CHARACTER.

Cal. double of the flower: perianth four-leaved; ſpathe one-leafed. *Cor.* tube very long.—*Capſ.* of Martynia.

SPECIES.

1. Craniolaria annua.
   Lin. ſyſt. 558. *Reich.* 3. 141. *mant.* 417. *Jacqu. amer.* 173. *t.* 110. *amer. pict.* 86. *t.* 166. *Ehret. pict.* 1. *f.* 2.
   Martynia Craniolaria. *Gloxin. obſ. bot.* p. 11. & 14.
   Leaves cordate angled; outer calyx two-leaved.

DESCRIPTION, *&c.*

1. [This is an annual plant, two feet high, the whole of it villoſe and extremely viſcid, from a ſingle and very ſhort trunk divided into dichotomous, round thick branches, procumbent at the baſe, but above the middle erect, diffuſed. Leaves large, oppoſite, half five-lobed; the lobes ſubovate, repand-toothed, acute: petiole reddiſh, hairy, dividing at the end, and bordering the leaf on each ſide at the baſe. Racemes ſimple, looſe, upright, near a foot in length, and containing about ten flowers, in all the diviſions of the ſtem, accompanied by a ſolitary one-flowered peduncle. Other ſhorter irregular racemes terminate all the branchlets, and ſpring from the axils of ſome leaves. Flowers handſome, but without ſcent, hirſute. Calyx green. Corolla white, with three large dark purple ſpots at the bottom of the throat. There is a very ſhort rudiment of a fifth filament under the diviſion of the upper lip. Pericarp at firſt green, but yellow when ripe. Nut black, abiding ſome days after the pericarp has fallen, not opening, or even ſeparable with conſiderable force, though it appears to be four-valved. The proper peduncles are ſupported by a bracte reſembling the calycine appendicles. The throat of the corolla, which is more clammy than any part of the plant, generally has abundance of very ſmall flies, which are attracted by the honey juice, and being entangled in it, there meet their death [a].

Linneus obſerves, that the calyx is ovate, diſſected above longitudinally, and has two bractes at the baſe. It reſembles Martynia annua, but the tube of the corolla is very long [b]. (ſeven or eight inches.)

The root, which is brown without, but white within, round, fleſhy, thick, has a ſweet taſte, and is eaten freſh with milk, or preſerved with ſugar. It is uſed in the Spaniſh Weſt-Indies for the ſame purpoſes as that of Scorzonera is in Europe; and is called there by the ſame name [c].]

It was diſcovered in the neighbourhood of Carthagena in New Spain by William Houſtoun, M.D. who ſent the ſeeds to England.

PROPAGATION AND CULTURE. See Martynia.

Craniolaria. See *Geſneria* and *Martynia*.

Crantzia. See *Tricera*.

[CRANZIA. (*So named by Schreber in honour of Joa. Nepom. Crantz or Cranz, profeſſor of materia medica, &c. at Vienna, author of Stirpes Auſtriacæ, &c.*)
Lin. gen. Schreb. n. 362. Paullinia *of former editions.* Scopolia *Smith. ic.* 34. Toddalia *Juſſ. gen.* 371.
Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, ſmall, permanent: *parts* ovate, acute, concave, ſpreading.

Cor. *Petals* five, oblong, ſeſſile, erect, bluntiſh, channelled, vaulted at top, keeled behind the tip, ſhrivelling.

Stam. *Filaments* five, broader at the baſe, three-ſided, ſubulate at the tip, erect, oppoſite to and longer than the petals. *Anthers* roundiſh, incumbent.

Pist. *Germ* ſubglobular, five-lobed; each lobe ſcored with a longitudinal groove. *Style* cylindric, thicker in the middle, grooved longitudinally, ſcarcely longer than the germ. *Stigma* three-lobed, obtuſe. (truncate, *Juſſ.* capitate, *Smith.*)

Per. *Berry* angular-globoſe, acuminate, dotted on the outſide, one-celled. (five-celled, *Juſſ.*)

Seeds a few, (three to nine) kidney-form, oblong, full of pits.

Obs. *The berry is commonly obſcurely three-ſided, and contains three ſeeds; according to Rheede. Burmann obſerved five, and Schreber about ten ſeeds; we may conclude therefore that the number varies.*

ESSENTIAL CHARACTER.

Cal. five-parted. *Petals* five. *Nectary* none. *Berry* or berried capſule.

SPECIES.

1. Cranzia aculeata.
   Scopolia aculeata. *Smith. ic. ined.* 2. 34.
   Paullinia aſiatica. *Lin. ſpec.* 524. *ſyſt.* 379. *Reich.* 2. 216. *Fl. zeyl. n.* 143.
   Kaka-toddali. *Rheede malab.* 5. 81. *t.* 41.

DESCRIPTION, *&c.*

This is a prickly ſhrub. Leaves ternate, with pellucid dots. Flowers panicled, axillary. Fruit dotted like the Orange [d].

Native of the Eaſt-Indies. Obſerved by Commerſon in the iſland of Bourbon.]

[CRASPEDIA. (*From* Κρασπεδον, *a fringe.*)
Lin. gen. Schreb. n. 1350. *Forſt. flor.* 58.
Claſſ. 19. 5. Syngeneſia Polygamia Segregata.

GENERIC CHARACTER.

Cal. *Common* imbricate. *Florets* in a few depreſſed bundles. *Perianth* partial none.

Cor. *Compound* tubular. *Corollets* hermaphrodite.

Stam. *Filaments* five. *Anther* cylindric.

Pist.

Per. none.

Seeds with a feathered down.

Rec. chaffy.

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[a] Jacquin. [b] Mant. [c] Jacquin. [d] Juſſ. gen.

ESSENTIAL CHARACTER.

Calycle none. *Cal.* imbricate. *Florets* in depreſſed bundles, all hermaphrodite, tubular. *Down* feathered. *Rec.* chaffy.

SPECIES.

1. Craſpedia uniflora.

Forſt. flor. auſtral. n. 306.

Native of New Zealand. Charlotte Sound, november 1774.]

Crassina. See *Zinnia.*

CRASSŬLA. (*So named from the thickneſs of the leaves.*)

Lin. gen. n. 392. *Reich.* 423. *Schreb.* 533. *Dill. elth. t.* 96. *p.* 114.

Claſſ. 5. 5. Pentandria Pentagynia.

Nat. order of *Succulentæ.—Sempervivæ* Juſſ. 307.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed; five-cleft; *diviſions* lanceolate, channelled-concave, erect, acute, converging into a tube, permanent.

Cor. *Petals* five; *claws* long, linear, ſtraight, converging, connected at the baſe with the ovate bractes at the border, reflex-expanding.

Nectaries five: each with a very ſmall emarginate ſcale, annexed outwardly to the baſe of the germ.

Stam. *Filaments* five, ſubulate, length of the tube, inſerted into the claws of the corolla. *Anthers* ſimple.

Pist. *Germs* five, oblong, acuminate, ending in ſubulate *ſtyles* the length of the ſtamens. *Stigmas* obtuſe.

Per. *Capſules* five, oblong, acuminate, ſtraight, compreſſed, gaping inwards lengthwiſe.

Seeds many, ſmall.

Obs. *Allied to* Sedum, *but differing in the number of ſtamens.*

ESSENTIAL CHARACTER.

Cal. one-leafed, five-cleft. *Pet.* five. *Nectareous ſcales* five at the baſe of the germ. *Capſ.* five, many-ſeeded.

SPECIES.

Shrubby.

1. Craſſula coccinea. *Scarlet-flowered Craſſula.*

Lin. ſpec. 404. *Reich.* 768. *mant.* 360. *hort. cliff.* 116. *Berg. cap.* 82.

Cotyledon. *Comm. rar. t.* 24. *Bradl. ſucc.* 5. 7. *t.* 50. *Breyn. prodr.* 3. *t.* 20. *f.* 1.

Leaves ovate plane cartilaginous-ciliate connate-ſheathing at the baſe.

[2. Craſſula cymoſa. *Cyme-bearing Craſſula.*

Lin. ſyſt. 304. *Reich.* 769. *mant.* 222. *Berg. cap.* 84. *Pet. gaz. t.* 89. *f.* 6.

Leaves linear cartilaginous-ciliate connate-ſheathing, ſtem ſhrubby, cyme terminating.

3. Craſſula flava. *Yellow-flowered Craſſula.*

Lin. ſyſt. 304. *Reich.* 769. *mant.* 60. *Burm. afr.* 37. *t.* 23. *f.* 2. *Pluk. alm. t.* 314. *f.* 2. (Sedum.)

Leaves plane connate-perfoliate even, flowers corymb-panicled.

4. Craſſula pruinoſa. *Froſted-leaved Craſſula.*

Lin. ſyſt. 304. *Reich.* 769. *mant.* 60.

Leaves ſubulate froſted-ſcabrous, flowers corymbed, ſtem ſhrubby.]

5. Craſſula ſcabra. *Rugged Craſſula.*

Lin. ſpec. 405. *Reich.* 770. *Berg. cap.* 84. *Dill. elth.* 117. *t.* 99. *f.* 117. *Mart. cent. t.* 24. (Cotyledon.)

Leaves oppoſite ſpreading connate ſcabrous ciliate, ſtem ſcabrous backward.

6. Craſſula perfoliata. *Perfoliate Craſſula.*

Lin. ſpec. 404. *Reich.* 770. *hort. cliff.* 116. *Mill. fig. t.* 108. *Dill. elth.* 114. *t.* 96. *f.* 113. *Comm. præl. t.* 23. (Aloe.)

Leaves lanceolate ſeſſile connate channelled.

[7. Craſſula fruticuloſa.

Lin. ſyſt. 305. *Reich.* 770. *mant.* 61.

β. C. caffra. *Lin. mant.* 222.

Leaves oppoſite ſubulate acute ſpreading ſomewhat recurved, ſtem ſhrubby.

8. Craſſula tetragona. *Square-leaved Craſſula.*

Lin. ſyſt. 305. *Reich.* 771. *mant.* 361. *hort. cliff.* 116.

Cotyledonoides africanum. *Bradl. ſucc.* 5. 18. *t.* 50.

Leaves ſubulate ſomewhat incurved obſcurely four-cornered ſpreading, ſtem erect arboreſcent rooting.

9. Craſſula ramoſa. *Branching Craſſula.*

Thunb. nov. act. nat. cur. 6. 341. *Ait. hort. kew.* 390.

C. dichotoma. *Lin. ſyſt.* 305. *ſuppl.* 188.

Leaves ſubulate plane above connate-perfoliate even ſpreading very much, peduncles elongated, flowers cymed.

10. Craſſula obvallata.

Lin. ſyſt. 305. *Reich.* 771. *mant.* 61.

Leaves oppoſite ſublanceolate cultrate approximating.]

11. Craſſula cultrata. *Sharp-leaved Craſſula.*

Lin. ſpec. 405. *Reich.* 771. *hort. cliff.* 496. *Dill. elth.* 115. *t.* 97. *f.* 114.

Leaves oppoſite obovate ſubcultrate oblique connate quite entire.

12. Craſſula Cotyledon. *Tree Craſſula.*

Lin. ſyſt. 305. *Jacqu. miſc.* 2. 295. *t.* 19.

Cotyledon arboreſcens. *Mill. dict. n.* 7.

Leaves roundiſh fleſhy dotted on the upper ſurface, ſtem arboreous.

[13. Craſſula pinnata. *Wing-leaved Craſſula.*

Lin. ſyſt. 305. *ſuppl.* 191.

Leaves pinnate, ſtem arboreous.

Herbaceous.

14. Craſſula centauroides. *Centory-flowered Craſſula.*

Lin. ſpec. 404. *Reich.* 772. *mant.* 361. *amœn.* 6. *afr.* 8.

Stem dichotomous, leaves ſeſſile oblong-ovate cordate plane, peduncles axillary one-flowered.

15. Craſſula dichotoma. *Forked Craſſula.*

Lin. ſpec. 404. *ſyſt.* 305. *n.* 15. (*not n.* 9) *Reich.* 772. *amœn.* 6. *afr. p.* 86. *Ait. hort. kew.* 392.

Stem dichotomous, leaves ſeſſile ovate-oblong channelled recurved, peduncles axillary one-flowered.

16. Craſſula glomerata. *Cluſtered Craſſula.*

Lin. ſyſt. 305. *Reich.* 772. *mant.* 60.

α. With a rough ſtalk.

β. With a ſmooth ſtalk.

Stem dichotomous, leaves lanceolate, the laſt flowers faſcicled.

17. Craſſula ſtrigoſa.

Lin. ſpec. 405. *Reich.* 773. *amœn.* 6. *afr.* 9.

Stem dichotomous erect, leaves obovate ſtrigoſe, peduncles one-flowered.

18. Craſſula muſcoſa.

Lin. ſpec. 405. *Reich.* 773. *amœn.* 6. *afr.* 10.

Stem proſtrate, leaves oppoſite ovate gibboſe imbricate, flowers ſeſſile ſolitary.]

19. Craſſula ciliata. *Ciliated Craſſula.*

Lin. ſpec. 405. *Reich.* 773. *hort. cliff.* 496. *Dill. elth.* 116. *t.* 98. *f.* 116.

Leaves oppoſite oval flattiſh diſtinct ciliate, corymbs terminating.

20. Craſſula punctata. *Dotted Craſſula.*

Lin. ſpec. 406. *Reich.* 773.

Leaves oppoſite ovate dotted ciliate, the lower oblong.

21. Craſſula ſubulata. *Awl-leaved Craſſula.*

Lin. ſpec. 404. *ſyſt.* 305. *Reich.* 774. *mant.* 360. *Berg. cap.* 83. *Pet. gaz. t.* 89. *f.* 8. (*Spiræa.*) *Herm. lugdb.* 550. *t.* 552.

Leaves ſubulate columnar ſpreading.

22. Craſſula alternifolia. *Alternate-leaved Craſſula.*

Lin. ſpec. 405. *Reich.* 774. *hort. cliff.* 497. 9. *Burm. afr. t.* 24. *f.* 1.

Leaves ſerrate-toothed plane alternate, ſtem very ſimple, flowers pendulous.]

23. Craſſula rubens. *Hardy annual Craſſula.*

Lin. ſyſt. 306. *Reich.* 774. *Ait. hort. kew.* 397. *Allion. pedem. n.* 1756. *Hall. helv. n.* 960. (*Sedum.*)

Sedum rubens. *Mill. dict. n.* 6.

Sedum arvenſe fl. rubente. *Bauh. pin.* 283. *La Chenal in act. helv.* 7. 331. *t.* 11.

Leaves ſcattered ſemicylindric ſmooth, flowers lateral, ſolitary ſubſeſſile; branches villoſe.

[24. Craſſula verticillaris. *Whorl-flowered Craſſula.*

Lin. ſyſt. 306. *Reich.* 775. *mant.* 361.

Leaves ſpreading, flowers verticilled awned.]

25. Craſſula nudicaulis. *Naked-ſtalked Craſſula.*

Lin. ſpec. 405. *Reich.* 775. *hort. cliff.* 116. *Dill. elth.* 116. *t.* 98. *f.* 115.

Leaves ſubulate radical, ſtem naked.]

26. Craſſula orbicularis. *Starry Craſſula.*

Lin. ſpec. 406. *Reich.* 775. *mant.* 361. *hort. cliff.* 496. *Dill. elth.* 119. *t.* 100. *f.* 118.

C. ſedioides. *Mill. dict. n.* 9.

Runners proliferous determinately leafy, leaves very much ſpreading imbricate.

27. Craſſula pellucida.

Lin. ſpec. 406. *Reich.* 776. *Dill. elth.* 119. *t.* 100. *f.* 119.

Stem flaccid creeping, leaves oppoſite.

[28. Craſſula columnaris.

Lin. ſyſt. 306. *ſuppl.* 191. *Act. nov. nat. cur.* 6. 335. *Burm. afr.* 19. *t.* 11. *f.* 2. (*Euphorbium.*)

Stem erect, leaves connate, orbiculate, ciliate, hemiſpherically imbricate, flowers in a head.

Species from Linneus's ſupplement and Thunberg's monographia; many uncertain whether they are ſhrubby or herbaceous.

29. Craſſula barbata. *Bearded-leaved Craſſula.*

Lin. ſyſt. 306. *ſuppl.* 188. *Act. nov. nat. cur.* 6. 332.

Leaves connate orbiculate bearded hemiſpherically imbricate, ſtem almoſt naked, flowers in whorls.

30. Craſſula argentea. *Silver-leaved Craſſula.*

Lin. ſyſt. 306. *ſuppl.* 188. *Act. nov. nat. cur.* 6. 337.

Leaves connate ovate entire ſilvery, ſtem covered, corymb ſuperdecompound.

31. Craſſula veſtita.

Lin. ſyſt. 306. *ſuppl.* 188. *Act. nov. nat. cur.* 6. 335.

Leaves connate deltoid obtuſe, ſtem covered, flowers terminating in a head.

32. Craſſula corallina.

Lin. ſyſt. 306. *ſuppl.* 188. *Act. nov. nat. cur.* 6. 334.

Leaves connate deltoid obtuſe, ſtem covered, flowers in an umbel.

33. Craſſula retroflexa. *Orange-flowered Craſſula.*

Lin. ſyſt. 306. *ſuppl.* 188. *Thunb. nov. act. nat. cur.* 6. 338.

Leaves connate oblong remote, ſtem ſimple, cyme compound, pedicels bent back at an angle.

34. Craſſula deltoidea. *Deltoid-leaved Craſſula.*

Lin. ſyſt. 306. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 334.

Leaves connate deltoid, ſtem covered, flowers corymbed.

35. Craſſula cordata. *Heart-leaved Craſſula.*

Lin. ſyſt. 306. *ſuppl.* 189. *Thunb. nov. act. nat. cur.* 6. 330. *Ait. hort. kew.* 396.

Leaves petioled cordate, flowers ſolitary.

Craſſula montana.

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 332.

Leaves connate ovate acute ciliate, ſtem almoſt naked, flowers headed-aggregate.

37. Craſſula mollis. *Fig-Marygold-leaved Craſſula.*

Lin. ſyſt. 307. *ſuppl.* 189. *Thunb. nov. act. nat. cur.* 6. 340. *Ait. hort. kew.* 391.

Leaves connate, cylindric-triquetrous, ſmooth, ſoft, remote; ſtem erect, ſimple; corymb trichotomous ſuperdecompound.

38. Craſſula crenulata. *Notch-leaved Craſſula.*

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 339.

Leaves connate lanceolate dotted and crenulate remote, corymb decompound.

39. Craſſula alpeſtris.

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 336. *t.* 56. *f.* 4.

Leaves connate ovate acute entire imbricate in four rows, heads peduncled.

40. Craſſula pyramidalis.

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 335. *t.* 56. *f.* 3.

Leaves connate ovate obtuſe entire imbricate in four rows, heads ſeſſile.

41. Craſſula ſpicata.

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 333.

Leaves connate linear-ſubulate, ſcape almoſt naked, flowers in whorls.

42. Craſſula turrita.

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 336.

Leaves connate imbricate in four rows ovate-oblong acute ciliate.

43. Craſſula rupeſtris.

Lin. ſyſt. 307. *ſuppl.* 189. *Act. nov. nat. cur.* 6. 337.

Leaves connate ovate entire ſmooth, ſtem covered, corymb ſuperdecompound.

44. Craſſula thyrſiflora.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 339.

Leaves perfoliate ovate ciliate patulous, corymb compound ſpiked.

45. Craſſula capitella. *Square-ſpiked Craſſula.*

Lin. ſyſt. 307. *ſuppl.* 190. *Thunb. nov. act. nat. cur.* 6. 339. *Ait. hort. kew.* 394.

Leaves oblong connate cartilaginous-ciliate, patulous, flowers in headed whorls.

46. Craſſula pubeſcens.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 340.

Leaves connate ovate-ſubulate villoſe, ſtem branching, flowers corymbed.

47. Craſſula cephalophora.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 333.

Leaves connate linear-oblong obtuſe entire; heads lateral peduncled.

48. Craſſula tomentoſa.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 333.

Leaves connate lanceolate villoſe ciliate, ſtem almoſt naked, flowers in whorls.

49. Craſſula Cotyledonis.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 332.

Leaves connate oblong tomentoſe ciliate, ſtem almoſt naked, flowers corymbed aggregate.

50. Craſſula tecta.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 331.

Leaves connate ovate obtuſe aſh-coloured lamelloſe, ſcape naked, flowers ſeſſile.

51. Craſſula perforata.

Lin. ſyſt. 307. *ſuppl.* 190. *Act. nov. nat. cur.* 6. 338.

Leaves connate-perfoliate ovate, ciliate, remote; ſtem erect, thyrſe-bearing.

Species from Hortus Kewenſis.

52. Craſſula expanſa. *Awl-leaved Craſſula.*

Ait. hort. kew. 390.

Leaves ſemicylindric-ſubulate channelled above ſpreading, peduncles axillary ſolitary one-flowered, ſtems dichotomous.

53. Craſſula lineolata. *Channelled Craſſula.*

Ait. hort. kew. 391.

Stem herbaceous, leaves cordate ſeſſile, peduncles almoſt terminating axillary approximating umbel-ſhaped.

54. Craſſula pulchella. *Reflex-leaved Craſſula.*

Ait. hort. kew. 392.

Stem herbaceous dichotomous, leaves ovate-oblong fleſhy reflex, flowers in the forks peduncled, peduncles turbinate.

55. Craſſula imbricata. *Imbricate Craſſula.*

Ait. hort. kew. 393.

Leaves ovate acute imbricate in four rows gloſſy, flowers axillary ſeſſile.]

56. Craſſula obliqua. *Oblique-leaved Craſſula.*

Ait. hort. kew. 393.

Cotyledon ovata. *Mill. dict. n.* 8.

Leaves oppoſite ovate oblique quite entire acute diſtinct, ſomewhat cartilaginous at the edge.

[57. Craſſula alooides. *Spike-flowered Craſſula.*

Ait. hort. kew. 394.

Leaves ovate diſtinct acute ciliate, ſtem ſimple, ſomewhat hairy, raceme compound, branches panicle-ſhaped.

58. Craſſula ſparſa. *Alternate-leaved Craſſula.*
Ait. hort. kew. 395.
Leaves alternate ſubſpatulate acute quite entire, raceme compound.

59. Craſſula diffuſa. *Diffuſe Craſſula.*
Ait. hort. kew. 395.
Leaves oblong attenuated at the baſe remotely crenate, peduncles oppoſite to the leaves and axillary ſolitary.

60. Craſſula ſpathulata. *Crenated Craſſula.*
Ait. hort. kew. 395. *Thunb. nov. act. nat. cur.* 6. 330.
Leaves petioled cordate-roundiſh acutiſh crenate, corymbs panicle-ſhaped.

61. Craſſula marginalis. *Margined Craſſula.*
Ait. hort. kew. 396.
Stem ſhrubby, leaves cordate perfoliate acuminate plane ſpreading dotted within the margin.

62. Craſſula lactea. *Snowy Craſſula.*
Ait. hort. kew. 396.
Stem ſhrubby, leaves ovate attenuated at the baſe connate quite entire dotted within the margin, cymes panicled-ſhaped.

63. Craſſula ceſpitoſa.
Cavan. hiſp. 50. *n.* 76. *t.* 69. *f.* 2.
Leaves globoſe-ovate, imbricate four ways, cyme three-flowered, flowers ſeſſile.

64. Craſſula Umbella.
Jacqu. collect. 4. 172. *icon. rar.* 2.
Leaves roundiſh perfoliate, racemes axillary and terminating, upper peduncles in whorls.]

DESCRIPTIONS, &c.

1. Stem reddiſh, jointed, about three feet high, dividing at top into many irregular branches. Flowers at the ends of the branches, in cloſe umbels. Corolla funnel-ſhaped, erect, with a pretty long tube cut at the top into five parts, of a fine ſcarlet colour.

[Leaves ſo cloſely oppoſite, as to appear to be in four rows. Faſcicle terminating twice dichotomous; flowers ſeſſile, alternate, monopetalous with a five-parted border[a]. Introduced 1714, by Profeſſor Richard Bradley[b].

It flowers in july or auguſt.

2. Stems a ſpan high, erect, ſmooth, annual; roots perennial. Leaves oppoſite, ſmooth, cartilaginous-ſcaly about the edge. Cyme ſmall[c], bifid; denſe, ſcaly[d].

3. Stem erect, like that of *C. coccinea*, perfoliate, but the leaves not ciliate. Flowers faſcicled, but each pedicelled; petals yellow, erect[e].

4. A ſhrub of a foot in height, dichotomous, the ſmall branches round, blood-red, covered as is the whole plant with the reſemblance of a cryſtalline hoar-froſt. Leaves oppoſite, linear, fleſhy, plane above, the length of the internodes, obſcurely connate. Corymbs terminating, unequal, ſmall. Petals white, lanceolate, ſpreading[f].]

5. Stem weak, ſucculent, about a foot and half high, dividing at top into ſmall branches. Leaves flat, near two inches long, and a quarter of an inch broad at their baſe, gradually narrowing to a point. Flowers in ſmall cluſters at the ends of the branches, ſmall and herbaceous.

[Stem reddiſh green, with age becoming of a cheſnut colour. Leaves thick, ſucculent. The ſtem and leaves are every where rough with whitiſh bubbles. The corolla is ſo deeply divided, as to leave a doubt whether it be monopetalous or pentapetalous[g].

It flowers in june and july.

Cultivated by Dr. Sherard at Eltham, between 1724 and 1732. About the ſame time in the Chelſea garden.]

6. This riſes with an upright ſtem ten or twelve feet high, if it be not broken or injured, but it requires ſupport, the ſtems being ſlender, and the leaves very weighty. The latter are about three inches long, thick, ſucculent, pale green, acute, hollowed above, and having a convex ridge beneath. Flowers terminating, in large cluſters, of a whitiſh herbaceous colour, with ſhort tubes, and the brim cut into five parts. The flower-ſtalk is thick and ſucculent, generally turning firſt downwards, then upwards again, almoſt in form of a ſyphon. It flowers in july, but does not produce ſeeds here.

[Cultivated in 1725 at Eltham, by Dr. Sherard[h].

7. The ſtature of this approaches to that of *C. tetragona*, but it differs, in having the ſtem only a foot high (not three or four feet), erect, green, not reddiſh: the branches narrow almoſt filiform. Leaves oppoſite, horizontal, oblong, columnar, acuminate, not depreſſed above, but rather underneath, and a little arched backwards, ſo as to reſemble *Salſola fruticoſa*[i].

8. Leaves the thickneſs of a gooſe quill. Peduncle terminating, naked, columnar. Cyme trifid, very much branched, faſtigiate. Corolla white with purple anthers[k].

Introduced 1714, by Richard Bradley, Profeſſor of Botany at Cambridge[l].

9. Root perennial. Stem fruteſcent, filiform, branched at bottom, leafy, ſmooth, a foot high. Branches alternate, long, gradually attenuated, ſmooth, rufeſcent. Leaves faſtigiately-oppoſite, columnar-ſubulate, longer than the internodes, entire, ſmooth, the upper ones gradually ſmaller. Flowers in narrow compound corymbs[m].

Introduced 1774. It flowers in july and auguſt[n].

10. This reſembles very much the next ſpecies, and is very nearly allied to the thicker ones on account of the flowers, the petals of which are white and ſpatulate, awned at the top with a globe, as in the *cultrata*, and never unfolding: but it differs in having a ſhorter ſtem, only a palm in height, and ſpreading; leaves twice as long and larger, not at all contracted at the baſe, more oppoſite and crowded, not having any ſpace between them, the edges, eſpecially of the young ones, very finely crenulated and by no means oblique as in that[o].]

11. This ſort riſes with a weak ſucculent ſtalk about two feet high, ſending out many irregular branches. Leaves thick, plane above but convex beneath, deep green, the borders ſet with a few ſilvery hairs. The ſtalk which ſupports the flowers riſes from the top of the branches, and is from four to ſix inches long, putting out ſeveral ſide branches, which grow erect; theſe are terminated by large cluſters of ſmall greeniſh flowers, which appear in june and july.

[The flower never expands.—Cultivated in the Eltham garden 1732, or earlier[p].

12. The whole plant is ſmooth. Stem as thick as the wriſt, round, browniſh; branches round, greeniſh brown: both are jointed, the joint above blunt and entering the cavity of that below it. Leaves diſtinct, oppoſite, ſubſeſſile, ſpatulate, rounded, quite entire, ſpreading, glaucous,] ſpotted on the upper ſide only with great numbers of dark green ſpots, and having a deep border of purple on the edge; [ſome are very blunt, others have a very ſmall point. Cymes dichotomous, terminating on almoſt all the branchlets. Peduncles compreſſed, greeniſh-glaucous. Bractes ſmall at the diviſions of the peduncles. Flowers numerous, without ſcent. Perianth ſmall, glaucous, ferruginous-red at the end. Petals lanceolate, large, flat, acute, having no claws, but ſpreading very much above the calyx, at firſt white, afterwards roſe-coloured. In the flowers of the principal dichotomies one-fifth part is commonly wanting in all parts of the fructification, ſo that the plant would at firſt flowering ſeem to belong to the fourth order of the fourth claſs[q].

Cultivated in 1739.

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[a] Linn. mant. [b] Hort. kew. [c] Linn. mant. [d] Bergius. [e] Linn. mant. [f] Ibid. [g] Mart. cent.

[h] Dillenius. [i] Linn. mant. [k] Ibid. [l] Hort. kew. [m] Thunberg. [n] Hort. kew. [o] Linn. mant. [p] Dillenius. [q] Jacquin.

In the laſt edition of the Dictionary (1768), Mr. Miller ſays it had not then flowered in England. It flowered in the Imperial garden at Vienna in 1778, at the end of april.

13. A ſhrub, browniſh red, even, with alternate branches. Leaves unequally, alternate: leaflets petioled, cordate, quite entire, acute, even, ſeven or nine; petioles thickiſh at the baſe. Panicle axillary, ſhorter than the leaves, red. Flowers red.—Native of China[r].

14. Stem roundiſh, brachiate, ſomewhat pubeſcent. Leaves generally oppoſite, fleſhy, acute, ſhining, with excavated dots on the upper ſurface. Annual[s], *or* Biennial. Flowering in may and june. Introduced 1774, by Mr. Francis Maſſon[t].

15. This is ſcarcely a palm in height. Stem ſimple, round, pale green, dichotomous at top. Leaves oppoſite, not unlike thoſe of the leſſer Centory. Flowers purple on the outſide, golden-coloured within, with a blood-red heart-ſhaped ſpot at the bottom of each petal[u].

Annual. Flowering in june and july. Introduced 1774, by Maſſon[x].

16. Stem a palm in height, erect, round, purpliſh. Leaves oppoſite, fleſhy, ſeſſile, ſpreading very much, ſharpiſh. Flowers from the forking of the ſtem, ſolitary, ſubpeduncled. Flowers terminating the branchlets, crowded into heads. Diviſions of the calyx ovate, convex, from erect patulous. Petals ovate, white, one-third only of the ſize of the calyx, and therefore minute. Stamens only half the length of the petals. Piſtils five, with ſcarcely any ſtyles, ſtigmas ſhorter than the ſtamens.—The leaves every where ſubciliate at the baſe.—The plant when mature growing reddiſh, except the petioles. Annual[y].

It is commonly deſcribed as having a rough ſtalk; this however is ſometimes ſmooth. It flowers in june and july. Introduced 1774, by Maſſon[z].

17. Leaves oppoſite, obtuſe, marked with lines, quite entire, the lower often on petioles. Calyxes ſtrigoſe, petals ovate, the length of the calyx[a].

18. Stems filiform, ſeldom branched, covered with very ſmall, ſeſſile, fleſhy, bluntiſh leaves. Flowers the moſt minute of all, the length of the leaves[b].

19. Leaves like thoſe of Houſeleek, only ſomewhat ſmaller and more obtuſe, thickly fringed about the edge with white hairs. Stems ſhort, ending in a few leafy branches, which are elongated into round ſhoots a long ſpan in length, having leaves on them like the lower ones, but diſtant from each other in pairs; theſe are generally divided into two peduncles ſuſtaining yellowiſh flowers[c].

Perennial. Flowering in july and auguſt. Cultivated 1732, by Dr. James Sherard, at Eltham[d].]

20. Stems very ſlender, full of joints, trailing. Leaves thick, ſucculent, heart-ſhaped, connate, grayiſh. The ſtems are divided, grow about eight or nine inches long, and are terminated by cluſters of ſmall white flowers, ſitting very cloſe to the top: theſe appear in ſpring, and again in the latter part of ſummer.

[Stem round, even, ſimple. Leaves in a double row, ſeſſile, hollow-dotted, convex underneath, very tenderly ciliate. Corymbs axillary, very ſhort, faſtigiate. Corollas bell-ſhaped, with a reflex border. Anthers purple[e].

Cultivated 1759, by Mr. Miller[f], who received it from Adrian van Royen.

21. Stem covered with truncate, ciliate ſheaths of leaves. Leaves linear, fleſhy, obtuſe, cartilaginous-ciliate. Spikes headed, terminating, ſubſeſſile with an imbricate involucre. Annual[g].

22. Branches two feet long, lax, purple, hairy. Leaves drawn to a very long point at the end, ſeſſile. Flowers ſolitary, on ſhort peduncles, yellow[h].

23. Stem round, pubeſcent, decumbent. Branches aſcending, a finger's length. Leaves ſeſſile, the thickneſs of a hen's feather, towards the end a little attenuated, and there red; the lower almoſt an inch in length, the upper gradually ſhorter. Flowers in the branches among the leaves, ſcattered, remote, on very ſhort peduncles. Leaflets of the calyx fleſhy, convex on the outſide, ſomewhat villoſe, a line in length. Petals three times the length of the calyx, white, keeled; the keel ſomewhat villoſe and red. Nectaries white, very ſmall. Filaments a little ſhorter than the petals. Anthers roundiſh, ſmall, red. Annual[i].

Stem ſimple, with a few viſcid hairs. Leaves ſpreading, oblong, obtuſe, fleſhy; the lower in fours. Cyme trifid or quadrifid with recurved branches. Flowers ſeſſile. Stamens reflex. In ſtature it reſembles Sedum annuum[k]. Branches red, bifid, trifid or multifid at top. Leaves alternate. Stamens ten, but five of them ſoon withering[l].

Stem one, uſually branched; branches erect, generally ſimple. Leaves oblong, ſemicolumnar, linear, flattiſh above, aſh-coloured with a red tip. When viewed with a glaſs very finely hirſute, eſpecially thoſe of the ſtem. The whole branches flower-bearing; the flowers ſeſſile, not really in the axils of the leaves, but placed a little above at their ſides. Leaflets of the calyx ovate, acute. Petals lanceolate, awned. Stamens five. Fruit ſtellate, red, compoſed of the five little capſules awned with the permanent ſtyle[m].

Native of Switzerland and Italy. With us it flowers in may and june. Cultivated 1759, by Mr. Miller[n].

24. Stem very much branched, diffuſe, branches oppoſite, the length of a finger. Leaves oppoſite, crowded, oblong-ovate, ſeſſile, gibbous, with very minute pimples, ſcabrous at the end. Flowers axillary, ſeſſile, very minute. Calyx the length of the corolla, ſubulate. Petals ſhorter than the calyx, lanceolate, acuminate ſo as to be almoſt awned, red in the middle. Stamens very ſhort, red at the end. Stigmas red. Annual[o].

It flowers in july. Introduced 1778, by Mr. Zier[p]. Native of Southern Europe.]

25. This never riſes with a ſtalk, but the leaves come out cloſe to the ground, forming a ſort of head. They are ſucculent, taper, ending in points, and frequently put out roots: out of the centre of theſe ariſes the flower-ſtalk, branching into two or three ſhoots at top, each terminated by cluſters of greeniſh flowers, which make no great appearance.

[Leaves ſmooth, ſomewhat hoary, not unlike thoſe of the Pink, only thicker, and ſet with excavated dots. Flower-ſtems round, from four inches to a foot in height, with joints having each four leaflets. The flowers do not open.

This ſpecies has been long known in the gardens of the curious[q].] It flowers in may, and ſometimes again in the latter part of ſummer.

26. This is a low plant, having open ſpreading heads very like thoſe of ſome ſorts of Houſeleek, growing on the ends of very ſlender trailing ſtalks, produced in plenty on every ſide the parent plant, in like manner as the childing Marigold. The flower-ſtalks ariſe from the centre of theſe heads; they are naked, about four inches long, and terminated by cloſe cluſters of herbaceous flowers. Leaves radical, forming roſes, ovate, fleſhy, gibbous, even, ſharpiſh, ciliate backwards with cartilaginous, very ſlender hairs. The root puts forth lateral threads, which are filiform and decumbent, forming runners at the end. Scape hardly longer than the leaves, and erect. Spike brachiate-verticilled, with few flowers. Petals whitiſh red. Stigmas purple. Perennial[r].

It flowers uſually in july and auguſt, ſometimes in may[s].—Cultivated 1732, by James Sherard, M.D.[t]]

27. Stems ſlender, trailing, ſucculent, of a reddiſh colour, and putting out roots at the joints.

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[r] Linn. ſuppl.
[s] Linn. mant.
[t] Hort. kew.
[u] Herman.
[x] Hort. kew.
[y] Linn. mant.
[z] Hort. kew.
[a] Linn. amoen.
[b] Ibid.
[c] Dillenius.
[d] Hort. kew.
[e] Linn. ſpec.
[f] Hort. kew.
[g] Linn. mant.
[h] Burman.

[i] Hort. kew.
[k] Linn.
[l] Haller.
[m] Allioni.
[n] Hort. kew.
[o] Linn. mant.
[p] Hort. kew.
[q] Dillenius.
[r] Linn. mant.
[s] Dillenius.
[t] Hort. kew.

Theſe and the leaves have the appearance of Purſlane. The flowers are produced in ſmall cluſters at the ends of the branches; they are white, with a bluſh of purple at the brim; they appear in ſummer at different times, and are often followed by ſeeds.

[Common in botanic gardens, both in England and abroad [u].

28. Stem round, ſmooth, covered with leaves. Leaves ſmooth. Flowers terminating, very copious, white; head hemiſpherical [x].—Leaves very blunt, horizontal. Border of the corolla linear, ſpreading [y].

This, and all the foregoing ſpecies, are natives of the Cape of Good Hope, except a very few, the places of growth of which are ſet down.

29. Root biennial. Root-leaves very many, aggregate, thin, ſmooth, with bundles of hairs at the edge. Stem-leaves only two pairs, like the others, but much leſs, and remote. Stem ſlightly angular, erect, ſmooth, a ſpan high, nearly the thickneſs of a quill [z].

30. Root perennial. Stem ſhrubby, branched, a foot or more in height: branches round, ſmooth. Leaves oppoſite, ſuborbiculate, from ſpreading upright, fleſhy, thick, blunt with a point, and with a ſharp edge. Flowers terminating, in an ovate corymb [a].

31. Root fuſiform, creeping, perennial. Stem almoſt upright, branched, a palm high, naked at the baſe. Branches and branchlets alternately ſcattered. Leaves alternately oppoſite, very gibbous underneath, quite entire; the upper ones very cloſe, with a white meal on them, and minute green ſpots; the lower ones ſhrivelling; imbricate in four rows. Flowers ſeſſile, yellow [b].

32. Root fuſiform, perennial. Stems ſeveral, radical, filiform, dichotomous-branched, upright: branches alternate, upright, divided, faſtigiate. Leaves on the branches and branchlets faſtigiately oppoſite, ſeſſile, diſtinct, ſuborbiculate, fleſhy, thickened at the tip, entire, green at the baſe, mealy at the tip, white, with impreſſed greeniſh dots in four rows, frequent, longer than the internodes. Flowers from the ends of the branchlets, very many, terminating, upright, peduncled. Peduncles filiform, ſmooth, one-flowered, ſcarcely longer than the leaves [c].—This and the foregoing reſemble ſea Corallines in the ſtructure of the leaves, but are larger [d].

33. Root annual. Stem filiform, flexuoſe-erect, a finger's length, ſmooth, purple. Stem-leaves two or four, ovate-lanceolate, blunt, ſpreading, entire. Flowers erect, in a decompound, ſubdichotomous cyme. Peduncles and pedicels capillary, with oppoſite bractes under them, like the leaves, but ſmaller. There are three varieties—

1. With orange-coloured flowers, larger.
2. With yellow flowers, middle-ſized.
3. With white flowers, ſmaller and more tender [e].

34. Stem herbaceous, fleſhy, round, upright, naked at bottom, leafy above, branched. Leaves alternately oppoſite, imbricate, ſpreading at the tip, entire, glaucous, mealy. Flowers in a terminating, compound, ſubfaſtigiate corymb [f]. The leaves have the ſame form with thoſe of Meſembryanthemum deltoideum [g].

35. Root annual. Stems herbaceous, weak, gradually more ſlender, leafy at bottom, branched at top, fleſhy, round, fleſh-coloured, almoſt upright, a palm in height: branches oppoſite, capillary, from ſpreading upright, ſmooth. Stem-leaves faſtigiately oppoſite, round, entire, from reflex ſpreading, thick, fleſhy, green, rufous on the edge and dotted with the ſame colour: branch-leaves ſimilar, but many times ſmaller and thinner, green with a circle of dots within the edge. Flowers terminating, on capillary peduncles, a line in length [h].

Introduced at Kew in 1774, by Maſſon. It flowers from may to auguſt [i].—At the Cape, in november and december [k].

36. Root-leaves concave, very frequent, patulous, ſmooth, green tinged with purple; ſtem-leaves about three pairs, ſimilar but ſmaller and remote. Stem filiform, upright, a finger's length, purple. Flowers ſeſſile, in heads uſually ſolitary, ſeldom two lateral together [l].

37. Root perennial. Stem fruteſcent, angular, rufeſcent, very finely tomentoſe, jointed, almoſt the thickneſs of a quill, a foot high. Leaves acute, ſmooth or very finely ſubtomentoſe, patulous; the lower ones nearer, the upper more remote. Flowers in a ſubfaſtigiate corymb. Bractes two, oppoſite, below the peduncles and pedicels, like the leaves but ſmaller [m].

Introduced in 1774, by Maſſon. It flowers here in auguſt [n]; at the Cape in january.

38. Stem herbaceous, upright, cylindric, leafy, jointed, ſmooth, green variegated with white lines, the thickneſs of a quill, a foot high. Leaves faſtigiately oppoſite, ſeſſile, ſubconnate, linear-lanceolate, obtuſe, concave above, convex beneath, ſmooth, longer than the internodes, a finger's length, upright but ſpreading at the tip; the upper ones gradually ſmaller and more remote. Flowers white, in a trichotomous, faſtigiate corymb. Two oppoſite, minute bractes under each pedicel [o].

39. Stem round, ſmooth, upright, branched at bottom, before flowering time wholly covered with leaves, a palm high, purple. Branches radical, one or two, ſhort. Leaves acuminate, concave, entire, purpliſh green. Flowers in ſeveral terminating heads, which are larger than Peas. Peduncles purple.

It reſembles C. montana, but the leaves are more acuminate and not ciliate; the ſtem thicker and covered with leaves; the heads and flowers larger [p].

40. Root perennial. Stem flexuoſe-erect, branched, the whole covered with leaves, a palm high; branches alternate. Leaves margined, a line long, ſmooth. Flowers at the ends of the branches, in ſolitary globular heads, larger than a pea.

It reſembles C. muſcoſa, but has a thicker ſtem, and the flowers in heads [q].

41. Root-leaves faſtigiately oppoſite, erect, concave above, convex below, ſmooth, a finger's length, very much crowded; ſtem-leaves oppoſite, ſmaller. Stem round, herbaceous, erect, ſmooth, a ſpan high. Whorls approximating, ſeſſile, many-flowered [r].

42. Root annual. Stem herbaceous, weak, erect, round, jointed, covered with leaves, ſmooth, a palm high. Branches, when there are any, axillary, very ſhort. Leaves alternately oppoſite, cartilaginous-ciliate, thick, ſmooth, red; the lower ones oblong, concave above, convex beneath; the upper ones ovate, flat above, convex beneath; the uppermoſt gradually ſmaller and nearer [s].

43. Root perennial, branched. Stem round, branched, a palm and more in height. Leaves alternately oppoſite, acute, a little concave above, convex and keeled beneath, approximating, longer than the internodes, green with a rufeſcent margin, from erect patulous. Flowers in trichotomous faſtigiate corymbs. Peduncles and pedicels ſmooth, white tinged with purple. There is a minute, ovate, white bracte under each pedicel [t].

44. Stem round, herbaceous, upright, a ſpan high, ſmooth. Leaves obtuſe, ſhorter than the internodes, ſmooth. Flowers white, in a thyrſe gradually attenuated, decompound, a palm in length. Bractes below the peduncles and pedicels, oppoſite, like the leaves but ſmaller [u].

45. Stem round, ſmooth, erect, a ſpan high, the thickneſs of a quill, ſometimes branched at top. Leaves acute, ciliate, remote, longer than the internodes, ſmooth. Flowers white, in ſeſſile, many-flowered, approximating whorls [x].

It was introduced in 1774, by Maſſon; flowers in july and auguſt; and is biennial [y]. At the Cape it flowers in december and january.

[u] Dillenius.

[x] Thunberg.

[y] Linn. ſuppl.

[z] Thunberg.

[a] Ibid.

[b] Ibid.

[c] Ibid.

[d] Linn. ſuppl.

[e] Thunberg.

[f] Ibid.

[g] Linn. ſuppl.

[h] Thunberg.

[i] Hort. kew.

[k] Thunberg.

[l] Thunberg.

[m] Ibid.

[n] Hort. kew.

[o] Thunberg.

[p] Ibid.

[q] Ibid.

[r] Ibid.

[s] Ibid.

[t] Ibid.

[u] Ibid.

[x] Ibid.

[y] Hort. kew.

46. Root perennial. Stem filiform, fruteſcent, branched, erect, red, ſmooth, a ſpan high: branches ſubverticilled in threes, ſubdivided, pubeſcent. Leaves thick, ſpreading, the length of the internodes, flattiſh above, gibbous beneath. Corymb compound, trichotomous [z].

47. Root-leaves erect, ſubtomentoſe, a finger's length: ſtem-leaves none. Stem round, erect ſubtomentoſe, a ſpan high. Heads of flowers oppoſite, the ſize of a pea [a].

48. Root-leaves bluntiſh, hirſute, imbricate; ſtem-leaves three pairs, ſmaller. Stem angular, erect, villoſe, a foot high [b].

49. Stem ſimple, erect, herbaceous, ſlightly four-cornered, leafleſs, tomentoſe, the thickneſs of a quill, a foot high. Root-leaves ſeveral, faſtigiately-oppoſite, very much crowded, oval, obtuſe, flat above, convex beneath, entire, ſubtomentoſe and ſoft, a finger's length, an inch wide, erect; ſtem-leaves three pairs, ſmaller. Bractes on the peduncles faſtigiately-oppoſite, connate-ſheathing, ovate, obtuſe, preſſed cloſe, a line in length, tomentoſe. Flowers white, pedicelled. Peduncles trichotomous. Corymb decompound [c].

50. Stem ſcarcely any. Leaves ſubradical, very abundant, imbricate, convex beneath, concave above, thick, covered with an aſh-coloured meal reſembling the ſcales of a butterfly's wing, naked at the baſe, cartilaginous-ciliate; the upper ones ſmaller. Scape erect, filiform. Flowers ſeveral, minute, collected into a head [d].

51. Stem round, jointed, gradually attenuated, leafy, ſmooth, a foot high. Leaves faſtigiately-oppoſite, acute, cartilaginous-ciliate, ſpreading, the length of the internodes, green, underneath and on the upper edge rufeſcent. Flowers in an interrupted compound thyrſe, chiefly directed one way, and bent in. Peduncles and pedicels filiform [e].

This, and all the foregoing ſpecies from twenty-nine incluſive, are natives of the Cape of Good Hope, and were obſerved there by Thunberg.

52. Annual. Flowering in june and july [f].

53. Biennial. Flowering from june to auguſt.

This and the foregoing ſort were found by Maſſon at the Cape of Good Hope, and were introduced in 1774 [g].

54. This is allied to C. glomerata (n. 16.) and ſhould come next in order to that. It differs in having ſhorter reflex leaves, peduncles turbinate ſeeming to be an inferior germ, calyxes obtuſe, corollas rather longer than the calyx. Annual. Flowering in july. Found at the Cape by Maſſon, and introduced 1788 [h].

55. Shrubby. Flowering in june. Introduced about 1760, by Mr. Clark [i].]

56. Stem near three feet high, erect, dividing into many branches. Leaves of a lively green, half-ſtem-claſping.

[Shrubby. Flowering in april and may. Cultivated by Mr. Miller in 1759.

57. Biennial. Stem ſcarcely a ſpan in height. Leaves fleſhy, ſmooth, with minute red impreſſed dots ſcattered over them, and an inch in length. Raceme terminating. Peduncles diſtant, ſpreading, ſubdivided into trichotomous cymes. Leaflets of the calyx ſmooth, a line in length. Petals twice the length of the calyx, white with greeniſh bottoms. Nectaries yellow. Filaments white. Anthers roundiſh, ſmall.—It flowers from june to auguſt: was brought from the Cape by Maſſon: and was introduced in 1774 [k].

58. Biennial. Flowering in july.

59. Annual. Flowering in july.

60. Shrubby. Flowering in july and auguſt.

61. Shrubby. Flowering in july and auguſt.

62. Shrubby. Flowering in ſeptember and october.—All theſe were found at the Cape by Maſſon; and were introduced 1774 [l].

63. This is a thick annual plant, ſcarcely three lines in height. Stem red. Leaves ſeſſile, green with a red dot at the end, becoming red by age. Calyx four or five-cleft. Petals four or five, whitiſh with a red keel, having a little bracte at the baſe of each. Stamens four or five. Germs and capſules four or five. It is almoſt always deficient in one-fifth part of the fructification; and differs from C. rubens in having globoſe-ovate leaves, imbricate in four rows.—Common near Madrid, flowering in march [m].

64. Root perennial. The whole of this plant is ſmooth. Stem one or two, annual, round, fleſhy, the ſize of a quill, a ſpan high, upright, ſubpellucid, almoſt upright, pale fleſh-colour, ſhining, undivided. Root-leaves none. Stem-leaves two, ſometimes only one, convex, repand, brittle, above green with pale rays, appearing dotted when viewed with a magnifier, beneath red-purple, the largeſt three inches in diameter. Racemes to each leaf two, oppoſite, erect, ſlender, from an inch to two inches in length. Lower peduncles oppoſite, one-flowered or umbelled. Flowers ſmall, without ſcent. Calyx dotted, green. Petals twice as long as the calyx, white within, fleſh-coloured without. Nectareous ſcales before the petals brown. Moſt of the flowers have ſix ſtamens and ſtyles, with the calyx and corolla ſix-parted.—Native of the Cape of Good Hope [n].]

PROPAGATION AND CULTURE.

1. This, and all the hardy ſorts are propagated by cuttings during any of the ſummer months; they ſhould be cut off about a fortnight before they are planted, and laid in a dry place that the wounded part may heal over; then they ſhould be each planted in a ſmall pot filled with light ſandy earth, and plunged into a moderate hot-bed, giving them but little water. In about ſix weeks theſe will have put out roots and begin to grow, when they ſhould have a large ſhare of air admitted to them, and muſt be gradually inured to bear the open air, into which they ſhould be removed, placing them in a ſheltered ſituation, where they may remain till autumn; when they muſt be removed into a dry airy glaſs-caſe, where they may enjoy the ſun as much as poſſible, and be ſcreened from the wet and cold. In warm dry weather, during the ſummer months while they are abroad, theſe plants ſhould be gently watered two or three times a week; but in winter they ſhould have very little water, leſt it rot their ſtems. Theſe plants require no artificial heat in winter, but they muſt be ſecured from froſt and wet.

11. Being pretty hardy, ſhould not be ſo tenderly treated; for if the cuttings are planted in a border of light earth, they will put out roots, and may afterwards be taken up and potted, to be ſheltered in winter.

[23, 24. Are hardy plants. The firſt of theſe may be increaſed in the ſame manner with the Sedums; the other being annual muſt be propagated by ſeeds.

25, 26. Theſe are propagated by the heads or offſets, laid to dry three or four days before they are planted, during any of the ſummer months. They are hardy, and may be treated as n. 11.

27. Is eaſily increaſed by its trailing branches, and is hardy, but unleſs the plants are often renewed they will decay.

All the hardy ſorts of Craſſula may be treated in the ſame way as the Ficoides, or Meſembryanthemums, and other hardier kinds of ſucculent plants, with this difference only, not to give them ſo much water; but the firſt, ſixth, and ſome other ſorts require to be placed in a warm dry glaſs-caſe in winter, and muſt not be ſo long expoſed abroad in the ſummer as the other ſpecies, nor ſhould have much water, eſpecially in the winter.

CRASSULA. See *Tillæa*.
——— FRUTICOSA. See *Othonna tenuiſſima*.
——— PORTULACARIA. See *Claytonia*.]

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[z] Thunberg. [a] Ibid. [b] Ibid. [c] Ibid. [d] Ibid. [e] Ibid. [f] Hort. kew. [g] Ibid. [h] Ibid. [i] Ibid. [k] Ibid. [l] Ibid.

[m] Cavanilles. [n] Jacquin.

CRATÆGUS. (Κραταιγος or Κραταιγων *of Theophraſtus; of uncertain origin, unleſs from* κρατος, *ſtrength.*) *Lin. gen.* 622. *Reich.* 678. *Schreb.* 854. *Tourn.*

Claſſ. 12. 2. Icoſandria Digynia.

Nat. order of *Pomaceæ—Roſaceæ.* Juſſ. 335.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, concave-ſpreading, five-cleft, permanent.

COR. *Petals* five, roundiſh, concave, ſeſſile, inſerted into the calyx.

STAM. *Filaments* twenty, ſubulate, inſerted into the calyx. *Anthers* roundiſh.

PIST. *Germ* inferior. *Styles* two, filiform, erect. *Stigmas* headed.

PER. *Berry* fleſhy, roundiſh, umbilicated.

SEEDS two, ſomewhat oblong, diſtinct, cartilaginous.

OBS. *The number of Piſtils varies, in this genus, and others allied to it.* R.

ESSENTIAL CHARACTER.

Cal. five-cleft. *Pet.* five. *Berry* inferior, two-ſeeded.

SPECIES.

1. Cratægus Aria. *White Beam tree.*

Lin. ſpec. 681. *Reich.* 2. 491. *hort. cliff.* 187. *mat. med.* 126. *Hudſ. angl.* 214. *With.* 510. *Lightf.* 255. *Pollich. pal. n.* 470. *Oeder. dan. t.* 302. *Hunt. evel. ſylv.* 181. *Plenck, ic. t.* 387. *Pallas roſs.* 1. 24. *Villars dauph.* 3. 538. *Krock. ſileſ. n.* 753.

Meſpilus. *Hall. helv. n.* 1089.—Aria *Scop. carn. n.* 591. *Allion. pedem. n.* 1805. *Raii ſyn.* 453.

Sorbus Aria. *Crantz. auſtr.* 1. *faſc.* 1. *t.* 2. *f.* 2. *Mill. illuſtr.*—alpina. *Bauh. hiſt.* 1. 65. *Raii hiſt.* 1459. & S. ſylveſtris anglica. *Park. theat.* 1421.

Aria. *Dalech. hiſt.* 202. *Ger.* 1146. 2. *emac.* 1327. 2.

Alni effigie, lanato fol. major. *Bauh. pin.* 452.

C. Aria indiviſa. *Ait. hort. kew.* 2. 167. α.

β. Cratægus ſuecica.

Linn. lap. 199. *fl. dan. t.* 301. *Ait. hort. kew.* 2. 167. β. *Hall. helv.* β. *Pollich. pal.* β.

Unarmed; leaves ovate gaſhed ſerrate, tomentoſe underneath.

2. Cratægus torminalis. *Wild Service* or *Sorb. Maple-leaved Service.*

Lin. ſpec. 681. *Reich.* 2. 492. *hort. cliff.* 187. *Hudſ. angl.* 214. *With.* 511. *Jacqu. auſtr.* 5. *t.* 443. *Weigel. rug. n.* 312. *Pollich. pal. n.* 471. *Fl. dan. t.* 798. *Krock. ſileſ. n.* 754. *Hunt. Evel.* 182. *Duham. arb.* 1. *t.* 79. *Plenck, ic. t.* 388. *Pallas roſs.* 1. 24. *Villars dauph.* 3. 540.

Meſpilus. *Hall. helv. n.* 1088. *Bauh. pin.* 454. *n.* 7. *Raii hiſt.* 1457. *ſyn.* 453.—torminalis. *Allion. pedem. n.* 1806.

Sorbus torminalis. *Crantz. auſtr.* 85. *n.* 2. *Bauh. hiſt.* 1. 63. *Cam. epit.* 162. *Lob. ic.* 2. 100. *Ger.* 1287. 2. *emac.* 1471. 2. *Park. theat.* 1420. 2. *Edw. birds.* 212. (*Blackw. t.* 173. is Sorbus aucuparia.)

β. C. alpina. *Mill. dict. n.* 3.

C. fol. oblongo ſerrato utrunque virenti. *Tourn. inſt.* 633.

Unarmed; leaves ſmooth ſeven-angled, the loweſt lobes divaricate; calyxes villoſe.

3. Cratægus coccinea. *Great American Hawthorn.*

Lin. ſpec. 682. *Reich.* 2. 492. *mant.* 397. *hort. cliff.* 187. *upſ.* 126. *Gron. virg.* 54. *Duham. arb.* 12.

Meſpilus. *Bauh. pin.* 453. 4. *Pluk. alm. t.* 46. *f.* 4. *Angl. hort.* 49. *t.* 13. *f.* 1?

Oxyacantha. *Raii hiſt.* 1799. 10.

Thorny; leaves cordate-ovate, gaſh-angled, ſmooth; petioles and calyxes glandular; flowers five-ſtyled.

[4. Cratægus viridis. *Green-leaved Virginian Hawthorn.*

Lin. ſpec. 683. *Reich.* 2. 493. *Medic. Lutr.* 1774. *p.* 288.

Meſpilus. *Gron. virg.* 163. 76.

Unarmed; leaves lanceolate-ovate ſubtrilobate ſerrate ſmooth.

5. Cratægus punctata. *Great-fruited Hawthorn.*

Lin. ſyſt. 465. *Jacqu. hort.* 1. 10. *t.* 28. *Ait. hort. kew.* 2. 169.

α. With red fruit.

β. With yellow fruit.

Thorny or unarmed; leaves obovate wedge-form ſmooth ſerrate; calyxes ſubvilloſe, leaflets ſubulate entire.]

6. Cratægus Crus galli. *Cockſpur Hawthorn.*

Lin. ſpec. 682. *ſyſt.* 465. *Reich.* 2. 493. *Kalm. itin.* 1. 244. *edit. angl.* 115.

Meſpilus. *Pluk. alm. t.* 46. *f.* 1. *Clayton. virg.* 55. *Hort. angl. t.* 13. *Duham. arb.* 17. *Mill. fig. t.* 178. *f.* 2.

α. Fol. obovato-cuneiformibus. *Common C. H.*

Leaves obovate-wedge-form.

β. Fol. oblongo-lanceolatis ſubcuneiformibus.]

Leaves oblong-lanceolate, nearly wedge-form.

Pyracantha-leaved C. H.

γ. Fol. lanceolatis.—*Willow-leaved C. H.*

Leaves lanceolate.

Thorny; leaves ſubſeſſile glittering coriaceous; calycine leaflets lanceolate ſubſerrate; flowers two-ſtyled.

7. Cratægus tomentoſa. *Woolly-leaved Hawthorn.*

Lin. ſpec. 682. *ſyſt.* 465. *Reich.* 2. 493.

Meſpilus. *Gron. virg.* 55. *Pluk. phyt. t.* 100. *f.* 1. *Trew. ehret. t.* 17.

Branches thorny; leaves wedge-form-ovate ſerrate, ſomewhat angular villoſe underneath.

[8. Cratægus indica. *Indian Hawthorn.*

Lin. ſpec. 683. *Reich.* 2. 494. *Lour. cochinch.* 319. *Burm. ind.* 117.

Unarmed; leaves lanceolate ſerrate; corymbs ſcaly.]

9. Cratægus Oxyacantha. *Common Hawthorn* or *Whitethorn.*

Lin. ſpec. 683. *Reich.* 2. 494. *fl. ſuec. n.* 434. *Hudſ. angl.* 214. *Lightf.* 255. *Relh. cant. n.* 359. *Neck. galloh.* 216. *Pollich. pal. n.* 472. *Jacqu. auſtr.* 3. *t.* 292. *f.* 2. *Fl. dan. t.* 634. *Villars dauph.* 3. 539. *Krock. ſileſ. n.* 755. *Black. t.* 149. *Duham. arb.* 2. 193. *t.* 79. *Hunt. evel.* 2. 93. *Plenck, ic. t.* 389.

Meſpilus. *Hall. helv. n.* 1087.—Oxyacantha. *Scop. carn. n.* 590. *Allion. pedem. n.* 1807.

α. C. vulgaris. *Common.*

M. apii folio ſylv. ſpinoſa, ſ. Oxyacantha. *Bauh. pin.* 454. *Raii ſyn.* 453.

Oxyacanthus. *Ger.* 1146. 1. *emac.* 1327. 1. *Raii hiſt.* 1458.

O. ſ. Spina acuta. *Dod. pempt.* 751. *Matth.* 163.

Spina appendix vulgaris. *Park. theat.* 1025.

β. C. major. *Great-fruited.*

Meſp. apii fol. ſylv. ſpin., folio & fructu majore. *Raii ſyn.* 454. *Hudſ.* β. *With.* β.

γ. C. præcox. *Glaſtenbury.*

Raii hiſt. 1458. 2. *With.* 6.

δ. C. plena. *Double-flowered.*

ε. C. flava. *Yellow-berried.*

Raii hiſt. 1458. 1. *With.* 3.

ζ. C. alba. *White-berried.*

Raii hiſt. 1459. *ſyn.* 453. *With.* 4.

η. C. inciſa. *Fine-leaved.*

M. apii fol. &c.—foliis tenuius inciſis. *Raii ſyn.* 454. *Relh.* 190. *With.* 5.

Leaves obtuſe ſubtrifid ſerrate.

10. Cratægus monogyna.

Lin. ſyſt. 465. *Wither. arr.* 511. *Jacqu. auſtr.* 3. *t.* 292. *f.* 1. *Pallas. fl. roſs.* 1. 1. 26. *t.* 12. *Allion. pedem. n.* 1808.

Leaves ſubtrifid acute, lobes ſpreading, quite entire below; flowers one-ſtyled.

11. Cratægus Azarolus. *Parſley-leaved Hawthorn,* or *Azarole.*

Lin. ſpec. 683. *Reich.* 2. 495. *Plenck, ic. t.* 390. *Pallas roſs.* 1. 27. *Villars dauph.* 3. 540.

Pyrus Azarolus. *Scop. carn. n.* 597.

Meſpilus Azarolus. *Allion. pedem. n.* 1809.

Meſpilus apii fol. laciniato. *Bauh. pin.* 453.

M. Aronia. *Bauh. hiſt.* 1. 67. *Raii hiſt.* 1458. *Ger.* 1265. *emac.* 1454.

Azerolier. *Duham. arb.* 1. 323. *t.* 1. 334.

β. C. Aronia. *Lin. ſpec.* β.

Meſpilus orientalis, apii fol. ſubtus hirſuto. *Pocock. orient.* 189. *t.* 85.
Leaves obtuſe ſubtrifid ſomewhat toothed.

[12. Cratægus maura.
Lin. ſyſt. 465. *ſuppl.* 253.
Leaves oblong, toothed at the end.

13. Cratægus villoſa.
Lin. ſyſt. 465. *Thunb. jap.* 204.
Leaves oblong acuminate ſmooth ſerrate, flowers in a compound umbel.

14. Cratægus lævis.
Lin. ſyſt. 465. *Thunb. jap.* 204.
Leaves ovate acuminate ſmooth ſerrate, flowers in an almoſt ſimple umbel.

15. Cratægus glabra.
Lin. ſyſt. 465. *Thunb. jap.* 205.
Leaves oblong acute ſmooth ſerrate, flowers in a compound panicle.]

16. Cratægus cordata. *Maple-leaved Hawthorn.*
Ait. hort. kew. 2. 168.
Meſpilus cordata. *Mill. dict. n.* 4. *fig. t.* 179.
M. Phoenopyrum. *Lin. ſuppl.* 254.
Thorny; leaves cordate-ovate gaſh-angled ſmooth, petioles and calyxes without glands, flowers five-ſtyled.

[17. Cratægus pyrifolia. *Pear-leaved Hawthorn.*
Ait. hort. kew. 2. 168.
C. Leucophleos. *Moench. hort. weiſſenſt.* 31. *t.* 2.
Thorny or unarmed; leaves ovate-elliptic gaſh-ſerrate, ſomewhat plaited and hirt, calyxes a little villoſe, leaflets linear-lanceolate ſerrate, flowers three-ſtyled.

18. Cratægus elliptica. *Oval-leaved Hawthorn.*
Ait. hort. kew. 2. 168.
Thorny; leaves elliptic unequally ſerrate ſmooth, petioles and calyxes glandular, berries globular five-ſeeded.

19. Cratægus glanduloſa. *Hollow-leaved Hawthorn.*
Ait. hort. kew. 2. 168.
Thorny; leaves obovate-wedgeform angular ſmooth glittering; petioles ſtipules and calyxes glandular; berries oval five-ſeeded.

20. Cratægus flava. *Yellow pear-berried Hawthorn.*
Ait. hort. kew. 2. 169. *Moench. hort. weiſſenſt.* 62. *t.* 4.
Thorny; leaves obovate-wedgeform angular ſmooth glittering; petioles ſtipules and calyxes glandular; berries turbinate four-ſeeded.

21. Cratægus parvifolia. *Gooſeberry-leaved Hawthorn.*
Ait. hort. kew. 2. 169.
C. uniflora. *Du Roi hort. harbecc.* 1. 184.
Meſpilus. *Mill. dict. edit.* 7. *n.* 17.
Thorny: leaves wedgeform-ovate gaſhed ſerrate; calycine leaflets gaſhed, the length of the fruit, flowers five-ſtyled.

22. Cratægus ſanguinea.
Pallas fl. roſs. 1. 25. *t.* 11.
Thorny; leaves ſeven-angled ſerrate, produced at the baſe, petioles ſubmarginate.

23. Cratægus Bibas.
Lour. cochinch. 319. *Pluk. amalth.* 26. *t.* 371. *f.* 2. (Pi-pa.)
Unarmed; leaves lanceolate ſerrate tomentoſe; racemes terminating hiſpid.

DESCRIPTIONS, &c.

This genus conſiſts chiefly of Shrubs or Trees, hardy and deciduous. Leaves ſimple, undivided or lobed. Peduncles in moſt ſpecies many-flowered corymbed terminating, and ſolitary from the axils; in a few one-flowered axillary, and in terminating ſpikes[a]. Corollas white, appearing in may and june, ſucceeded by bunches of red berries in autumn.]

1. This tree riſes to the height of thirty or forty feet, with a large trunk, dividing into many branches; the young ſhoots have a brown bark, covered with a mealy down; the leaves are between two and three inches long, and one inch and a half broad in the middle, of a light green on their upper ſide, but very white on their under, having many prominent tranſverſe veins, running from the midrib to the border, where they are unequally ſerrate, ſome of the teeth being much deeper, and the ſegments broader than others. The flowers are produced at the ends of the branches in bunches [or corymbs, two inches or more in diameter, and very much branched. The peduncles are tomentoſe, and have a lanceolate caducous bracte. Calyx tomentoſe, divided into five, ſometimes ſix, reflex ſegments. Petals five, ſometimes ſix, frequently ſcalloped at the end, woolly at the baſe, white. Filaments ſometimes as many as twenty-one. Styles two or three (two to four, with as many ſeeds. *Du Roi.* four or five. *Duham.*) woolly at the baſe. Berries ſomewhat tomentoſe, red, containing from two to four ſeeds[b]: four, in each cell two, according to *Crantz.*—or, as Scopoli ſays, two cells with one ſeed in each, or one with two ſeeds.]

Native of moſt parts of Europe: chiefly on dry hills and open expoſures, in gravel, clay or chalk, and from the fiſſures of lime-ſtone rock.—With us in the northern, weſtern, and ſouthern parts of the iſland; in Derbyſhire, Norwood near London, and formerly on Hamſtead heath, &c. Flowering in may.

Mr. Miller ſays it is called *White Leaf tree.* According to Mr. Ray, in Worceſterſhire and Staffordſhire, in Lancaſhire and Weſtmoreland it has the names of *Red Cheſs-Apples* and *Sea Owlers.* In Derbyſhire, they call it the *Wild Pear-tree.* Gerarde calls it *Cumberland Hawthorn.* In German it is named *Mehlbeerbaum* or *Mehlbaum*; in Daniſh, *Axelbær*; in Swediſh, *Oxel, Oxeltraed* or *Oxelbaer*; in French, *Alizier*; in Italian, *Aria* or *Sorbo peloſo*; in Spaniſh, *Moſtaco.*

The wood, being hard, tough and ſmooth, is uſed for axle-trees, wheels, walking-ſticks, and the handles of tools. The fruit is eatable when mellowed by the autumnal froſts, and an ardent ſpirit may be diſtilled from it[c].

The ſtraight handſome growth of the tree, the ſmoothneſs of the bark, the extreme whiteneſs on the under ſurface of the leaves, the handſome bunches of white flowers on their mealy peduncles, ſucceeded by red berries, render this a deſirable tree to mix with others in ornamental plantations. It bears lopping, and permits graſs to grow under it.

β. The Swediſh variety has the leaves deeply ſinuated, pinnatifid, and even pinnate. The Britiſh tree never is ſo. Haller remarks that the fruit of this is bitter.—It alſo varies with leaves not tomentoſe or white underneath; in the variety the peduncles, fruit, &c. are deſtitute of nap.]

2. This riſes to the height of forty or fifty feet, with a large trunk, ſpreading at the top into many branches, ſo as to form a large head. The young branches are covered with a purpliſh bark, marked with white ſpots. Leaves alternate, on pretty long foot-ſtalks, cut into many acute angles, like thoſe of the Maple-tree; they are near four inches long, and three broad in the middle, having ſeveral ſmaller indentures towards the top; they are of a bright green on their upper ſide, but a little woolly on their under. The flowers are produced in large bunches towards the end of the branches; they are white, and ſhaped like thoſe of the Pear-tree, but ſmaller, and on longer peduncles: they appear in may, and are ſucceeded by roundiſh compreſſed fruit, ſhaped like common Haws, but larger; ripening in autumn, when they are of a brown colour, and if kept till they are ſoft, in the ſame way as Medlars, have an agreeable acid flavour.

[Styles, according to Haller, two or three, ſo glued together as to ſeem but one. Seeds two to four; as Crantz ſays, in two cells.]

The wood of this tree is hard and very white; it is uſeful for many purpoſes, particularly in mill-work. The fruit is ſold in the London markets in autumn.

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[a] Juſſieu.

[b] Pollich.

[c] Withering.

[Native of Denmark, Germany, Auſtria, Switzerland, Burgundy, Piedmont,] England, in many parts, chiefly upon ſtrong ſoils. In Caen-wood and Biſhop's-wood near Hamſtead, in Hertfordſhire, &c.

β. The alpine variety, which Miller makes a diſtinct ſpecies, is about twenty feet high. Leaves oblong-ovate, ſlightly ſerrate, on very ſhort footſtalks, about three inches long, and one inch and a half broad, leſſening towards both ends, deep green on both ſides. Flowers in ſmall bunches, rarely more than four or five flowers in each. Fruit the ſize of the common Haw, but dark brown. Native of monte Baldo, and other mountains of Italy.

3. This riſes to the height of near twenty feet in England, with a large upright trunk, dividing into many ſtrong, irregular, ſmooth branches, ſo as to form a large head. Leaves large [and bending backwards; they are about four inches long, and three and a half broad, have five or ſix pairs of ſtrong nerves, and become of a browniſh red in autumn.] The flowers come out from the ſide of the branches in large cluſters; they are large, make a noble ſhow in may, and are ſucceeded by large pear-ſhaped fruit of a bright ſcarlet colour, which ripens in ſeptember.

[Branches marked with irregularly ſcattered dots. Thorns axillary, ſtout, ſpreading very much, from the rudiments of the branches. Peduncles pubeſcent, corymbed. Native of Virginia and Canada[d]. Cultivated 1696, by Mr. Jacob Bobart[e].

4. This is probably a variety of the foregoing. Theſe North American ſpecies vary much in having thorns or none, in the number of the ſtyles, and form of the leaves.

5. Branches diffuſe, no thorns, leaves obovate, acute, unequally double-ſawed, very ſmooth on both ſides. Stipules linear, ciliate-ſawed, caducous. Racemes compound, moſt of the partial ones trifid. Styles two or three. Fruit orange-red, dotted with brown, whitiſh within; ſtones very hard, the ſame number with the ſtyles. Native of America[f].

Cultivated 1746, by Archibald Duke of Argyle[g].

6. Stem ſtrong, ten or twelve feet high; bark of the ſtem rough, of the branches ſmooth and reddiſh. Leaves lanceolate, three inches long, and one inch broad in the middle, ſerrate, of a lucid green, alternate; at many of the joints are ſmaller leaves in cluſters: thorns axillary, very ſtrong, two inches in length. Flowers axillary, in roundiſh cluſters, generally two together; petals white, with a bluſh of red. Stamens ten; anthers bright red. Styles three. Fruit globular, of a fine red colour. It flowers in june[h].

Native of North America. Mr. Miller ſays, that the fruit was ſent to him from Philadelphia.

Cultivated 1691, by the hon. Charles Howard[i].]

7. This has a ſlender ſhrubby ſtem, about ſix or ſeven feet high, ſending out many irregular branches, armed with long ſlender thorns. The flowers are ſmall, proceeding from the ſide of the branches, ſometimes ſingle, and at other times two or three upon the ſame peduncle, having large leafy calyxes, and being ſucceeded by ſmall roundiſh fruit. The flowers appear at the beginning of june, and the fruit ripens very late in the autumn.

Native of North America.

[There is a variety of this, called in the nurſeries Carolina Hawthorn, which has longer and whiter leaves, larger flowers and fruit, but no thorns[k].

8. A large tree, without thorns. Leaves broad-lanceolate, obtuſely ſerrate, thickiſh, petioled. Corymbs terminating, with ſcaly peduncles and ſubulate bractes[l]. Styles two. Berries roundiſh, containing from two to four ſeeds[m]. Native of the Eaſt Indies, and Cochinchina.

The wood is reddiſh, heavy and tough; it is fit for oars and other uſes that require toughneſs[n].

9. Styles two, ſometimes three or four. Seeds uſually two, but ſometimes one, three, or four[o].

10. There is ſuch uncertainty in the number of ſtyles in this genus, that we can hardly conſider the *monogyna* of Jacquin as a diſtinct ſpecies. Our Britiſh ſhrub is ſuppoſed to be this, and not the *C. Oxyacantha* of Linneus and others. Yet Mr. Lyons has obſerved that the ſtyle at firſt ſimple, is afterwards divided into two; and Dr. Withering obſerved two ſtyles in one plant.

Mr. Lyons thus deſcribes our ſhrub.—Trunk aſcending, round, very much branched. Bark ſmooth. (At the baſe of each petiole two ſemiorbicular ſtipules, deeply toothed, acuminate at top.) Thorns ſharp, (coming out from between the ſtipules.) Leaves trifid, petioled, decurrent, ſharp at the baſe, ſhining, the middle ſegment trifid, very entire about the edge, (commonly in the upper floral leaves, but ſerrate in the branch leaves.) Peduncles branched, with two or three flowers on each diviſion. Calyx hirſute, having five reflex, acute ſegments. Petals wrinkled on the edge. (Stamens ſixteen.) Anthers red[p].

Scopoli ſays that he has examined thouſands of fertile flowers, and that he conſtantly obſerved one ſtyle, and one ſtone. Villars affirms that he has rarely ſeen two ſtyles. Scopoli remarked ſome barren flowers to be digynous or ſemidigynous. D'Aſſo ſays that the Hawthorn is conſtantly monogynous in Spain.

According to Allioni, C. monogyna has the leaves more ſhining, extremely ſmooth, deeply cut into three or five lobes; the peduncles ſmooth, the ſegments of the calyx reflex; and one ſeed only conſtantly in the fruit.

The common Hawthorn and its varieties flower uſually in may. In 1783 the Hawthorn began to flower on the 21ſt of march; the year following it was ſix weeks later. It was almoſt as early in 1794, and as late in 1795. The extremes of flowering in Mr. White's calendar are from april 20th to june 11th. Some flowers yet remain on the buſhes the 20th of june 1795, the day on which I have written the above.

The Glaſtenbury variety flowers uſually in january or february, ſometimes earlier, ſo that it may happen to be in flower on Chriſtmas day. Dr. Stokes ſuſpects this to be C. Oxyacantha of Linneus.

Few trees exceed the Hawthorn in beauty during the ſeaſon when it is in bloom. It is proper therefore for ornamental plantations, and particularly to ſtand ſingle in lawns or parks, where it will grow to the height of twenty or even thirty feet; the trunk ſometimes meaſuring from five to nine feet in circumference[q]. The wood is tough, and may be uſed for axle-trees and the handles of tools. The root of an old thorn, ſays Evelyn, is excellent both for boxes and combs: when planted ſingle, it riſes with a ſtem big enough for the uſe of the turner, and the wood is ſcarcely inferior to box. A decoction of the bark yields a yellow dye; and with copperas is uſed to dye black. The berries are the winter food of the Thruſh and many other birds; ſwine alſo and deer are fond of them. The peaſants in many countries eat them, and in Kamſchatka they alſo make a wine of them[r].

It is well known that the White-thorn makes the beſt quick or live fences. See HEDGES.

In German it is named *Hagedorn*; in Daniſh, *Hagetorn*; in Swediſh, *Hagtorn*: whence our *Hawthorn*; the fruit being called *Haws*. It is called alſo in Engliſh, *White-thorn*; and of ſome Londoners, ſays Gerarde, *May-buſh*: when uſed for hedges, *Quick*. In French, *Aubepine*, or *Epine blanche*; in Italian, *Biancoſpino*; in Spaniſh, *Eſpino blanco*.

Of the Varieties:

β. The fruit of the ſecond is exceedingly large, oblong, ſmooth and bright ſcarlet.—ε. The Yellow has the buds at their firſt appearance in the ſpring, of a fine yellow, and the fruit is of a golden colour. It is a great bearer, and retain its fruit all winter. It was originally brought from Virginia.—ζ. The White is but a paltry tree.—δ. The Double-bloſſomed is one of the greateſt ornaments of our ſhrubberies, and may be kept down to any ſize. The beautiful flowers come out in large bunches in may, and the ſhrub often appears covered with them: they are at firſt of a pure white, and die to a faint red: they are frequently ſucceeded by ſmall imperfect fruit[s].

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[d] Linn. mant.
[e] Hort. kew.
[f] Jacquin.
[g] Hort. kew.
[h] Mill. fig.
[i] Hort. kew. from Pluk.
[k] Hunter's Evelyn.
[l] Linn. ſpec.
[m] Loureiro.
[n] Ibid.

[o] Haller, Jacqu. & Du Roi.
[p] Relh. cant.
[q] Boutcher.
[r] Lightfoot.

Pallas has deſcribed and figured another variety under the name of *C. monogyna nigra*, the berries of which finally turn black.]

11. This has a ſtrong ſtem twenty feet high, having many ſtrong irregular branches, covered with a light-coloured bark; the leaves are in ſhape ſomewhat like thoſe of the common Hawthorn, but they are much larger, have broader lobes, and are of a paler colour; the flowers come out in ſmall cluſters from the ſide of the branches, and are in ſhape like thoſe of the common Hawthorn, but much larger; as is alſo the fruit, which when fully ripe has an agreeable acid taſte, for which it is eſteemed in Italy and the Levant, where it is ſerved up in the deſert.

[It ſeems to differ from common Hawthorn (n. 9.) only in the ſize, as *Sorbus domeſtica* from *ſylveſtris*; in this all the parts are four times the ſize of the other; there are few thorns, or even none in the cultivated plant[t]. The fruit has five cells as in the pear[u].

Native of the ſouth of Europe, the Levant, &c. Cultivated 1656, by Mr. John Tradeſcant[x].

12. Stature and appearance of *C. Oxyacantha*. Bark aſh-coloured. No ſpines. Leaves oblong or ſublanceolate, obtuſe, gloſſy, three or five-toothed at the end; the teeth acute. Flowers in branched corymbs, reſembling thoſe of common Hawthorn. Native of Barbary[y].

13. Leaves alternate, petioled, ovate-oblong, veined, villoſe, two inches long. Petioles round, ſmooth, ſcarcely half an inch in length. Flowers terminating, in a compound umbel. Peduncles about ſix, pedicels three or four, all filiform, tubercled, villoſe, an inch in length. Styles two. Fruit villoſe[z].

14. Stem ſmooth. Branches and branchlets alternate, aſh-coloured, ſpreading. Leaves from alternate buds three or four, petioled, very finely ſerrate, plane, thin, ſpreading very much, unequal, an inch in length. Flowers terminating, ſpreading very much. Umbel generally ſimple, but ſometimes with one trifid or racemed ray. Peduncles capillary, callous, an inch long. Perianth only half the length of the corolla. Petals ovate, entire, white, a line long. Stamens ſhorter than the corolla. Styles two.—It differs from the foregoing, in having leaves broader in the middle, drawn more to a point at both ends, aggregate, not ſolitary; and in the umbel being almoſt ſimple[a].

15. Branches and branchlets ſubverticilled, ſtriated, ſmooth, ſpreading. Leaves ſcattered, petioled, a little reflected on the edge, perennial, veined, paler underneath, ſpreading very much, of a finger's length. Petioles angular, grooved, ſmooth, ſpreading. Flowers terminating, in a ſubfaſtigiate panicle. Peduncles angular, ſmooth; the pedicels gradually ſhorter, and more approximating. Perianth five-toothed, ſmooth, half the length of the corolla. Petals obovate, obtuſe, entire, white, villoſe at the baſe, ſpreading. Filaments the length of the corolla; anthers globular, twin. Styles two.—It differs from the two foregoing in having oblong, not ovate leaves, thicker and evergreen; petals villoſe at the baſe; and a large compound panicle[b].—Theſe three were found in Japan, by Chevalier Thunberg. This is a tree, and the two former ſhrubs.

16. Riſes with a ſtrong woody ſtem about four feet high, ſending out many ſpreading branches, which incline to a horizontal poſition. Leaves different in form, ſome indented at the petiole, others not; they are about an inch and half long, and nearly of the ſame breadth in the middle, ending in acute points, and their borders cut into ſeveral acute parts, which are ſharply ſerrate; they are of a bright green, and ſtand on very ſlender petioles, about an inch in length. The branches are armed with a few pretty long ſlender ſpines. The flowers come out in ſmall bunches from the ſide of the branches. Stamens eight. Styles four. Fruit round, containing two ſeeds[c].

Branches ſpotted with white. Leaves cut into three, five or ſeven ſegments, acuminate, the ſize of Birch-leaves. Petiole very ſlender, ſhorter than the leaves. Corymb compound. Bractes at the baſe of the peduncles, ſolitary, ſubulate, very ſmall, deciduous. Flower ſomewhat ſmaller than the common Whitethorn. Teeth of the calyx very ſhort, obtuſe, falling off when the fruit is ripe. Styles five. Fruit an oblate ſpheroid, ſcarlet, the ſize of a red Currant; the navel looſe, naked. Stones five, the tops filling up the navel, and naked. It flowers the laſt of the genus[d].

This ſort was raiſed in the Chelſea garden in 1738, from ſeeds which came from North America, by the title of *New Haw*.—It flowers the latter end of june, and the fruit ripens in the autumn[e].

17, 18. Natives of North America. Introduced 1765, by Meſſrs. Kennedy and Lee[f].

19. This has very ſtout thorns. It flowers in may and june; is a native of North America; and was cultivated in 1750, by Archibald Duke of Argyle[g].

20. There are often ſmall leaves on the thorns, which in this and the following ſpecies are ſlender, and a little bent in at the end. This flowers in may; is a native of North America; and was cultivated in 1758, by Mr. Miller[h].]

21. This is a ſhrub of humble growth, ſeldom riſing more than ſix or ſeven feet, ſending out a great number of ſlender branches, which are interwoven, and armed with very long ſlender ſharp thorns. The leaves are ſcarcely one inch long, and ſome are not more than half an inch broad, but others are almoſt as broad as they are long; they are ſerrate, and have very ſhort foot-ſtalks. The flowers are produced at the end of the branches, generally one coming out from between the leaves; but ſometimes there are two or three, one below the other at the axils; they have large leafy calyxes, much longer than the petals; they are ſmall, have twelve or more ſtamens, and four ſtyles. The fruit is ſmaller than that of the common Hawthorn, and is of an herbaceous yellow colour, when ripe. The ſeeds were ſent from Virginia by Baniſter, and ſome of the plants were raiſed in Biſhop Compton's garden at Fulham before 1713, and afterwards by Archibald Duke of Argyle at Whitton. It is generally known by the name of Lord Iſlay's Hawthorn, and flowers in may and june.

[22. Height frequently from two to three fathoms. Trunk the thickneſs of the human arm or thigh, very much branched from the bottom, and ſpreading. Branches ſometimes unarmed, but ſometimes armed with long and very ſpreading thorns, covered with a bark of a reddiſh teſtaceous colour, with aſh-coloured ſpots here and there. The bark of the trunk is of a brown teſtaceous colour, thin, and peeling off in aſh-coloured ſcales. Leaves alternate, ſuborbiculate, more or leſs acute, and produced at the baſe, running down unequally into the petiole, three times gaſhed at the edge on each ſide, and unequally ſerrate; the veins underneath ſubferruginous, and the whole lower ſurface pubeſcent. Petioles ſhort, pubeſcent. Stipules lanceolate, ſerrate, ſhrivelling. Flowers in corymbs at the ends of all the branchlets; theſe are ſo abundant, that the tree is very ha[illegible]me when in flower and fruit. Peduncles ſmooth, [illegible] ſlender, linear bractes, that fall off at flowering time. Corollas rather large, nearly the ſame ſize as in *C. coccinea*. Styles two or three, very frequently four. Stamens about ſeventeen; anthers purple, twin. Fruit large, very red, ſubglobular, two-celled. two or four-ſeeded. It flowers at the end of may; the fruit ripens at the end of auguſt, and after the firſt froſts in ſeptember becomes very eatable. The leaves acquire a ferruginous tinge at the beginning of winter.

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[s] Hunter.
[t] Linn. ſpec.
[u] Scopoli.
[x] Hort. kew.
[y] Linn. ſuppl.
[z] Thunberg.
[a] Ibid.
[b] Ibid.

[c] Mill. fig.
[d] Linn. ſuppl.
[e] Mill. fig.
[f] Hort. kew.
[g] Ibid.
[h] Ibid.

This has broader leaves than *C. Oxyacantha*, and of a different form, the ſtipules lanceolate, and all the parts of fructification large. It differs from *C. coccinea* in having the leaves pubeſcent, produced at the baſe, on ſhorter petioles without any glands, and ſmaller flowers.

Native of Siberia; and perhaps the Cratægus of Kamtſchatka[i].

23. This is a middle-ſized tree, with ſpreading branches. Leaves unequally ſerrate, ſcattered, on ſhort petioles. Flowers white, in large bunches. Styles two. Fruit middle-ſized, pear-ſhaped, yellow, lanuginoſe, of a ſweet acid flavour, juicy, eatable; the ſkin thin, the pulp white; one-celled, containing two or three ſeeds.—Cultivated abundantly about Macao and Canton in China[k].]

PROPAGATION AND CULTURE.

1. The White Beam tree may be propagated by ſeeds, which ſhould be ſown ſoon after they are ripe; for if they are kept out of the ground till ſpring, they remain at leaſt one year in the ground before the plants appear; ſo that the fruit ſhould be buried in the ground, as is practiſed with the common Haws, Holly-berries, and thoſe other hard ſeeds which do not come up the ſame year; and when the plants come up, they may be treated in the ſame manner as the Haws, but they ſhould by no means be headed or cut down. On a poor chalky ſoil they make great progreſs, and the wood is very white and hard.

It may alſo be propagated by layers in the ſame manner as the Lime and Elm, but theſe ſhould be laid in the young wood: two years elapſe before they have ſufficient roots to tranſplant. It may alſo be raiſed from cuttings planted in autumn in a ſhady border, but not an eighth part will ſucceed. Trees raiſed from ſeeds grow much larger and ſtraighter, than from layers or cuttings.

This tree will take by grafting or budding upon Pear-ſtocks very well, and Pears will take by grafting upon this. Although both theſe will ſometimes take upon the Meſpilus, yet neither of them thrive ſo well, or laſt ſo long, as when they are grafted or budded upon each other.

2. The Wild or Maple-leaved Service may be propagated in the ſame way, but requires a ſtrong ſoil.

3 to 7. and 16 to 21. All the ſorts of American Hawthorn may be raiſed from ſeeds ſown in autumn, in the ſame manner as the firſt ſort, or as the common Hawthorn: but as theſe ſeeds being brought from America, frequently do not arrive here till ſpring, the fruit may be buried in the ground till the autumn following, when they may be taken up and ſown in drills, being careful to cover them ſo as to prevent birds from deſtroying them. In the ſpring following the plants will come up, which ſhould be moderately watered two or three times a week, if the ſpring ſhould prove dry; during the ſummer, they muſt be kept clean from weeds, which if ſuffered to grow, will ſoon overbear the plants and deſtroy them. The following ſpring the plants ſhould be planted out before they begin to ſhoot, into a nurſery-bed, where they may grow two years to get ſtrength, when they may be tranſplanted where they are to remain. If theſe are planted in a moiſt light ſoil, their roots will extend to a conſiderable diſtance, and put up many ſhoots, which may be taken off in the ſpring, and thereby may be increaſed; theſe will alſo take if grafted on the Pear, and if the young branches are laid down, they will take root.

The ſeveral ſorts of Hawthorn are generally planted among flowering ſhrubs of the ſame growth; where they add to the variety.

The varieties of the Hawthorn are continued by budding upon ſtocks of the common ſort. The ſame method alſo is commonly practiſed for ſeveral of the ſpecies. See Inoculating.—The largeſt and moſt beautiful plants however are raiſed from ſeed.

[*White-thorn, Haw-thorn,* or *Quick.*

9, 10. The moſt uſual practice, in raiſing the White-thorn, is to ſow the berries, either in october or november, or elſe very early in the ſpring, either broadcaſt or in drills, in beds about four feet wide, with alleys eighteen inches wide between each; covering the berries an inch deep, with freſh light mould. Thus, though moſt of them ſhould not come up till the ſecond ſpring, yet they will have the continual benefit of the ſun, air, and rain; all which, it may be preſumed, will make them come up better and ſhoot ſtronger, than when they are buried in a heap during more than a year.

The latter method however is preferred by many: I have therefore ſubjoined Mr. Boutcher's practice, eſpecially as it contains ſome uſeful directions on this ſubject.

The Haws ſhould remain on the buſhes till the end of october, when they become blackiſh. If you do not ſow them immediately, as ſoon as they are gathered, ſpread them on an airy floor for five or ſix weeks, till the ſeeds are dry and firm; then plunge them into water, and diveſt them wholly of their pulp, by rubbing them between your hands with a little ſand: ſpread them again on the loft three or four days, till quite dry, mix them with fine looſe ſandy mould, in quantity not leſs than the bulk of the ſeeds, and lay them in a heap againſt a ſouth wall, covering them over three or four inches deep with ſoil of the ſame quality as that with which they are mixed. If you do not ſow them in the ſpring, in this ſituation let them remain till the ſecond ſpring, as the ſeeds, if ſown, will not appear the firſt year.

That the berries may be as equally mixed with the ſoil as poſſible, turn over the heaps once in two months, blending the covering with the ſeeds; and at every turning, give them a freſh covering in the winter months.

They muſt be ſowed the firſt dry weather in february, or the beginning of march. Separate them from the looſe ſoil in which they were mixed, with a wire ſieve. The ground ſhould be good dry freſh land, well prepared. Divide it into beds three feet and a half broad, with alleys of eighteen inches. Puſh over a little of the ſurface of the beds into the alleys; ſow them with great care, ſo that they may not riſe in cluſters, and that the plants may in general be at leaſt an inch aſunder. Clap them into the earth with the back of a ſpade, draw the ſoil back from the alleys, and let not the ſeeds be covered more than half an inch deep. The ſucceeding ſpring, draw out all the largeſt plants where too thick; ſhorten their roots; lay them in lines a foot aſunder, and four inches diſtant in the rows, having cut off ſo much of their tops as to leave them about two inches above ground; and let them remain two years.

Thoſe who are not ſtraitened for ground, may drop the ſeeds in drills eight inches aſunder, and double that diſtance between each pair of drills. The following ſpring they may be drawn where too thick, and the remainder cut with a ſpade, five or ſix inches below ground; to remain another year.

Thorns alſo may be propagated to much advantage, and two years time ſaved, by cuttings from their roots. For this purpoſe, at removing a nurſery of theſe plants, cut off all unneceſſary roots that are ſtraight and clean, of one or not more than two years growth; let them not exceed the length of four or five inches; and either early in october or february, lay them in drills cut out with the ſpade, with their tops a quarter of an inch below the ſurface: let theſe drills be a foot aſunder, and lay the roots three or four inches ſeparate. The following ſpring they ſhould be cut within three or four inches of the ſurface. In general they will be eighteen inches high, and well rooted, at two years old.

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[i] Pallas.

[k] Loureiro.

Which ever way the Thorns are propagated, in october they ſhould be planted out in rows, at leaſt eight inches aſunder, and ſix inches in the row, their roots having been ſhortened, and their tops cut of, ſo as to ſtand four or five inches above ground. In this nurſery they ſhould remain no more than two years: the ground being dug ſpring and autumn, and the plants cut the firſt ſeaſon an inch or two above the former cutting.

When removed again, they ſhould be in rows four feet aſunder, and two feet diſtant in the row: they ſhould alſo be cut to the height of a foot or fourteen inches; and about the end of june, clipped ſtraight in the ſides and thin in the tops. Having ſtood a year longer, cut them again to the height of two feet or thirty inches, and clip them as before. The third ſeaſon they may be cut at three feet and a half high about midſummer, and the following autumn they may be planted for handſome hedges four feet high.

If plants of a larger ſize are deſired, as ſix feet high, they muſt be removed once more, and remain three years.

Quick thus removed, and planted out large, will make an almoſt immediate fence, and ſave much charge in countries where fencing is very expenſive.

For the management of White-thorn, or Quick hedges, ſee the two articles HEDGES and QUICK.

CRATÆOGONON. See *Bartſia, Euphraſia,* and *Parietaria indica.*]

CRATEVA. (*From Cratevas a Greek, mentioned as a botaniſt by Hippocrates.*)

Lin. gen. 599. *Reich.* 654. *Schreb.* 818. *Tapia. Plum.* 21.

Claſſ. 11. 1. Dodecandria Monogynia.

Nat. order of *Putamineæ.—Capparides.* Juſſ. 244.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, four-cleft, deciduous, flat at the baſe: *diviſions* ſpreading, ovate, unequal.

COR. *Petals* four, oblong, bent down to the ſame ſide, *claws* ſlender, length of the calyx, inſerted into the diviſions.

STAM. *Filaments* ſixteen or more, briſtle-form, declined to the ſide oppoſite the petals, ſhorter than the corolla. *Anthers* erect, oblong.

PIST. *Germ* on a very long filiform pedicel, ovate. *Style* none. *Stigma* ſeſſile, headed.

PER. *Berry?* fleſhy, globoſe, very large, pedicelled, one-celled, two-valved?

SEEDS many, roundiſh, emarginate, neſtling.

OBS. *There are two ſpecies* (1, 2.) *with gynandrous flowers.* R. C. Marmelos *has the calyx five-cleft, petals none? Stamens ſixty. Is it a diſtinct genus? Lin. R.*

ESSENTIAL CHARACTER.

Cal. four-cleft. *Cor.* three-petalled. *Berry* one-celled, many-ſeeded.

SPECIES.

[1. Crateva gynandra. *Thin-leaved Crateva.*
Lin. ſpec. 636. *Reich.* 2. 418. *Brown. jam.* 246. *Pluk. phyt. t.* 147. *f.* 6. *Swartz. obſ.* 191.
Anona. *Sloan. jam.* 2. 170. *Raii dendr.* 78.
Unarmed; leaflets ovate, quite entire; flowers gynandrous.]

2. Crateva Tapia. *Smooth Crateva,* or *Garlic-Pear.*
Lin. ſpec. 637. *ſyſt.* 444. *Reich.* 2. 419. *fl. zeyl. n.* 211. *hort. cliff.* 484. *Vahl ſymb.* 3. 61.
Tapia. *Marcgr. braſ.* 98. *Piſ. braſ.* 68. *t.* 69.—arborea triphylla. *Plum. gen.* 22. *t.* 21.
Apioſcorodon. *Pluk. alm. t.* 137. *f.* 7.
Anona. *Sloan. jam.* 2. 169. *Raii dendr.* 79.
Malus americana trifolia, &c. *Comm. hort.* 1. *t.* 67.
Unarmed; leaflets ovate, acuminate, petals ovate-roundiſh, blunt, germs globular.

3. Crateva Marmelos. *Prickly Crateva.*
Lin. ſpec. 637. *ſyſt.* 444. *Reich.* 2. 419. *fl. zeyl. n.* 212.—*Pluk. alm. t.* 170. *f.* 5. *Raii hiſt.* 1665. (*Cucurbitifera.*)
Cydonia exotica. *Bauh. pin.* 435. *Burm. zeyl.* 84.
Bilanus. *Rumph. amb.* 1. 197. *t.* 81.
Covalam. *Rheed. mal.* 3. *t.* 37.
Thorny; leaves ſerrate.

[4. Crateva religioſa.
Forſt. pl. eſc. 45. *n.* 14. *fl. auſtr. n.* 203. *Vahl ſymb.* 3. 62.
Nürvala. *Rheed. mal.* 3. 49. *t.* 22.
Unarmed; leaflets and petals lanceolate-elliptic, acute at both ends.

5. Crateva obovata.
Vahl ſymb. 3. 61.
Leaflets and petals obovate, germ oblong.

DESCRIPTIONS, &c.

Theſe are trees with ternate leaves, and the flowers in terminating panicles[a].

1. Trunk twelve feet and more in height, and unarmed. Branches ſpreading, round, unequal, rugged, dotted; the younger ones herbaceous, green, very ſmooth. Leaves alternate, eſpecially towards the ends of the branchlets. Petioles longer than the leaves, round, ſmooth, green. Leaflets petioled, acute, nerved, veined, very ſmooth, thin, deep green. Raceme terminating, erect, ſtrict, many-flowered. Flowers rather large, purple, on round ſmooth peduncles from one to two inches in length, and without bractes. Calyx goblet-ſhaped, four-cornered, with a rounded fleſhy unequal border. Leaflets four, inſerted into the margin, oppoſite, ovate, acute, patulous, deciduous. Petals two, very ſeldom four, placed on the ſides of the upper calycine leaflet, aſcending, erect, ovate-lanceolate, entire, whitiſh. Filaments twenty to twenty-four, inſerted into a columnar receptacle, patulous, longer than the petals, declining, filiform, green, tinged with purple. Anthers erect, linear, a little curved, two-valved, very dark purple; but the pollen yellow. Germ pedicelled, roundiſh, ſmall: ſtyle none: ſtigma ſeſſile, ſubcapitate, brown. Pericarp ovate, berried, two-celled, many-ſeeded.

The pedicel of the germ is at firſt very ſhort, but finally becomes as long as the ſtamens. In ſome flowers the piſtil is wholly wanting, the plant therefore is polygamous. It has a burning taſte, and a nauſeous ſmell. It approaches ſo near to *Cleome,* as hardly to be diſtinguiſhed from it, except by the fruit[b]. Linneus remarks, that it differs from *C. Tapia* in having thin leaves, the petals ovate, not lanceolate, but eſpecially in having the ſtamens elevated on a column the height of the calyx, as in *Cleome gynandra.*

Native of Jamaica, in dry coppices near the ſea; flowering in may and june.]

2. This tree has a very large trunk, which riſes to the height of thirty feet or more, covered with a dark green bark, ſending out many branches, ſo as to form a large head. The branches are garniſhed with trifoliate leaves, ſtanding on pretty long footſtalks; the middle leaf, which is much larger than either of the other, is oval, about five inches long, and two and a half broad in the middle. The two ſide leaves are oblique, thoſe ſides which join the middle leaf being much narrower than the other, and turn at both ends toward the middle, ſo that their midrib is not parallel to the ſides; theſe two end in acute points. They are all ſmooth, of a light green on the upper ſide, but pale on their under; their edges are entire. The flowers are produced at the ends of the branches, ſtanding upon long peduncles. The fruit is about the ſize of an Orange, having a hard brown ſhell, or cover, incloſing a mealy pulp, filled with kidney-ſhaped ſeeds. It has a ſtrong ſmell of Garlic, which is communicated to the animals that feed on it.

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[a] Juſſieu, [b] Swartz.

[Vahl adds, that the branches are round, with an aſh-coloured bark. The leaves heaped at the ends of the branches, alternate: leaflets petioled, nearly equal, nerved. Peduncles ſeveral, one-flowered. Segments of the calyx ſhort, ovate. Claw of the petals as long as the lamina. Filaments twice as long as the petals.

Linneus remarks, that the flower in this ſpecies, as well as the firſt, has a ſtipitate germ, like *Cleome gynandra.*

Native of the Weſt Indies. Mr. Miller ſays,] I received the fruit of this from Jamaica, where it grows in great plenty, which were ſent me by William Williams, Eſq; of St. Anne's, in that iſland, who has been ſo kind as to furniſh me with many other curious ſeeds which have ſucceeded in the Chelſea garden.

3. This ſort is a native of India, where it grows to a great height, with a large trunk, ſending out many long branches, garniſhed with trifoliate leaves; the leaflets are oblong, entire, and end in acute points; between theſe the branches are armed with long ſharp thorns, which come out by pairs, and ſpread aſunder. The flowers are produced in ſmall cluſters from the ſide of the branches, five or ſeven ſtanding upon a common branching peduncle; theſe have each five acute petals, which are reflex; they are green on the outſide, whitiſh within, and have a grateful odour. After the flower is paſt, the germen ſwells to a large fruit the ſize of an Orange, having a hard ſhell, which incloſes a fleſhy viſcous pulp, of a yellowiſh colour, having many oblong plane ſeeds ſituated within it; the pulp of this fruit has an agreeable flavour when ripe, and is frequently eaten in India, where they ſerve up the fruit, mixed with Sugar and Orange, in their deſerts, and it is eſteemed a great delicacy.

[Linneus ſuſpects that this may be of a different genus. He obſerves that the calyx is five-cleft, that the flower has no petals, and ſixty ſtamens.

This and the preceding ſort were cultivated by Miller before 1759.

4. Trunk of a middling height, upright. Branches ſpreading, round, aſcending, covered with an olive bark dotted with white. Leaves ſcattered at the ends of the branchlets: leaflets acuminate, quite entire, ſmooth, tender, netted with many nerves and veins, a ſpan long, the ſide ones a little ſmaller, the anterior edge narrower but not ſhorter, ſpreading horizontally. Common petioles ſpreading, ſemicylindric, ſmooth and even, a hand in length: partial petioles very ſhort. Cyme terminating, ſubcorymbed; and ſometimes ſolitary flowers from the axils of the upper leaves. Peduncles one-flowered, round, ſmooth, looſe, three or four inches in length, ſpreading, thickiſh at the baſe. Flowers an inch and half in diameter, greeniſh white, with red ſtamens. Filaments the length of the petals or a little longer. Germ oblong.

Native of the Eaſt Indies, and the Society Iſles. In the latter it is planted at their burial places, and is ſuppoſed to be ſacred to their idols. In Otaheite it is called *Pura-au* or *Puratararu.* The fruit is eaten[c].

5. Leaves and leaflets petioled: the latter an inch and half long, the ſide ones a little ſmaller, mucronate, ſmooth, veined underneath. Peduncle heaped at the top, two inches long, one-flowered, ſegments of the calyx oblong, mucronate. Petals attenuated at the baſe. Filaments ſeven to nine, three times the length of the petals. Style longer than the filaments. It does not ſeem to be a variety of *C. Tapia,* ſince it differs in the form of the leaflets and petals, the former being nearly equal at the baſe, the latter having longer claws; the filaments alſo being longer, and the germ oblong. In other reſpects it has the habit of the reſt. Native of Madagaſcar[d].]

PROPAGATION AND CULTURE.

Theſe plants are propagated by ſeeds, which muſt be procured from the places where it grows naturally; they muſt be ſown upon a good hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be each tranſplanted into a ſmall pot filled with light kitchen-garden earth, and plunged into a hot-bed of tanner's bark, ſhading them every day from the ſun, until they have taken freſh root, after which they may be treated in the ſame manner as the ANNONA; which ſee. They ſhould be watered ſparingly in winter.

CRATEVA. See *Capparis.*

CREPIS. (*The name of a plant in Pliny; derivation unknown.* Κρηπις *in Greek is the baſe or foundation of any thing: alſo a ſhoe or ſandal.*)

Lin. gen. n. 914. *Reich.* 993. *Schreb.* 1239. *Gærtn. t.* 158. Hieracioides. *Vaill. A.G.* 1721. 47. 52. 13. 17. 18.

Claſſ. 19. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Semifloſculoſæ.—Cichoraceæ. Juſſ.* 169.

GENERIC CHARACTER.

CAL. *Common* double.
Exterior very ſhort, ſpreading, deciduous.
Interior ovate, ſimple, furrowed, permanent. *Scales* linear, converging.

COR. *Compound* imbricate, uniform. *Corollets* hermaphrodite, very many, equal.
Proper one-petalled; ligulate, linear, truncate, five-toothed.

STAM. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubular.

PIST. *Germ* ſomewhat ovate. *Style* filiform, length of the ſtamens. *Stigmas* two, reflex.

PER. none. *Calyx* roundiſh.

SEED ſolitary, oblong, fuſiform, ſometimes columnar.
Down hairy, generally ſtipitate.

REC. naked, with cells or pits.

OBS. *The Down in ſpecies* 10, 11, 12, 15, 17, 18, 19, 20, *is ſeſſile.*
It is ſometimes feathered. Juſſ.
11, 12, 17, *are ſubplumoſe, or ſomewhat feathered, according to Hudſon.*
This genus differs from Hieracium *in the ventricoſe toruloſe form of the mature calyx: from* Picris *in the ſimplicity of the down.* G.

ESSENTIAL CHARACTER.

Cal. calycled with deciduous ſcales. *Down* hairy, ſtipitate. *Recept.* naked.

SPECIES.

[1. Crepis pygmæa.
Lin. ſpec. 1131. *Reich.* 3. 648.
Hieracium. *Bocc. muſ.* 2. 33. *t.* 14. *Raii ſuppl.* 142.
Leaves ovate entire villoſe petioled; ſtem procumbent.

2. Crepis burſifolia.
Lin. ſpec. 1131. *Reich.* 3. 648.
Hieracium. *Bocc. muſ.* 2. 147. *t.* 106. & 112. *Raii ſuppl.* 142.
Leaves pinnatifid crenate; ſcape naked few-flowered.]

3. Crepis barbata. *Spaniſh* or *bearded Crepis,* or *purple-eyed Succory Hawkweed.*
Lin. ſpec. 1131. *ſyſt.* 719. *Reich.* 3. 649. *hort. upſ.* 239. *Curt. magaz. t.* 35. *cliff.* 387. (*Hieracium.*)
C. boetica. *Mill. dict. n.* 3.
Hieracium medio nigrum boeticum. *Herm. parad. t.* 185. *Mill. fig. t.* 147. *Raii hiſt.* 232. *n.* 7. *Park. theat.* 792.
H. proliferum falcatum. *Bauh. pin.* 128.
H. calyce barbato. *Col: ecphr.* 2. 28. *t.* 27. *f.* 1.
Involucres longer than the calyx, ſcales ſetaceous ſcattered.

[4. Crepis veſicaria.
Lin. ſpec. 1132. *Reich.* 3. 649.
Hieracium montanum rapifolium. *Bauh. pin.* 128. *prodr.* 65. *Raii hiſt.* 237. *Mor. hiſt.* 3. 65.
β. Cichorium pratenſe hirſutum veſicarium. *Bauh. pin.* 126.
C. ſylveſtre veſic. prat. *Col. ecphr.* 1. 238. *t.* 237.
Involucres ſcarioſe the length of the calyx; flowers corymbed; bractes ovate.]

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[c] Forſt. eſcul.

[d] Vahl.

5. Crepis alpina.
Lin. ſpec. 1134. *Reich.* 3. 650. *Gærtn. fruct.* 2. 364.
Hieracioides annua, endiviæ fol. capite magno. *Vaill. act.* 1721. *p.* 246.
Leontodon. *Gmel. ſib.* 2. 16. *t.* 5.
Involucres ſcarioſe the length of the calyx, flowers ſolitary.

6. Crepis rubra. *Purple Crepis.*
Lin. ſpec. 1132. *ſyſt.* 719. *Reich.* 3. 650. *hort. upſ.* 239. *cliff.* 338. (*Hieracium.*) *Gouan. monſp.* 414. *Krock. ſileſ. n.* 1301.
Leaves ſtem-claſping lyrate-runcinate.

[7. Crepis foetida. *Stinking Crepis,* or *Succory-Hawkweed.*
Lin. ſpec. 1133. *Reich.* 3. 650. *Hudſ. angl.* 339. *With.* 852. *Relh. cant. n.* 570. *Hall. helv. n.* 29. *Pollich. pal. n.* 749. *Gouan. monſp.* 415. *illuſtr.* 59. *Leers herborn. n.* 609. *Krock. ſileſ. n.* 1299. *Villars dauph.* 3. 141.
Hieracium. *Mor. hiſt.* 3. 63. *ſ.* 7. *t.* 4. *f.* 4. *Magn. monſp.* 129. *t.* 128. *Raii hiſt.* 232. *n.* 6. *ſyn.* 165. *n.* 7. *Pet. brit. t.* 12. *f.* 8.
Senecio hirſutus. *Bauh. pin.* 131.
Erigeron tertium. *Dod. pempt.* 641. 3. *Lob. ic.* 1. 226. 1.—tomentoſum alterum. *Ger. emac.* 279.
Leaves runcinate-pinnate rough with hairs; petioles toothed.

8. Crepis aſpera.
Lin. ſpec. 1132. *Reich.* 3. 651.
Hieracioides ſicula, cichorii fol., fl. parvo flaveſcente. *Vaill. act.* 714.
Leaves toothed, lower ovate eared, upper ſagittate, ſtiff briſtles ſcattered over the ſtem.

9. Crepis rhagadioloides.
Lin. ſyſt. 719. *Reich.* 3. 651. *mant.* 108.
Leaves entire ſtem-claſping oblong; interior calyxes toruloſe-jointed hiſpid, leaflets boat-form.

10. Crepis ſibirica. *Siberian Crepis.*
Lin. ſpec. 1135. *ſyſt.* 719. *Reich.* 3. 652. *hort. upſ.* 239. *Gouan. illuſtr.* 60.
Hieracium. *Hall. helv. n.* 39. *Gmel. ſib.* 2. 26. *t.* 10. *Pluk. alm. t.* 116. *f.* 1.
Leaves ſtem-claſping oblong wrinkled toothed at bottom; ſtem rough with hairs; calyxes ciliate on the keel.

11. Crepis tectorum. *Smooth Crepis.*
Lin. ſpec. 1135. *Reich.* 3. 652. *fl. ſuec. n.* 705. *With.* 853. *Lightf.* 440. *Curt. lond.* 5. 55. *Relh. cant. n.* 569. *Hall. helv. n.* 31. *Scop. carn. n.* 954. *Pollich pal. n.* 751. *Leers herborn. n.* 610. *Fl. dan. t.* 501. *Krock. ſileſ. n.* 1307. *Villars dauph.* 3. 144.
Hedypnois tectorum. *Hudſ. angl.* 341.
Hieracium. *Lin. lapp.* 286. *hort. cliff.* 387. *Bauh. hiſt.* 2. 1024. (*glabrum.*) *Raii hiſt.* 234. 16. *ſyn.* 165. 9. *Lob. ic.* 1. 239. & 229. 2. *Dod. pempt.* 636. 3. *Ger.* 228. 2. *emac.* 297. 4. & 284. 2. *Park. theat.* 794. 2. & 777. 2. *Pet. brit.* 12. 5, 6, 7. *Mor. hiſt. ſ.* 7. *t.* 7. *f.* 29. *Tabern.* 491. 2.
Cichorium pratenſe luteum lævius. *Bauh. pin.* 126.
Hieracioides vulgatiſſima pœne glabra annua, fol. longo dentato. *Vaill. act.* 1718.
Leaves lanceolate-runcinate ſeſſile even, the lower toothed.

12. Crepis biennis. *Biennial Crepis. Rough Succory-Hawkweed.*
Lin. ſpec. 1136. *Reich.* 3. 653. *fl. ſuec. n.* 706. *With.* 855. *Engl. bot.* 149. *Relh. cant. n.* 571. *Hall. helv. n.* 30. *Pollich pal. n.* 752. *Leers herborn. n.* 611. *Gærtn. fruct.* 2. 364. *Krock. ſileſ. n.* 1308. *Villars dauph.* 3. 146.
Hedypnois biennis. *Hudſ. angl.* 342.
Hieracium maximum, Chondrillæ fol., aſperum. *Bauh. pin.* 127. *prodr.* 64. *Raii ſyn.* 166. *Park.* 793. *Mor. hiſt. ſ.* 7. *t.* 4. *f.* 46. *Pet. brit.* 12. 10.
H. erucæ fol., hirſutum. *Bauh. hiſt.* 2. 1025. 3.
Hieracioides altiſſima annua, chondrillæ fol., fl. utrinque luteo. *Vaill. act.* 1718.
Leaves runcinate-pinnatifid ſcabrous, toothed at the baſe above, calyxes muricate.

13. Crepis virens.
Lin. ſpec. 1134. *Reich.* 3. 653. *Hall. helv. n.* 33. *Gouan. illuſtr.* 61. *Gærtn. fruct.* 2. 365. *Krock. ſileſ. n.* 1304. *Villars dauph.* 3. 142.
Lapſana capillaris. *Lin. ſpec. edit.* 1. 812. *Gouan. hort. monſp.* 418.
Hieracium minus glabrum, fol. eleganter virentibus. *Bauh. pin.* 127. *prodr.* 63.
H. minus Dioſcoridis. *Tabern.* 181.
H. dentis leonis fol. hirſutum, fl. luteo extus purpuraſcente. *Tourn. paris.* 99.
Leaves runcinate ſmooth ſtem-claſping, calyxes ſubtomentoſe.

14. Crepis Dioſcoridis. *Dioſcorides's Crepis.*
Lin. ſpec. 1133. *Reich.* 3. 654. *Neck. act. palat.* 2. 464. *Pollich pal. n.* 750. *Krock. ſileſ. n.* 1302.
C. virens B. *Villars dauph.* 3. 143.——pulchra. *Scop. carn. n.* 955.
Hieracium majus erectum anguſtifolium, caule lævi. *Bauh. pin.* 127. *Tabern. hiſt.* 491. 1.
Hieracioides vulg. annua, cichorii fol., fl. luteo ſubtus purpuraſcente. *Vaill. act.* 715. *paris.* 102.
Root-leaves runcinate, ſtem-leaves haſtate, calyxes ſubtomentoſe.

15. Crepis pulchra. *Small-flowered Crepis.*
Lin. ſpec. 1134. *Reich.* 3. 654. *Gouan. monſp.* 414. *Krock. ſileſ. n.* 1303. 2. *t.* 37.
Hieracium pulchrum. *Bauh. hiſt.* 2. 1024.
H. montanum hirſutum minus. *Bauh. pin.* 128. and 9. *Raii hiſt.* 234. 15.
Hieracioides annua glutinoſa, flor. parvis. *Vaill. act.* 1721.
β. *Retz. obſ.* 2. 24. *n.* 79. Lapſana condrilloides, &c. *Lin. hort. upſ.* 245.
Hieracium montanum alterum leptomacrocaulon. *Col. ecphr.* 1. 248. *t.* 249. *Raii hiſt.* 234.
H. annuum montanum, caule canaliculato. *Mor. hiſt.* 3. *ſ.* 7. *t.* 5. *f.* 37.
Leaves ſagittate toothletted, ſtem panicled, flowers pyramidal ſmooth.

16. Crepis neglecta.
Lin. ſyſt. 720. *Reich.* 3. 655. *mant.* 107.
Leaves ſtem-claſping runcinate toothed ſomewhat hairy, ſtem panicled, calyxes with one or two ſpines on each leaflet.

17. Crepis albida. *Pale-flowered Crepis.*
Ait. hort. kew. 3. 127. *Lamarck encycl.* 2. 179. *Jacqu. ic. collect.* 1. 81. *Allion. pedem. n.* 800. *t.* 32. *f.* 3. *Villars dauph.* 3. 139.
Leaves runcinate-toothed ſomewhat hoary, peduncles naked one-flowered, calycine ſcales whitiſh at the edge.

18. Crepis rigens. *Briſtly-leaved Crepis.*
Ait. hort. kew. 3. 127.
Leaves oblong doubly ſerrate briſtly; ſtem naked, branched; flowers panicled; calyxes cylindric ſmooth; down ſeſſile.

19. Crepis filiformis. *Fine-leaved Crepis.*
Ait. hort. kew. 3. 128.
Leaves linear-filiform very entire ſmooth; down ſeſſile.

20. Crepis ſucculenta. *Fleſhy-leaved Crepis.*
Ait. hort. kew. 3. 128.
Leaves pinnatifid or toothed ſomewhat fleſhy even; calyxes ſomewhat tomentoſe; down ſeſſile.

DESCRIPTIONS, *&c.*

1. Height not more than ſix inches. Flowers yellow[a]. Gouan (illuſtr. 57.) joins it with the *Hieracium pumilum* of Linneus.—Native of the mountains of Italy.

2. Stems not above a ſpan in height, having on them a few ſhort laciniate leaves. The root-leaves reſemble thoſe of Shepherd's-purſe, whence its name. The ſtems are divided at top into two, three or more peduncles, which are very ſlender and ſupport ſmall flowers. It is a perennial plant, and is found near Palermo, and in other places in Sicily[b]. Alſo in the county of Nice.]

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[a] Ray.
[b] Ibid.

3. This is an annual plant, putting out leaves next the root, nine inches in length, and almoſt two broad in the middle, of a light green colour. Stems a foot and half high, dividing into many branches, and having leaves of the ſame form with the others, but ſmaller and ſeſſile. The flowers are produced at the ends of the branches. The outer ſeries of calycine leaflets are bent down, turn up again, and are bent in at their extremities.

[Leaves lanceolate, ſmooth, with a few teeth. The ſmall branches narrower at the baſe; one as it were growing out of the other. Flowers yellow, purpliſh at the baſe, but the florets in the diſk almoſt wholly dark purple. Seeds columnar, crowned with a very minute ciliate edge, and two long ſimple briſtles [c]. The outer calyx is longer than the corolla [d].—Herman and Miller have miſcalled the diſk black; but Parkinſon and Ray long ſince ſaid that it is *atropurpureus* or very dark purple.]

There are two varieties, one in which the flowers are deep yellow; and the other in which they are of a ſulphur colour inclining to white, but both have a very dark purple bottom or middle, and make a pretty appearance in the flower-garden. They flower in june and july, and the ſeeds ripen in autumn.

[Native of the South of Europe. Introduced about 1620, by Mr. William Boel [e].

4. α. Root thick. Leaves lyrate, angular, toothed, ſcabrous. Stem ſhort. Branches long, naked, bifid or trifid, one-flowered. Bractes of the peduncles ovate, ſolitary, concave, entire, pale. Flowers yellow. Involucre the length of the calyx, compoſed of five or ſix ſpreading, ovate, obtuſe, concave, membranaceous, pale leaflets.

β. Differs manifeſtly from the other in its leaves, but the flowers unite them [f].

α. Said by Linneus to grow in Switzerland, which Haller denies, Hieracium montanum rapifolium of Bauhin belonging to Crepis biennis.

β. Native of Apulia.]

5. This is an annual plant, which ſends out many oblong pointed leaves next the root; they are five inches long, and almoſt two broad at their baſe, leſſening gradually to a point; the upper part is ſlightly indented, but the lower is entire. The ſtems are ſtrong and upright, two feet high, dividing into three or four erect branches, terminated by pale-coloured flowers, incloſed in a ſtrong hairy calyx, which contracts cloſe towards the top. The ſtem-leaves are of the ſame form with the others, embracing, ſlightly indented towards the baſe, hairy and rough. [Receptacle concave, deeply alveolate, the edges of the cells ciliate. Seeds very long, with numerous rugged ſtreaks, of a pale bay colour, from a club-ſhaped baſe leſſening gradually into the ſtipe. Down capillary, white, much ſhorter than the ſeed: ſtipe ſubulate-ſetaceous, rugged, the length of the ſeed. The ſtructure is the ſame in the ſeeds of *veſicaria, rubra, foetida,* &c.[g]]

Native of the Alps. It flowers in june, and the ſeeds ripen in autumn.

6. Root annual. Root-leaves many, lanceolate, deeply jagged. From theſe ariſe the ſtalks, which are a foot and half high, dividing into many ſlender branches, each terminated by one large flower, of a red colour. [Down ſtipitate as in C. alpina and veſicaria. The calyx nods before the flower opens [h].

Native of Italy. Cultivated in 1632, by Mr. Nicholas Swayton [i].

7. Stem a foot or eighteen inches in height, erect, round, angular-grooved, rough with hairs ſtanding out. Root-leaves petioled, forming a tuft; ſtem-leaves claſping, deeply pinnatifid almoſt to the nerve; the outmoſt ſegment triangular, acute, toothletted, the ſide ones broader above, the loweſt linear, a little curved, all toothed, hoary green, hairy, ſcabrous. The ſtem and branches appear panicled with the flowers. Calyx cylindric, conſiſting of parallel ſcales, whitiſh on the outſide, ſet with very ſoft hairs, and at the baſe a few ſmaller ſcales. Flowers yellow, the ſize of thoſe in *C. tectorum* [k]; purple on the outſide, nodding before they open. Seeds very long and ſlender, bearing the down on a long ſtipe [l]. Receptacle ſomewhat hairy [m].

Villars remarks, that this plant varies in ſize, form, colour, and ſmell; but that in all the varieties the root is fuſiform; the ſtem rough, channelled and branched; the leaves aſh-coloured and more or leſs indented at the baſe; that it has commonly the ſmell of bitter Almonds, eſpecially the calyx when bruiſed; that the florets are red on the outſide; the ſeeds fuſiform, and the egret on a ſtipe.

Linneus following Tournefort, attributes the ſmell of bitter Almonds to the leaves; Haller more juſtly gives the plant a bituminous ſcent. Ray ſays that this and the foregoing have a ſtrong ſcent of Caſtor. To me the flowers always ſeemed to have the ſmell of Opium.

Native of France, Germany, Switzerland, Auſtria, Piedmont; England, near Cambridge, Banſtead downs in Surry. Charlton, Northfleet and Greenhithe in Kent. Near Swaffham in Norfolk.

Petiver calls it Caſtor Hawkweed.

It flowers from june to auguſt. Biennial. Linneus makes it an annual.

8. Stem naked, branched, rough with ſubulate, ſtiff, ſcattered, ſpreading briſtles. Flowers almoſt cymed on ſtiff pedicels, ſubſeſſile, alternate, except the laſt. Calyx ſmall, ovate, toruloſe, hiſpid; the outer ſhorter, with ovate, membranaceous, deciduous leaflets.

Native of Sicily, the Levant and Paleſtine [n].

9. Annual. Stem half a foot high, erect, ſtriated, ſcabrous, branched. Leaves ſmooth and even. Peduncles elongated, ſcabrous, one-flowered, naked. Outer calyx compoſed of very many linear, obtuſe leaflets, half the length of the calyx, unequal at the inſertion: inner cut into thirteen parallel parts, each of which is a boat-ſhaped, compreſſed leaflet, the back hiſpid with little barbed prickles. Corolla yellow, purpliſh on the outſide. All the ſeeds have a hairy down [o].

10. Perennial. Stem ſtiff, two feet high, ſtriated, hiſpid. Leaves lanceolate-ovate, ſubruncinate, toothed more and more towards the baſe, ſcabrous underneath on the nerves: the lower on winged toothed petioles. Peduncles one-flowered, leafleſs, ſtrict, thicker towards the flower. Seeds brown-purple.

Compare Hieracium pyrenaicum with this [p]. Gouan combines varieties β and δ of that Hieracium with this ſpecies.

Native of Siberia, Switzerland, and perhaps the Pyrenees.

Introduced 1773, by John Earl of Bute. It flowers in july and auguſt [q].

11. This is a very common plant, of an aſh-coloured green. Stem angular-furrowed, with branches as long as the ſtem. Root-leaves as in common Dandelion (*Leontodon Taraxacum*): ſtem-leaves as in *Leont. autumnale*, with the teeth of the baſe upright and longer: branch-leaves entire, linear, ſubſagittate with the edges rolled back. The flowers never nod, and have the appearance of thoſe of *Lapſana*. Calyx furrowed, ſprinkled longitudinally with clammy hairs. Styles where they riſe above the anther brown, which is a ſingular character. The plant in other reſpects, liable to many variations [r]. In a rich ſoil, appearing as figured by Tabernæmontanus (Ger. 228. 2. *W.*): in a poor ſoil, a foot in height, with linear leaves, ſomewhat toothed, reſembling thoſe of *Plantago Coronopus*, (as in Gmel. 2. 6.); or only a hand's breadth high, with jagged leaves like thoſe of Dandelion [s].

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[c] Linn. ſpec.
[d] Linn. ſyſt.
[e] Hort. kew.
[f] Linn. ſpec.
[g] Gærtner.
[h] Linn, ſpec.
[i] Hort. kew. from Johnſon's iter Cantianum.

[k] Pollich.
[l] Haller.
[m] Leers.
[n] Linn. ſpec.
[o] Linn. mant.
[p] Linn. ſyſt.
[q] Hort. kew.
[r] Linn. ſpec.
[s] Linn. ſuec. and Stokes in With.

Root annual; Relhan alone ſays perennial: ſimple, with few fibres, deſcending, yellowiſh, (very long and taper). *Stem* from one to two feet high or more, (Haller ſays four); upright, ſmooth, or a little hairy, eſpecially towards the baſe, often purple, leafy. *Leaves* very variable, ſmooth or ſlightly hirſute on both ſides (with bifid hairs, *Scop.*); thoſe next the root very like Dandelion leaves, but narrower and the midrib purple on the upper ſide; thoſe of the ſtalk claſping, pointed, and variouſly toothed. Flowers yellow, in a kind of looſe corymb. Inner *calyx* ſubcylindric; ſcales upright, equal: ſcales at the baſe five or more, ſubulate, ſhort, unequal, looſe, and like the others ſlightly hiſpid. *Florets* five-teethed, and moſtly purple beneath. *Seeds* twenty or more in each head, brown and finely grooved: down longer than the ſeed, ſeſſile and ſimple, or ſubplumoſe only when highly magnified[t]. There are ſmall ſubulate bractes on the fruit-ſtalks, at ſmall diſtances beneath the flowers[u].

The flowers, heads, and ſeeds of this plant are ſmaller than any Engliſh Hawkweed, except the *Hyoſeris* and *Hypochæris glabra*. To this we may add, the ſtructure of the calyx, and the ſtem-claſping leaves[x].

The flowers expand about four in the morning, and cloſe about noon[y].

Native of Europe, in paſtures, by way-ſides, on banks and on walls: flowering from june to ſeptember.

Called by our old writers *Yellow Succory*, *Succory-Dandelion*, and *Succory-Hawkweed*.—Petiver calls it *Hawk-beard*, and Dr. Withering has adopted this name for the genus.

12. *Stem* angular, ſcabrous, from four to ſix feet high, brittle. All the *leaves* lyrate-pinnate, hiſpid beneath. *Calyx* furrowed, muricated longitudinally with tender prickles[z].

The lower ſcales ſmooth, patulous; the upper erect, rounded at the back and hiſpid. Receptacle alveolate, the edges of the cells ciliate. Seeds oblong, roundiſh, ſtriated, ſmooth, yellow or ferruginous, more ſlender at top but not ſtiped. Down ſeſſile, capillary, ſnow-white, deciduous[a].

Flowering branches divaricate, bearing ſeveral flowers on ſeparate peduncles. Beneath the lower branches leaves ſimilar to the ſtem-leaves; beneath the upper linear-lanceolate. The peduncles have lanceolate bractes. Leaves of the inner calyx lanceolate. Seeds furrowed, crowned with a ſeſſile down, not plumoſe, a little longer than the calyx[b]. All the ſcales of the calyx ſlightly cottony, with only here and there a ſcattered, ſhort, briſtly hair[c].

Native of Scania, Switzerland, Italy, Germany; England, paſtures in a calcareous ſoil, as in Kent about Northfleet, and between Sittingbourn and Rocheſter; in Cambridgeſhire about Linton, &c. Biennial: flowering in july and auguſt.

The flowers cloſe between three and four in the afternoon[d].

This and the preceding ſpecies, together with Leontodon hiſpidum, hirtum, and autumnale, have been combined by Hudſon, under the name of *Hedypnois*.

13. Root-leaves lanceolate, obtuſe, ſmooth, ſomewhat toothed; ſtem-leaves lanceolate, haſtate, nearly embracing the ſtem, very entire, acute, ſmall. Stems a ſpan in length, erect, filiform, ſubdichotomous. Flowers ſmall, yellow. The calyxes only tomentoſe[e]; but even they are ſmooth according to others[f].

Native of France, Switzerland, Sileſia, and Italy.

Linneus doubts whether this may not be a variety of the next ſpecies; and Gouan does not heſitate to make them one and the ſame.

According to Gærtner, it differs from *Hieracium* only in the calyx; which, when ripe, reſembles much that of *Hyoſeris minima*; is ventricoſe, toruloſe, and ſcarcely calycled. Receptacle obſoletely ſcrobicular. Seeds regularly columnar, deeply grooved, ruſeſcent. Down capillary, ſeſſile, half as long again as the ſeed, deciduous.

14. Annual. Stem a foot high, ſomewhat angular, ſmooth and even; branches but few, round and ſpreading. Root-leaves lyrate-toothed, naked, ſmooth, toothletted, ſcarcely ciliate: ſtem-leaves claſping, haſtate, linear-lanceolate, with a purple ſtain on the lower diſk, and the ears very much toothed at the baſe: branch-leaves linear, with one tooth at the baſe. Peduncles long, naked, aſcending, one-flowered, ſcarcely thickened at the end. Calyxes meally, not nodding before they flower; the calycle linear. Corolla yellow, purple beneath before it expands[g].

This is united with the preceding by ſeveral authors, as Vaillant, Haller, Gouan, and Villars.

Native of France, the Palatinate, Sileſia, Italy, Siberia. Flowering in june.

Introduced 1772, by Monſ. Richard[h].

15. Calyx ſmooth and even, narrow, angular, with very minute green ſcales at the baſe. Annual. Native of France and Italy[i].

It flowers in july and auguſt: and was cultivated in Chelſea garden, in 1739[k].

Krocker has a long deſcription of it.

β. is thus deſcribed by Retzius.—Root annual, branched. Stem upright, branched, from two to five feet high, grooved, ſmooth, panicled. Lower leaves lyrate, upper oblong-cordate, the reſt haſtate; all ſeſſile, ſinuate-toothed, pubeſcent, eſpecially the uppermoſt, which are linear and entire. Flowers panicled, yellow, on naked pedicels. Calyx cylindric, ſmooth, ten-leaved; leaflets linear, keeled; calycle of five ſhort margined ſcales. Florets twenty-four, a little higher than the calyx. Receptacle naked. Seeds oblong, cylindric, very ſlightly ſtreaked. Down ſimple, ſeſſile.

16. Annual. Stem a foot high, branched, ſomewhat hairy, erect. Root-leaves obovate-oblong, toothed, ſomewhat hairy: ſtem-leaves claſping, runcinate, ſomewhat hairy, with elongated teeth even at the baſe: upper leaves ſubhaſtate. Flowering branches elongated, naked, ſmooth and even, two-flowered or bifid at the end. Outer calyx very ſhort, acute; inner having eight or ten leaflets, with one or two harmleſs ſpines in the middle. This agrees with *C. pulchra* in its ſize and the ſmallneſs of its flowers; it differs in having the leaves runcinate, toothed and ſomewhat hairy, whereas in the other they are entire, a very little toothed and viſcid. Some of the ſynonyms given under *C. pulchra* belong probably to one, and ſome to the other.—This is a native of Italy[l].

17. Perennial. Stems ſeveral, twice or thrice dichotomous, with a ſeſſile leaf at each diviſion of the branches. Root-leaves elliptic, gradually leſſening into a leafy petiole, thickiſh, toothed, ſeldom quite entire. Stem-leaves half embracing, rougher, ſharper, with a more evident prickle. Receptacle alveolate. Calyx nearly conic, toroſe; inner ſcales roughiſh, duſky at the end, whitiſh about the edge, boat-ſhaped at their origin, at firſt erect, but afterwards ſpreading; ſome of the outer ſcales longer than the reſt and preſſed cloſe to the others. Peduncles naked, thickened under the flower, having a ſmall ſcale near the calyx. Florets five, the length of the calyx. Down ſimple, ſeſſile, about the length of the ſeed. When the ſeed is ripe, the calyx is wholly reflected[m].

The deſcription by Monſ. Villars contains ſome particulars not mentioned by Allioni, and differs in many reſpects from his.—The ſingle ſtem bears two or three flowers, ſometimes one only, but is commonly divided into two or three peduncles; it is ſtraight, firm, grooved and villoſe from the middle upwards; and the branches are ſpreading. Leaves at firſt entire, afterwards toothed and even pinnatifid ; they are white and villoſe, four or five inches long, and an inch wide : there are only two or three ſhorter ones under the branches. Peduncles a little thicker at top, with hairs in part glandular. Calyx pretty large, dilated and having a ſingle ſcale at the baſe ; otherwiſe ſimple, with the ſcales imbricate as in *Hieracium*, but very ſenſibly membranous at the edge, as in *Hypochæris*. Flowers large, pale yellow or whitiſh, compoſed of a great number of florets. Seeds diminiſhing into a ſtipe at top. Egret very white, hairs ſimple or a little toothed, but ſhort and numerous. Receptacle a little villoſe.

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[t] Curtis.
[u] Pollich and Woodw. Mſſ.
[x] Curtis.
[y] Linn. ſuec.
[z] Linn. ſpec.
[a] Gærtner.
[b] Woodw. Mſſ.
[c] Stokes in With.
[d] Linn. ſuec.
[e] Linn. ſpec.
[f] Haller and D'Aſſo.

[g] Linn. ſpec.
[h] Hort. kew.
[i] Linn. ſpec.
[k] Hort. kew.
[l] Linn. mant.
[m] Allioni.

Native of France and Italy.

18. Native of the Azores. Perennial. Flowering in july and auguſt. Introduced 1778.

19, 20. Natives of Madeira. Introduced 1777, from Mr. Francis Maſſon.—The firſt is biennial, and flowers in june; the ſecond is annual, and flowers in auguſt and ſeptember [n].

PROPAGATION AND CULTURE.

Few of theſe plants are commonly cultivated, and ſome of them are weeds in gardens and paſtures. The third and ſixth ſpecies appear as annuals in the flower-garden. Theſe and any of the other ſorts may eaſily be propagated from ſeeds ;] which ſhould be ſown in the ſpring, on the borders of the flower-garden where they are deſigned to remain, ſo that if ſix or eight ſeeds are ſown in each patch, when the plants come up, they may be reduced to three or four; and if theſe are kept clean from weeds, they will require no other culture, excepting the putting ſmall ſticks down, to faſten the ſtalks to prevent their being broken by winds or rains. If the ſeeds are ſown in autumn, or permitted to ſcatter, the plants will come up and live through the winter without ſhelter, and theſe will flower early in the ſpring.

[The three laſt ſpecies require the protection of a greenhouſe. All the others are hardy.

Crepis. See *Apargia, Hieracium, Leontodon.*]

CRESCENTIA. (*From Pietro Creſcentio, the Italian writer on Agriculture, in the thirteenth century.*)

Engl. *Calabaſh-tree.* Fr. *Calebaſſier, Couis.*
Lin. gen. 762. *Reich.* 820. *Schreb.* 1021.
Cujete. *Plum.* 16.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Putamineæ ?—Solaneæ ? Juſſ.* 127.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, two-parted, ſhort, deciduous; *diviſions* roundiſh, concave, obtuſe, equal.
Cor. one-petalled, unequal. *Tube* gibbous, crooked, toruloſe. *Border* erect, five-cleft ; *diviſions* unequal tooth-ſinuated.
Stam. *Filaments* four, ſubulate, length of the corolla, ſpreading ; of which two are a little ſhorter. *Anthers* incumbent, obtuſe, twin.
Pist. *Germ* pedicelled, ovate. *Style* filiform, length of the corolla. *Stigma* headed.
Per. *Berry* oval, hard, one-celled.
Seeds very many, ſubcordate, neſtling, two-celled.

ESSENTIAL CHARACTER.

Cal. two-parted, equal. *Cor.* gibbous. *Berry* pedicelled, one-celled, many-ſeeded. *Seeds* two-celled.

SPECIES.

1. Creſcentia Cujete. *Narrow-leaved Calabaſh-tree.* *Lin. ſpec.* 872. *ſyſt.* 564. *Reich.* 3. 161. *hort. cliff.* 327. *Jacqu. amer. t.* 111. *pict.* 86. *t.* 167. *Comm. hort.* 1. 137. *t.* 71. *Brown. jam.* 265. 1.
Cujete. *Plum. gen.* 23. *ic.* 109.
β. C. anguſtifolia, fr. minori globoſo aut ovato. *Plum. gen.* 23. *Brown. jam.* 266. 2, 3.
γ. C. minima, fructu duro. *Plum. gen.* 23.
Leaves wedge-lanceolate crowded.

2. Creſcentia cucurbitina. *Broad-leaved Calabaſh-tree.* *Lin. ſyſt.* 565. *Reich.* 3. 162. *mant.* 250. *Brown. jam.* 266. 4.
C. Cujete δ. *Lin. ſpec.* 873.
Creſcentia latifolia. *Mill. dict. n.* 2.
Leaves ovate ſubcoriaceous diſtinct, fruits ovate acuminate.

DESCRIPTIONS, &c.

[Theſe are ſmall trees, with large leaves, either ſingly alternate (2) or in alternate bundles (1). Flowers on the trunk or branches ſubſolitary.—Juſſieu doubts whether C. jaſminoides of Lamarck, Cateſb. car. 1. t. 59. be of this genus.

1. This tree grows to the height of about twenty feet, and is eaſily diſtinguiſhed from all others by its peculiar appearance. It divides at top into very long, thick, ſcarcely ſubdivided branches, ſtretching out almoſt horizontally, adorned with leaves diſpoſed in bundles or tufts ſcatteringly at irregular diſtances. The wood is light and pliant. The bark is unequal and aſh-coloured or whitiſh. The leaves are uncertain in their number from the ſame knot or tubercle ; they are oblong, attenuated at the baſe, on very ſhort petioles, acute, entire, ſhining, veined, bright green, four or five inches long. Peduncles one-flowered, ſolitary, ſcattered over the older branches, and frequently on the trunk itſelf three inches above the ground. Flower large, ſometimes entirely green, but often differently variegated with purple red and yellow ; it does not wither, but becomes putrid, and in that ſtate exhales a cadaverous, very nauſeous and intolerable ſtench. It happens not uncommonly, that there are five fertile ſtamens, and in that caſe three of them are longer than the other two. The form of the fruit varies on different trees, being ſpherical, ſpheroidal, or ſhaped like a bottle ; it differs alſo in ſize from two inches to a foot in diameter. Theſe, however, if they are no more than varieties, are very conſtant [a].] They are covered with a thin ſkin of a greeniſh yellow colour when ripe, and under this is a hard thin woody ſhell, incloſing a pale yellowiſh ſoft pulp, of a tart unſavoury flavour, ſurrounding a great number of flat ſeeds. The ſhells, cleanſed of their pulp, deprived of the outer ſkin, and dried, are uſed in the Weſt Indies for drinking cups, tipped with ſilver, and with handles faſtened to the neck ; the long ſmall fruit is formed into ſpoons and ladles ; that which is round, is cut through the middle, and uſed as cups for chocolate : in ſhort theſe ſhells are converted into a variety of domeſtic furniture. [They are frequently large enough to hold a gallon or more of fluid : and they are ſo thin and cloſe, that they ſerve to boil water as well as an earthen pot, and will bear the fire equally, on repeated trials. The thicker parts are frequently uſed for button-moulds, in all the colonies [b]. The Caribbs engrave the outſide with a variety of groteſque figures, which they ſometimes colour black or red [c]. The pulp is eaten by the negroes occaſionally, but is not looked upon as either agreeable or wholeſome. It is however much uſed by way of poultice [d]; and a ſyrup made of it is in much requeſt among the natives in diſorders of the breaſt, in contuſions and inward bruiſes [e]. The wood being very tough and flexile, is very fit for the coachmaker [f];] and is frequently uſed for making ſaddles, ſtools, and other furniture. The leaves and branches are eaten by cattle in times of ſcarcity ; as is alſo the pulp of the fruit.

It is a native of Jamaica and all the Leeward iſlands, [chiefly in the low lands; and alſo of the neighbouring continent.—It was introduced here in 1690, by Mr. Bentick [g].

2. The trunk of this tree is middle-ſized, unarmed, ſmooth and even. The branches ſubdivided, erect, not ſpreading, ſtiff and ſtraight, angular, even. Leaves oppoſite, alternate or ſcattered, never in tufts, larger, broad, ovate, with a ſhort point, quite entire, nerved, abſolutely ſmooth, ſhining above, paler beneath. Petioles ſhort, thick, ſmooth. Peduncles two to five, terminating, ſhorter than the leaves, longer than the petioles, one-flowered. Corollas nodding, the ſize of the preceding, but more duſky ; the baſe of the tube and throat is white, the

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[n] Hort. kew.

[a] Jacquin.
[b] Browne.
[c] Jacquin.
[d] Browne.
[e] Jacquin.
[f] Browne.
[g] Hort. kew.

belly red, the border pale, the ſegments duſky. The fruit is pedicelled, ovate-oblong with a ſhort point, one-celled.

It differs from the preceding in its habit, the uprightneſs of its branches, its flat, oblong, ſhining, coriaceous leaves, terminating flowers on longer pedicels, corolla with the border entire, and ovate, acuminate fruit. It flowers the whole year[h].

Native of Jamaica, in dry rocky places near the coaſt.] Mr. Miller had the fruit from Dr. Houſtoun, who found it growing naturally in plenty at Campeachy. According to him, it ſeldom riſes more than fifteen or twenty feet high, the trunk is upright, covered with a white ſmooth bark, the leaves are three inches in length, and one inch and a quarter broad, of a deeper green than the preceding, the flowers ſmaller and deeper-coloured, the fruit round or oval, varying much in ſize, the ſhell ſo thin and brittle as to be unfit for any purpoſes to which that of the former is employed, the ſeeds much thinner, and the pulp of a deeper yellow. The wood is very hard and white.

PROPAGATION AND CULTURE.

Theſe trees being too tender to live abroad in England, require a warm ſtove to be preſerved here. They are eaſily propagated by ſeeds, which muſt be procured from the countries where they grow naturally; the way is to have the entire fruit ſent over when fully ripe; for when the ſeeds are taken out of the pulp abroad, if they are long in their paſſage they will loſe their growing quality before they arrive, as I have often experienced. Theſe muſt be ſown on a good hot-bed in the ſpring, and when the plants are fit to remove, they ſhould be each planted into a ſmall halfpenny pot filled with light ſandy earth, and plunged into a hot-bed of tanner's bark, obſerving to ſhade them from the ſun till they have taken freſh root; when they muſt be treated in the ſame manner as other tender plants, which are natives of the ſame countries. In winter they muſt be placed in the tan-bed of the bark-ſtove, and during that ſeaſon ſhould have but little water; in ſummer they will require to be gently watered two or three times a week, according to the warmth of the ſeaſon; and in hot weather they ſhould have a large ſhare of air admitted to them. With this management the plants will make great progreſs, and their leaves being of a fine green, they make a pretty variety in the ſtove, but have not as yet flowered in England.

CRESS. See *Cardamine.*
——— Baſtard. See *Thlaſpi.*
——— Garden. See *Lepidium.*
——— Indian. See *Tropæolum.*
——— Rock. See *Iberis.*
——— rocket. See *Vella.*
——— Swines. See *Cochlearia.*
——— Water and Winter. See *Siſymbrium.*

[CRESSA. (*A Cretan plant*; *thus Ovid calls Phædra* Creſſa puella, *a Cretan damſel.*)
Lin. gen. n. 313. *Reich.* 341. *Schreb.* 439.
Anthyllis *Magn. char.* 212.
Claſſ. 5. 2. Pentandria Digynia.
Dubii Lin. *Convolvuli* Juſſ. 134.

GENERIC CHARACTER.

CAL. *Perianth* five-leaved: *leaflets* ovate, obtuſe, incumbent, permanent.

COR. one-petalled, ſalver-form: *Tube* length of the calyx, bellied below. *Border* five-parted. *Diviſions* ovate, acute, ſpreading.

STAM. *Filaments* five, capillary, long, ſitting on the tube of the corolla. *Anthers* roundiſh.

PIST. *Germ* ovate. *Styles* two, filiform, length of the ſtamens. *Stigmas* ſimple.

PER. *Capſule* ovate, one-celled, two-valved, a little longer than the calyx.

SEEDS ſingle, ovate-oblong.

OBS. *In* C. indica *the capſule is four-ſeeded.*

ESSENTIAL CHARACTER.

Cal. five-leaved. *Cor.* ſalver-form. *Filam.* ſitting on the tube. *Capſ.* two-valved, one-ſeeded.

SPECIES.

1. Creſſa cretica.
Lin. ſpec. 325. *Reich.* 629. *amœn.* 1. 395.
Anthyllis. *Alp. exot.* 157. *t.* 156. *Raii hiſt.* 215.
Quamoclit min. humifuſa paluſtris, herniariæ fol. *Tournef. cor.* 4.
Chamæpithys incana, exiguo fol. *Bauh. pin.* 249.
Lyſimachiæ, &c. affinis, &c. *Pluk. alm. t.* 43. *f.* 6.
Corollas beardleſs, capſules one-ſeeded.

2. Creſſa indica.
Retz. obſ. 4. 24. *n.* 71.
Corollas bearded at the tip, capſules four-ſeeded.

DESCRIPTION, *&c.*

1. This is a ſmall plant, and very ſhrubby. Root long, ſlender, jointed, white. Hence ariſe ſeveral ſtems, not fewer than five, long, ſlender, round, whitiſh, whence at ſhort intervals ſpring many ſlender ſhort twigs, ſurrounded on every ſide with many very ſmall leaves, the ſize and form of a lentil: the whole forming a very cloſe round ſhrub. The ſmall flowers come out at the ends of the twigs. The fruit is ſmall, oblong and cylindric, of the ſize and ſomewhat of the form of a grain of wheat. The whole plant is white, and has a ſalt taſte[l].

Native of Crete, on the ſea ſhores; and at Oſtia near Rome.

2. It differs from the preceding in having the corolla ſnow-white, hairy on the outſide, eſpecially at the ends of the ſegments, and four ſeeds in the capſule. In other reſpects it is like the other.

Native of the Eaſt Indies, in ſalt marſhes; obſerved there by Koenig[k].

Crimſon Graſs-Vetch. See *Lathyrus Niſſolia.*
Crinita capenſis. See *Pavetta caffra.*

CRINODENDRUM. (*From* Κρινον *a Lily, and* Δενδρον *a tree*; *Lily-tree.*)
Lin. gen. Schreb. n. 1114. *Molina. Chil.* 179.
Cavanill. diſſ. 5. *p.* 300. *t.* 158.
Claſſ. 16. 4. Monadelphia Decandria.

GENERIC CHARACTER.

CAL. none.

COR. bell-ſhaped. *Petals* ſix, oblong, erect, ſpreading at the tip.

STAM. *Filaments* ten, erect, united at bottom. *Anthers* ovate, erect.

PIST. *Germ* ſuperior, ovate. *Style* ſubulate, a little longer than the ſtamens.

PER. *Capſule* coriaceous, obtuſely three-cornered, one-celled, gaping elaſtically at top.

SEEDS three, roundiſh.

ESSENTIAL CHARACTER.

Cal. none. *Cor.* bell-ſhaped, ſix-petalled. *Capſ.* one-celled, gaping elaſtically at top.

SPECIES.

1. Crinodendron Patagua.
Cavanill. diſſ. 9. *p.* 300. *ic. tab.* 158. *fig.* 1.
Molina hiſt. Chil. p. 179.
Lily-tree with oppoſite, lanceolate, ſerrated leaves.

DESCRIPTION.

This, which is the only ſpecies at preſent known, is a ſuperb, ever-green branchy tree, with a body of ſeven feet in diameter. The leaves are oppoſite, a great deal longer than the petioles, of a bright green, lanceolate, and ſerrated: there are no ſtipules: the flowers are ſcattered and axillary, the peduncles one-flowered; the flowers having the odour of lilies. The ſeeds are of the ſize of a lentil. It is a native of Chili: Joannes Ignatius Molina was its firſt diſcoverer and deſcriber.]

CRINUM. (*A name in Pliny.* Κρινον *of Dioſcorides. Derivation unknown.*)
Lin. gen. n. 405. *Reich.* 438. *Schreb.* 553.
Bulbine. *Gærtn.* 13.
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Spathaceæ.—Narciſſi.* Juſſ. 54.

GENERIC CHARACTER.

CAL. *Involucre* ſpathe-form, two-leaved, oblong, umbelluliferous, after gaping reflected.

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[h] Swartz.

[l] Alpin.

[k] Retz.

Cor. one-petalled, funnel-form; *Tube* oblong, cylindric, inflected. *Border* ſix-parted: *diviſions* lanceolate-linear, obtuſe, concave, reflected, of which the three alternate ones are diſtinguiſhed by a hooked appendicle.

Stam. *Filaments* ſix, ſubulate, from the baſe of the border, of the length of the border, converging. *Anthers* oblong, linear, riſing upwards, incumbent.

Pist. *Germ* inferior. *Style* filiform, length of the flower. *Stigma* three-cleft, very ſmall. (ſimple or three-cleft. *J.*)

Per. *Capſule* ſubovate, three-celled. (covered with the calyx. *J.*)

Seeds ſeveral.

Obs. *It differs from* Pancratium *only in the want of a nectary.* L'Herit.

ESSENTIAL CHARACTER. Syſt.

Cor. funnel-form, monopetalous, ſix-parted: three alternate ſegments uncinate. *Germ* at the bottom of the corolla, covered. *Stam.* diſtant.

ESSENTIAL CHARACTER. Lin. fil. in Hort. kew.

Cor. funnel-form, half-ſix-cleft: tube filiform; border patulous recurved, ſegments ſubulate channelled. *Filam.* inſerted in the throat of the tube, diſtinct.

SPECIES.

1. Crinum aſiaticum.
Lin. ſpec. 419. *ſyſt.* 318. *Reich.* 2. 23. *fl. zeyl. n.* 127. *L'Herit. ſert.* 8. *Lour. cochinch.* 197.
Bulbine aſiatica. *Gærtn. fruct.* 42.
Amaryllis bulbiſperma. *Burm. prodr.* 9.
Lilium zeylanicum bulbiferum & umbelliferum. *Herm. lugdb. t.* 683.
Radix toxicaria. *Rumph. amb.* 6. 155. *t.* 69.
Belutta-pola-taly. *Rheed. mal.* 11. 75. *t.* 38. *Rudb. elyſ.* 2. *t.* 90.
Leaves keeled.

2. Crinum americanum. *Great American Crinum.*
Lin. ſpec. 419. *α. Reich.* 2. 24. *hort. cliff.* 127. *upſ.* 76. *Ait. hort. kew.* 413. *L'Herit. ſert.* 8.
Lilio-aſphodelus. *Comm. rar. t.* 14. *Dill. elth.* 194. *t.* 161. *f.* 195.
Leaves oblong-lanceolate, very ſmooth at the edge, with the end contracted and hooked; flowers pedicelled, with the tube ſhorter than the border.

3. Crinum erubeſcens. *Small American Crinum.*
Lin. ſpec. 419. *β. Ait. hort. kew.* 413.
C. aſiaticum. *Mill. dict. n.* 2. *fig. t.* 110.
Lilio-aſphodelus. *Comm. rar. t.* 15.
Leaves lanceolate cartilaginous-crenulate, the end produced and unfolded; flowers ſeſſile; tube longer than the border.

[4. Crinum tenellum.
Lin. ſyſt. 319. *ſuppl.* 194. *Jacqu. ic. rar. Pluk. alm. t.* 225. *f.* 2. (Siſyrinchium.)
Spathe many-flowered, corollas equal, leaves filiform.

5. Crinum lineare.
Lin. ſyſt. 319. *ſuppl.* 195.
Leaves linear; corollas bell-form, with two ſegments narrower than the reſt.

6. Crinum nervoſum.
L'Herit. ſert. 8. *n.* 3. *Rumph. amb.* 6. 160. *t.* 70. *f.* 1. (Cæpa.)
Leaves roundiſh nerved, filaments widened at the baſe.

DESCRIPTIONS, &c.

1. Root ſolid, turbinate, ſurrounded with long branching fibres. Stem ſhort, thick, coated, white, ſingle. Leaves three feet long, three inches wide, ſubulate-linear, erect, ſtriated, thick, imbricate. Scapes axillary, round, equal to the leaves. Flowers white, large, in a ſimple flat umbel. Common involucre oblong. All the ſegments of the corolla are equal, and not hooked. Stamens diſtant. Capſule roundiſh, irregularly lobed [a].

Linneus obſerves, that the leaves are equitant in two rows. Corolla purple with white edges. Stamens declining: according to L'Heritier they are ſcarcely ſo. Bulbs are generated between the capſules. Native of Malabar, Ceylon, Tranquebar, Cochinchina, &c.

Rumphius extols the efficacy of the roots againſt poiſon both of ſerpents and arrows, in œdematous ſwellings, &c.

Gærtner makes this a diſtinct genus under the name of *Bulbine*, affirming that it differs as much from Crinum, as Alſtroemeria from Hemerocallis. For Crinum has a ſuperior, priſmatic, three-valved capſule, and very ſmall ſeeds, perpendicularly imbricate, and terminated by a membranaceous wing, as in Pinus. Whereas the capſule in this is inferior, membranaceous, inflated and valveleſs: the ſeeds three-ſided, with membranaceous angles: the diviſions of the corolla alſo are not hooked at the end. But his Crinum is our *Agapanthus umbellatus.*

2. Flowering ſtem a foot and half in height, the thickneſs of a finger, ſlightly compreſſed, coming out, not from the centre of the leaves, but on one ſide. Leaves two feet and more in length, and a hand broad, furrowed on the upper ſurface, and keeled on the lower, ſmooth, ſtiff, light green, ſlightly waved on the edge, thickiſh, ſharp-pointed, pierced with many largiſh pores. Flowers before they open pale yellow, but when open of a milky whiteneſs, and of no diſagreeable ſmell: ſegments of the petals keeled; tube about two inches in length. Stamens long, bending in, white at bottom, but purple at top. Style ſhorter than the ſtamens, of a deeper purple colour. The flowers open ſucceſſively, each laſting a day or two. Some very ſlender threads adhere to the involucre, and to the pedicels of the flowers [b]. Native of South America. Flowering in july and auguſt. Cultivated 1732, in the garden of James Sherard, M. D. at Eltham [c].

3. The flower-ſtem ariſes immediately from the root, on the outſide of the leaves, and is about two feet high; on the top are eight or ten flowers, in form of an umbel, cloſely joined at their baſe, but ſpreading above. They are of a beautiful white colour, and ſmell very ſweet. The ſtamens are ſtretched out to a conſiderable length beyond the petals. After the flowers are paſt, the germ ſwells, and becomes an oblong bulb. The plants generally flower three or four times in a year, but at no regular ſeaſon; as the petals are of a very tender texture, they do not continue in beauty longer than four or five days [d].

Native of the Spaniſh Weſt Indies. Mr. Miller received roots of this and the foregoing ſpecies, at leaſt as early as the year 1756, from Panama and Carthagena, probably ſome years earlier, and cultivated them in the Botanic Garden at Chelſea.

4. A plant leſs than *Ornithogalum minus.* Leaves radical, linear-filiform, of a finger's length. Scape filiform, columnar, the ſame length with the leaves. Flowers in an umbel, of three or four equal, filiform pedicels, an inch in length, from patulous erect: ſpathe linear, membranaceous: corolla the ſize of *Arenaria trinervia,* ſpreading a little; petals lanceolate, equal: ſtamens almoſt erect, a little ſhorter than the corolla: germ tricoccous: ſtigma often ſpiral, as in *Anthericum ſpirale.*—Found at the Cape of Good Hope, by Sparrmann [e]. According to the opinion of the younger Linneus and Solander, this is a *Leucoium,* or perhaps a new genus [f].

5. Flowers large, white. Found at the Cape by Thunberg [g].]

6. Leaves cordate-rounded, entire, acuminate, with concentric nerves. Scape many-flowered, many-leaved. Flowers on long peduncles. Tube of the corolla filiform; ſegments of the border acute, ſpreading. Filaments inſerted into the throat, oppoſite to and ſhorter than the ſegments, ſtraight, not declined. Native of the Philippine iſlands, obſerved by Monſ. Poivre [h].]

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[a] Loureiro.

[b] Dillenius.

[c] Hort. kew.

[d] Mill. fig.

[e] Linn. ſuppl.

[f] L'Heritier ſert. p. 9.

[g] Linn. ſuppl.

[h] L'Heritier.

PROPAGATION AND CULTURE.

Theſe bulbs are very ornamental plants for the ſtove. They are eaſily propagated by offſets, which the roots put out in plenty; or by the bulbs which ſucceed the flowers, and ripen perfectly here. Theſe muſt be planted in pots filled with rich earth, and if plunged into the tan-bed in the ſtove, the plants will make greater progreſs and flower oftener, than when they are placed on ſhelves; though in the latter way they will ſucceed very well, provided they are kept in a good temperature of heat. The roots ſhould be tranſplanted in the ſpring, and all the offſets taken off, otherwiſe they will fill the pots, and ſtarve the old plants: they muſt be frequently refreſhed with water, but it muſt not be given them too plentifully, eſpecially in winter. Theſe ſorts flower at every ſeaſon of the year, which renders them more valuable; for where there are many plants, there will be almoſt a perpetual ſucceſſion of flowers, which emit a very agreeable odour.

[CRINUM africanum. See *Agapanthus.*
———— anguſtifolium. See *Cyrtanthus anguſtifolius.*
———— falcatum. See *Amaryllis falcata.*
———— latifolium. See *Amaryllis latifolia.*
———— obliquum. See *Cyrtanthus obliquus.*
———— ſpecioſum. See *Amaryllis purpurea.*
———— zeylanicum. See *Amaryllis zeylanica.*
CRISTA. See *Cæſalpinia.*]
CRISTA GALLI. See *Rhinanthus,* and *Hedyſarum.*
CRISTA PAVONIS. See *Guilandina,* and *Poinciana.*

CRITHMUM. (Κριθμον *of Dioſcorides. Derivation unknown.*)

Lin. gen. n. 340. *Reich.* 371. *Schreb.* 473. *Tourn.* 169. *Juſſ.* 223.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ* or *Umbelliferæ.*

GENERIC CHARACTER.

CAL. *Umbel univerſal* manifold, hemiſpheric; *Partial* ſimilar.
Involucre univerſal many-leaved: *leaflets* lanceolate, obtuſe, reflex; *Partial* lanceolate-linear, length of the umbellule.
Perianth proper ſcarce obſervable.
COR. *Univerſal* uniform: *Florets* all fertile.
Proper petals five, ovate, inflex, equal.
STAM. *Filaments* five, ſimple, longer than the corolla. *Anthers* roundiſh.
PIST. *Germ* inferior. *Styles* two, reflex; *Stigmas* obtuſe.
PER. none. *Fruit* oval, compreſſed, bipartile.
SEEDS two, elliptic, compreſſed-flat, ſtriated on one ſide.

ESSENTIAL CHARACTER.

Fruit oval, compreſſed. *Florets* equal.

SPECIES.

1. Crithmum maritimum. *Sea* or *rock Sampire.*
Lin. ſpec. 354. *ſyſt.* 280. *Reich.* 680. *mant.* 353. *hort. cliff.* 98. *upſ.* 61. *Hudſ. angl.* 117. *With.* 286. *Lightf.* 158. *Jacqu. hort.* 2. 88. *t.* 187. *Scop. carn. n.* 367. *Allion. pedem. n.* 1366. *Plenck, ic. t.* 209.
C. ſ. foeniculum maritimum minus. *Bauh. pin.* 288. *Mor. hiſt. ſ.* 9. *t.* 7. *f.* 1.
C. marinum. *Dod. pempt.* 705. 1. *Lob. ic.* 1. 392. 2. *Ger.* 427. 1. *emac.* 533. 1. *Raii hiſt.* 457. *ſyn.* 217. *Bauh. hiſt.* 3. 194.
Leaflets lanceolate, fleſhy.

2. Crithmum pyrenaicum. *Pyrenæan Sampire.*
Lin. ſpec. 354. *ſyſt.* 280. *Reich.* 681. *hort. cliff.* 98.
Apium pyr., thapſiæ facie. *Tournef. inſt.* 305.
The ſide leaflets twice trifid.

[3. Crithmum latifolium. *Wedge-leaved Sampire.*
Lin. ſyſt. 280. *ſuppl.* 180. *Ait. hort. kew.* 342.
Leaflets wedge-form cleft.

DESCRIPTIONS, &c.

1. Perennial. Stems ſmooth and even, entirely ſimple. Leaves triternate, the middle one often five-leaved. Leaflets linear, acute, lucid. Petiole the thickneſs of the leaflet. Involucre five-leaved, involucels ſeven-leaved, ſhort[1].]

It has a root compoſed of many ſtrong fibres, which penetrate deep into the crevices of the rocks, ſending up ſeveral fleſhy ſucculent ſtalks, which riſe about two feet high, with winged leaves, compoſed of three or five diviſions, each of which has three or five thick, ſucculent leaflets near half an inch long; the foot-ſtalks of the leaves embrace the ſtalks at their baſe. The flowers are produced in circular umbels at the top of the ſtalks; theſe are of a yellow colour, and are ſucceeded by ſeeds ſomewhat like thoſe of Fennel, but larger. This herb is pickled, and eſteemed very comfortable to the ſtomach, and is agreeable to the palate; it provokes urine gently, removes the obſtructions of the viſcera, and creates an appetite; it is commonly uſed for ſauce; it is gathered on the rocks, where it grows naturally, but the people who ſupply the markets with it, ſeldom bring the right herb, but inſtead of it they bring a ſpecies of After, which is called golden Sampire, but has a very different flavour from the true, nor has it any of its virtues. This grows in greater plenty, and upon the plain ground which is overflowed by the ſalt water; whereas the true Sampire grows only out of the crevices of perpendicular rocks, where it is very difficult to come at. It flowers in july, and the ſeeds ripen in autumn.

[Native of the rocky ſhores of the European ocean. In Britain, on Dover cliffs, Winchelſea, Rye, Southampton, the iſle of Wight; on all the cliffs of the Corniſh coaſt. The fields about Porth Gwylan in Caernarvonſhire are covered with it. Furneis in Lancaſhire. Galloway in Scotland.—Allioni informs us that it alſo grows on old walls in the Alps.—It is not only uſed as a pickle, but freſh as a pot-herb, by inhabitants of the ſea-coaſt. Not only the *Inula crithmoides,* which Mr. Miller calls a ſpecies of Aſter, is uſed for Sampire, but the *Salicornia* is the only Sampire known on the eaſt coaſt, and is called *Marſh Sampire.* The inhabitants there muſt needs be ſurpriſed that the gathering of Sampire ſhould be called a dangerous trade, when they pluck it at their eaſe as they walk on the ſand. This, however, is taſteleſs, and has a tough ſtring running through the middle; whereas the true Sampire has a warm aromatic flavour, without any impediment to the teeth in eating.—Mr. Pennant informs us that ſheep and cows eagerly feed, and are ſaid to grow fat upon it.

It has the name *Sampire* or *Sampier,* ſometimes wrongly ſpelt *Samphire,* from the French *St. Pierre.* Gerarde ſays, it is by ſome called *Creſtmarine,* which is alſo from the French *Criſte marine*; they likewiſe call it *Bacille maritime, Fenouil marin, Paſſe-pierre, Perce-pierre* and *herbe de St. Pierre,* evidently from the roots ſtriking deep into the crevices of rocks. In Italian it is *Critmo, Finocchio marino,* and *herba di Santo Pietro.* In Spaniſh, *Hinojo marino.* In Portugueſe, *Funcho marinho.* In German, *Meerfenchel, Seefenchel, Bacillen.* In Daniſh, *Soefenkel.* In Swediſh, *Sjofenkal.*

2. Haller ſuppoſes this to be nothing elſe but *Athamanta Libanotis* growing old. Juſſieu is of opinion that it is more nearly related to the genus Athamanta. It is a biennial plant, and a native of the Pyrenees.]—Mr. Miller doubts whether the Apium petræum ſ. montanum album of Ray's ſynopſis (which is Athamanta Libanotis) be diſtinct from this. He ſays it is of humbler growth; the leaflets broader, not ſo much cut on their edges, and of a paler green.

[3. This is a very ſmooth plant, a foot and half in height. Stem round, furrowed, erect. Leaves petioled; leaflets oppoſite, bijugous or trijugous, the outer edge decurrent, gradually dilating, lobed and toothed. Petioles dilated at the baſe, ſtem-claſping. The involucre and involucel have ſix or eight lanceolate leaflets. Flowers yellow. Seeds ſmooth, furrowed, with a raiſed, even edge.—Found on the coaſts of Teneriffe and the Salvages, by Maſſon[k]. Biennial; it flowers in july, and was introduced in 1780[l].]

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[1] Linn. mant.

PROPAGATION AND CULTURE.

1. This plant is with difficulty propagated in gardens, nor will it grow ſo vigorous with any culture, as it does upon rocks; but if the plants are planted on a moiſt gravelly ſoil, they will thrive tolerably well, and may be preſerved ſome years. It may be propagated either by ſeeds, or parting the roots.

[It grows beſt when rooted in a wall, or on artificial rock-work.]

2. This is preſerved in a few gardens for the ſake of variety; it is propagated by ſeeds, which ſhould be ſown in the autumn where they are deſigned to remain, and will require no other culture but to keep them clean from weeds, and thin them where they are too cloſe.

[3. Propagated by ſeeds, and to be preſerved in the green-houſe or conſervatory.

CRITHMUM. See *Echinophora.*

CRITONIA. See *Eupatorium,* and *Kuhnia.*

CROCODILIUM. See *Centaurea,* and *Echinops.*]

CROCODILOIDES. See *Atractylis.*

CROCUS. (Κροκος, *of Theophraſtus. The ſtory of the youth Crocus turned into this flower, may be ſeen in the fourth book of Ovid's Metamorphoſes. Some derive this name from* κροκις *or* κροκη, *a thread; whence the ſtamens of flowers are called* κροκιδες. *Others again from Coriſcus, a city and mountain of Cilicia.)*

Lin. gen. n. 55. *Reich.* 61. *Schreb.* 75. *Tourn.* 183. 184.

Claſſ. 3. 1. Triandria Monogynia.

Nat. order of *Enſatæ.—Irides.* Juſſ. 59.

GENERIC CHARACTER.

CAL. *Spathe* one-leafed.

COR. *Tube* ſimple, long. *Border* ſix-parted, erect: *diviſions* ovate-oblong, equal.

STAM. *Filaments* three, ſubulate, ſhorter than the corolla. *Anthers* ſagittate.

PIST. *Germ* inferior, roundiſh. *Style* filiform, length of the ſtamens. *Stigmas* three, convolute, ſerrate.

PER. *Capſule* roundiſh, three-lobed, three-celled, three-valved.

SEEDS ſeveral, round.

ESSENTIAL CHARACTER.

Cor. ſix-parted, equal. *Stigmas* convolute.

SPECIES.

1. Crocus officinalis. *Officinal Crocus* or *Saffron.*

Lin. ſpec. 50. α. *ſyſt.* 83. α. *Reich.* 97. α. *mat. med.* 43. *hort. cliff.* 18. *upſ.* 15. *Hudſ. angl.* 13. α. *With.* 37. α. *Relh. cant. n.* 27. *Mill. fig. t.* 111. *Mill. illuſtr. ic. Berg. phyt.* 2. *t.* 161. *Plenck, ic. t.* 32. *Fl. ruſt. t.* 58.

C. ſativus. *Bauh. pin.* 65. *Allion. pedem. n.* 310. *Woodv. med. bot.* 479. *t.* 176.

C. autumnalis ſat. *Mor. hiſt.* 2. 335. *ſ.* 4. *t.* 2. *f.* 1. *Blackw. t.* 144. *f.* 1.

Crocus. *Ger.* 123. 1, 2. *emac.* 151. *Bauh. hiſt.* 2. 637. *Raii hiſt.* 1176. *ſyn.* 374.

C. verus ſat. autumn. *Park. parad.* 167. 169. *f.* 2.

β. C. autumnalis. *Mill. dict. n.* 2.

C. juncifolius autumn., fl. magno purpuraſcente. *Boer. ind.* 2. 120.

Leaves narrower, rolled in at the edges; ſtigma trifid to a conſiderable length.

2. Crocus vernus. *Spring Crocus.*

Lin. ſpec. 50. β. *ſyſt.* 83. β. *Reich.* 97. β. *Hudſ. angl.* 13. β. *With.* 38. β. *Hall. helv. n.* 1257. *Scop. carn. n.* 47. *Allion. pedem. n.* 309. *Jacqu. auſtr.* 5. *app. t.* 36. *Berg. phyt.* 2. 159. *Curt. magaz. t.* 45. *Fl. ruſt. t.* 59. *Cluſ.* 1. 205. 2. *Ger.* 125. 1. *emac.* 156. 12. & 153. 1. *Park. parad.* 161—167. *t.* 163. *Blackw. t.* 144. *f.* 2. *Raii hiſt.* 1173—1176.

C. vernus latifolius. *Bauh. pin.* 65, 66. 1—11 & 1—6.

β. C. biflora. *Mill. dict. n.* 4.

C. vernus ſtriatus vulgaris. *Herm. par.*

Leaves broader, with flat edges; ſtigma very ſhortly trifid.

DESCRIPTIONS, &c.

1. Autumnal or officinal Crocus or Saffron has a roundiſh bulbous root as large as a ſmall Nutmeg, which is a little compreſſed at the bottom, and is covered with a coarſe, brown, netted ſkin; from the bottom of this bulb are ſent out many long fibres, which ſtrike pretty deep into the ground; from the upper part of the root come out the flowers, which, together with the young leaves, whoſe tops juſt appear, are cloſely wrapped about by a thin ſpatha or ſheath, which parts within the ground, and opens on one ſide. The tube of the flower is very long, ariſing immediately from the bulb, without any foot-ſtalk, and at the top is divided into ſix ovate obtuſe ſegments, which are equal, of a purple blue colour. In the bottom of the tube is ſituated a roundiſh germ, ſupporting a ſlender ſtyle, which is not more than half the length of the petal, crowned with three oblong golden ſtigmas, which is the Saffron; theſe ſpread aſunder each way. The ſtyle is attended by three ſtamens, whoſe baſes are inſerted in the tube of the petal, and riſe to the height of the ſtyle. This plant flowers in october, and the leaves keep growing all the winter, but it never produces any ſeeds here.

[Haller remarks, that the autumnal Saffron differs from the Spring Crocus, in having the ſtigma divided into three long ſegments, the ends of which are alſo trifid. Theſe three horns of the ſtigma are alſo odorous and aromatic, which is not the caſe in the vernal Crocus: and the flowers are much larger. Add to this, that the corolla does not vary much in colour from its high native purple, that they differ alſo in the root and leaves, the time of flowering, and the place of growth.

Not to enter into the controverſy whether the autumnal and ſpring Crocus be ſpecifically different or not; it is to be lamented that our knowledge is not yet far enough advanced to aſcertain the ſpecies of plants on all occaſions, and to place ſpecific differences on firm foundations. Here two plants are ſuppoſed to be varieties only, though they differ in all the circumſtances above recited: and yet Hemerocallis flava & fulva are kept diſtinct, though they differ only in ſize, in the colour of their flowers, and the time of flowering.

It is the caſe with Saffron, as with many other plants in common cultivation; the place where it grows ſpontaneouſly is not well aſcertained. Gerarde ſays it grows on rocks near the ſea ſide in Portugal[a]. Allioni affirms that it is indigenous of Savoy: but I can ſcarcely think that it is a native of any part of Europe, where we do not find that it ever produces ſeed. Bulbous plants being perennial, and rooting themſelves very firmly in the earth, have eſtabliſhed themſelves in moſt parts of Europe, ſo as to have the appearance of being natives; and we ſhould take them to be ſuch, did we not know that they came originally from the Eaſt. I have no doubt but that ſome part of Aſia is the native country of the Saffron; and it was there it firſt acquired that high reputation in medicine, which it has now almoſt loſt in Europe. It is however ſtill cultivated in Italy, Sicily, Spain, France, Germany, Hungary, and very ſparingly with us in England.

That Saffron is indigenous of this country I cannot believe, though in Dr. Withering's botanical arrangements, it is ſaid to be found about Halifax, and in a meadow near the copper-mills at Derby. The indefatigable Ray affirms that nothing certain is known concerning its place of ſpontaneous growth, but that it is cultivated in moſt countries of Europe. In Cambridgeſhire, where the Saffron has been cultivated at leaſt two centuries, no wild plant was ever found, that I have heard of.—In Hackluyt's voyages (2. p. 164. edit. 1599.) indeed it is ſaid, that the ſoil in Herefordſhire yields the wild Saffron commonly; had this been true, it could hardly have eſcaped the curious reſearches of Ray; and beſides, our old authors called the vernal Crocus *wild* Saffron, appropriating the name *Saffron*, without any adjunct to the officinal ſpecies. Mr. Hudſon alſo has ſaid, " habitat in agro Cantabrigienſi & Eſſexienſi—in pratis & paſcuis *paſſim*." But it certainly does not grow wild in either of thoſe counties; nor any where ſo common at leaſt as to juſtify the uſe of the word *paſſim*, the ſenſe of which Mr. Hudſon ſeems to have miſtaken.

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[k] Linn. ſuppl.

[l] Hort. kew.

[a] This is probably C. montanus 1. Cluſ. hiſt.

It is commonly ſaid that Saffron was originally brought into England in the time of Edward III.; and that Sir Thomas Smith firſt introduced it into the neighbourhood of Walden in Eſſex.

The firſt of theſe aſſertions is very probable, but on what authority it reſts I have not been able to diſcover. It is mentioned by Strype, in his life of Sir Thomas Smith, and by Morant, in his hiſtory of Eſſex. But the firſt of theſe writers refers to Camden's Britannia; and the ſecond, to Ray's hiſtory, and the Philoſophical Tranſactions; in none of which books do I find any mention of the firſt introduction of Saffron into England. Mr. Gough, in his late edition of the Britannia, has alſo retailed the ſame report, but gives only the ſame references that Morant had ſet down before.

In Hackluyt's voyages (edit. 1599. 2. 165.) the firſt introduction of the Saffron into England is aſcribed to a pilgrim, who purpoſing to do good to his country, ſtole an head of Saffron, and hid the ſame in his Palmer's ſtaff. This ſtory carries a very legendary ſound with it; and being given only as a matter reported at Saffron Walden, may not perhaps obtain much credit.

That Sir Thomas Smith introduced Saffron into the neighbourhood of Walden, is a fact by no means well eſtabliſhed. None of the writers of this great man's life, mention any thing of the matter, except Strype; and he only ſays, " whether it was firſt brought thither by this Knight's induſtry (being a great planter) I know not." Certain it is, that Saffron was well known at Walden in 1582, in which year Hackluyt gave the remembrances for maſter S. (voy. 2. 164.): and if it be true, as I have been informed, that the corporation of Walden bear three Saffron plants in their arms; their charter having been granted, and probably their arms, in the third year of Edward VI.; it may be preſumed that the town was then famous for the cultivation of this plant.

Eſſex, however, was not the only county in which Saffron was then cultivated. Herefordſhire is particularly mentioned as that which yielded the beſt in all England: Mr. Houghton (in 1698) ſays, that he had ſeen ſome excellent Saffron from that county: and if we may believe Lyte, in his tranſlation of Dodoen's herbal (p. 155. edit. 1619.) it grew plentifully in ſome places of England and Ireland.

However this may be, Saffron was abundantly cultivated near Walden, at the end of the ſixteenth, and beginning of the ſeventeenth century. At what time it began to migrate into the neighbouring province, and at length finally quitted its primæval ſeat, I cannot preciſely aſcertain; but doubtleſs it was gradual, as its preſent decay in Cambridgeſhire has been. It ſhould ſeem as if in 1582 Saffron grew in both counties, and was then not much encouraged: for Hackluyt (2. 164.) ſays " if a vent might be found, men would in Eſſex about Saffronwalden and in Cambridgeſhire revive the trade, for the benefit of ſetting the poor on work."—Gerarde alſo (1597) informs us, that " Saffron groweth plentifully in Cambridgeſhire, Saffron Walden and other places thereabout, as corne in the fieldes." Camden (1586, &c.) makes no mention of Saffron as growing in Cambridgeſhire; but only obſerves that the fields all about Walden make a pleaſant ſhow with it. Speed, in his maps (1614) mentions it as growing with gain and increaſe in the north part of Eſſex.—From Blith's Engliſh improver improved (edit. 1653. p. 249.) we learn that " the Saffron country is on one ſide and nook of Eſſex; and ſome part of Suffolk; and at Saffron Walden and betwixt that and Cambridge is very much of it in their common fields."—Robert Turner, in his Brittiſh Phyſician (edit. 1664. p. 284.) ſays, that " it is plentifully manured in fields in Eſſex and Cambridgeſhire."—And Robert Lovell, in his Compleat Herball (1665. p. 377.) aſſigns Cambridgeſhire, Saffron Walden, &c. as the places of growth of Saffron.—Mr. Ray, in his catalogue of Cambridgeſhire plants (1660), had ſet down Saffron (art. Crocus) as cultivated in that county: and in the liſts of plants with which he furniſhed Biſhop Gibſon for his edition of Camden's Britannia (1695), he ſays, that " it is planted and cultivated about Walden plentifully; and in Cambridgeſhire frequently."—Dr. Moriſon (1680) aſſures us, that Saffron is no where better or more flouriſhing than in England, eſpecially in Herefordſhire and Hampſhire, and about Saffron Walden, where it is abundantly cultivated.—And Mr. Houghton (1698) affirms, that the chief place in the world for Saffron, is Walden in Cambridgeſhire [Eſſex]; from whence comes the great quantities. *Collect.* 2. 332.—James Douglas, M. D. (in Philoſ. tranſact. n° 380. abr. 6. 311.) aſſerts that " Saffron has grown formerly in ſeveral counties of England, but that it then grew moſt plentifully in Cambridgeſhire. He employed proper perſons between the years 1723 and 1728 to make obſervations on the culture of Saffron; and aſſigns the place of its growth at that time, to all the large tract of ground that lies between Saffron Walden and Cambridge, in a circle of about ten miles diameter."

Profeſſor Bradley, in 1724, ſays that the former of theſe places was once the chief market for it, but that of late years we find it cultivated in the grounds about Cambridge.

About this time it ſeems to have quitted the immediate neighbourhood of Walden, and to have migrated weſtward, nearly into the country where I found it in the year 1752. That is, in the pariſhes of Hinxton, Ickleton and Triplow, bordering on the Roman way, called the Ikenild ſtreet; and weſtward of theſe, to Gogmagog hills, in the pariſhes of Duxford, Newton, Harſton, Hauxton, Great and Little Shelford, Sawſton, Stapleford, and even as far as Fulborn, which is to the north of the hills; all in the county of Cambridge.

This plant, having given a prænomen to the town of Walden, might probably be ſuppoſed to have been cultivated there, long after it left the neighbourhood: but as we cannot doubt the accuracy of Mr. Ray, that event muſt have happened after the year 1695; and probably before 1723. The villages, however, of Ickleton and Hinxton are not above ſix miles diſtant from Saffron Walden.

The quantity of land under Saffron has been gradually leſſening during the laſt twenty or twenty-five years; owing, as it is thought, at firſt, to the lowneſs of the price, occaſioned by the great importation of foreign Saffron. It is now confined to two or three pariſhes only, of which Stapleford is one; and if ſome means are not uſed to encourage it, the cultivation of Saffron will probably ſoon be entirely loſt in this country.

Whether Saffron be of any national conſequence, I am not a competent judge; I only know that when the culture is entirely dropped, it will be no eaſy matter to revive it. Formerly the ſuperiority of Engliſh Saffron has been much celebrated, but lately it has been decried. This is not owing to our commodity being inferior to what it was; for it has at all times come out of the hands of the growers pure and genuine; but perhaps the foreign dealers are now wiſe enough to leave off their old ſophiſtications with baſtard Saffron or Safflower, Marygolds, &c.; and if ſo, their commodity, coming from a warmer climate, may have the ſuperiority. I only know that if the foreign Saffron can be afforded cheaper, it will be encouraged, without attending to its quality; and that I have very lately experienced a very ſenſible difference between the foreign and Engliſh Saffron, greatly to the advantage of our own.

Our modern European term of *Saffron* is from the Arabic *Sahafaran*; hence the Mooriſh and Spaniſh *Azafran, Azafraon, Safra*; the Italian *Zaffarano*, the German, Daniſh, Swediſh and French *Saffran*, or *Safran*, &c.

The varieties of autumnal Crocus are few, becauſe it produces no ſeed in our climates, whatever it may do in the Eaſt.] Mr. Miller has only four. 1. Sweet-ſmelling, which is his ſecond ſort, and our variety β. He ſays, that it grows naturally on the Alps and Swiſs mountains; that the root is ſmaller and more compreſſed, that the flowers riſe with a ſhort ſtalk, having a ſhort ſpathe juſt below the flower, which covers it before it expands; that the tube of the flower is very ſhort, the petals being divided almoſt to the bottom, and terminating in acute points; that the ſtamens and ſtyle are ſhort, and the leaves very narrow; that the colour is deep blue, but that it varies of a ſky blue. 2. Autumnal mountain; which has a flower of a paler blue colour. 3. Many-flowering blueiſh; with many ſky-blue flowers. 4. Small-flowering. This has a ſmall flower of a deep blue colour.—[Parkinſon has the ſame number.—Ray has ſix.]

2. The Spring Crocus has a pretty large compreſſed bulb, covered with a light brown, netted ſkin, from which ariſe four or five leaves of a purpliſh colour on their lower parts: from among theſe come out one or two flowers, ſitting cloſe between the young leaves, never riſing above two inches high, and having an agreeable odour. Out of the centre of the tube ariſes a ſlender ſtyle, crowned by a broad flat ſtigma of a golden colour. After the flower is paſt the germ puſhes out of the ground.

[The Spring Crocus in its wild ſtate is moſt commonly white with a purple baſe in Switzerland, according to Haller. Purple or white in Auſtria, according to Jacquin. Geſner gathered it with a yellow flower on the mountains of Glarus. Scopoli does not mention its colour, but ſays that it is not uncommon in Carniola. It is a native alſo of Italy and Spain.—In Britain it is not indigenous. I remember, when a boy, to have ſeen it in conſiderable quantity, in Batterſea meadow near the mill, apparently wild. It has been found alſo in the meadows about Nottingham, by Dr. Deering.

The varieties of Spring Crocus are very numerous. Mr. Miller recites only twelve.]

1. Broad-leaved, purple, variegated. This has a flower of a deep blue, and ſtriped.
2. Broad-leaved, plain purple.
3. Broad-leaved, violet-coloured, or large deep blue.
4. White with a purple bottom.
5. Broad-leaved, white, variegated.
6. Broad-leaved, with many violet-purple flowers ſtriped with white.
7. Broad-leaved, aſh-coloured.
8. Broad-leaved large yellow.
9. Broad-leaved ſmall pale yellow.
10. Broad-leaved, ſmall yellow, ſtriped with black.
11. Narrow-leaved, ſmall brimſtone.
12. Narrow-leaved, ſmall white.

[Parkinſon has no leſs than twenty-ſeven, all of which he has named and deſcribed particularly.

Modern catalogues ſet down many varieties of the ſeveral colours, which are blue and purple, yellow and white, or ſtriped. New ones are alſo conſtantly imported from Holland, each of which has a french or dutch title. The moſt common varieties now in our gardens are the Scotch, beautifully ſtriped; the Blue; the Blue ſtriped; White; Yellow of ſeveral ſhades, larger and ſmaller; Yellow ſtriped with black; Cloth of gold.

I ſeparate the Vernal from the Autumnal Crocus, on the authority of Miller, Haller and Jacquin; and my own opinion formed before I had ſeen the works of the two latter.]

PROPAGATION AND CULTURE.

Spring Crocus.

If the ſeeds of theſe flowers were ſown, there might be a greater variety of them obtained than is at preſent; but as they propagate very faſt by offſets, the ſeeds are very rarely regarded.

All theſe ſeveral varieties of Crocuſes are very hardy, and will increaſe exceedingly by their roots, eſpecially if they are ſuffered to remain two or three years unremoved; they will grow in almoſt any ſoil or ſituation, and are very great ornaments to a garden early in the ſpring of the year, before many other flowers appear. They are commonly planted near the edges of borders on the ſides of walks; in doing which, you ſhould be careful to plant ſuch ſorts in the ſame line as flower at the ſame time, and are of an equal growth, otherwiſe the lines will ſeem imperfect. Theſe roots, loſing their fibres with their leaves, may then be taken up, and kept dry until the beginning of ſeptember, obſerving to keep them from vermin, for the mice are very fond of them. When you plant theſe roots, after having drawn a line upon the border, make holes with a dibble about two inches deep or more, according to the lightneſs of the ſoil, and two inches diſtance from each other, in which you muſt place the roots with the bud uppermoſt; then with a rake fill up the holes in ſuch a manner as that the upper part of the root may be covered an inch or more, being careful not to leave any of the holes open; for this will entice the mice to them, and when once they have found them out, they will deſtroy all your roots, if not prevented.

This is the way in which theſe flowers were commonly diſpoſed in gardens, but the better way is to plant them ſix or eight near each other in bunches between ſmall ſhrubs, or on the borders of the flower-garden; where, if the varieties of theſe flowers are planted in different patches, and properly intermixed, they will make a much better appearance than when they are diſpoſed in the old method of ſtraight edgings.

In january, if the weather is mild, the Crocus will often appear above ground; and in february their flowers will appear, before the green leaves are grown to any length, ſo that the flower ſeems at firſt to be naked; but ſoon after the flowers decay, the green leaves grow to be ſix or eight inches long, which ſhould not be cut off until they decay, notwithſtanding they appear a little unſightly; for by cutting off the leaves, the roots will be ſo weakened as not to arrive at half their uſual bigneſs, nor will their flowers the ſucceeding year be half ſo large. Their ſeeds are commonly ripe about the latter end of april, or the beginning of may, when the green leaves begin to decay.

Autumnal Crocus.

The autumnal Crocuſes are not ſo great increaſers as are thoſe of the ſpring, nor do they produce ſeeds in our climate, ſo that they are leſs common in the gardens; theſe muſt be taken up every third year, otherwiſe the roots will run long, and produce no flowers; but they ſhould not be kept out of the ground longer than the beginning of auguſt, for they commonly produce their flowers the beginning of october; ſo that if they remain too long out of the ground, they will not produce their flowers ſo ſtrong, nor in ſuch plenty, as when they are planted early.

The method of cultivating Saffron, as it was preſented to the Royal Society, by Sir James Douglas.

1. *The choice and preparation of the ground.*—The greateſt part of the tract between Saffron Walden and Cambridge is an open level country, with few incloſures; and the cuſtom there is, to crop two years, and let the land be fallow the third. Saffron is generally planted upon fallow ground, and, all other things being alike, they prefer that which has borne Barley the year before.

The Saffron grounds are ſeldom above three acres, or leſs than one; and in chooſing, the principal thing they have to regard is, that they be well expoſed, the ſoil not poor, nor a very ſtiff clay, but a temperate dry mould, ſuch as commonly lies upon chalk, and is of an Hazel colour; though if every thing elſe anſwers, the colour of the mould is pretty much neglected.

[Profeſſor Bradley aſſerts (Huſb. & Gard. 2. 125.) that he has ſeen it proſpering well in common heath ground, where the ſurface had been burnt; and that ſome gentlemen had, by his advice, planted ſome acres of it on ſuch ground, hardly worth one ſhilling an acre, with ſucceſs. He doubts not but their example will be followed by many who have ſuch ſort of land; there being no want of manure in this caſe but the aſhes. In the true ſpirit of a projector he remarks, that the firſt promoters of this eaſy part of huſbandry will be the greateſt gainers, becauſe as it becomes more general, the price of Saffron will aſſuredly fall: nay, he even queſtions not, but in a few years, we ſhall ſee rather too much than too little, and that the markets will become overſtocked. This prophecy, however, has not been fulfilled, nor have we heard any more of the heath-culture of Saffron.]

The ground being made choice of, about Lady-day, or the beginning of april, it muſt be carefully ploughed, the furrows being drawn much cloſer together, and deeper, if the ſoil will allow it, than is done for any kind of corn; and accordingly the charge is greater.

About five weeks after, during any time in the month of may, they lay between twenty and thirty loads of dung upon each acre, and having ſpread it with great care, they plough it in as before. The ſhorteſt rotten dung is the beſt; and the farmers, who have the conveniency of making it, ſpare no pains to make it good, being ſure of a proportionable price for it. About Midſummer they plough a third time, and between every ſixteen feet and an half, or pole in breadth, they leave a broad furrow or trench, which ſerves both as a boundary to the ſeveral parcels, when there are ſeveral proprietors to one incloſure, and to throw the weeds in at the proper ſeaſon.

To this head likewiſe belongs the fencing of the grounds, becauſe moſt commonly, though not always, that is done before they plant. The fences conſiſt of what they call dead hedges, or hurdles, to keep out not only cattle of all ſorts, but eſpecially hares, which would otherwiſe feed on the Saffron leaves during the winter.

About the weather we need only obſerve, that the hotteſt ſummers are certainly the beſt, and therewith, if there be gentle ſhowers from time to time, they can hardly miſs of a plentiful crop, if the extreme cold, ſnow, or rain of the foregoing winter have not prejudiced the heads.

2. *Planting or ſetting the roots.*—The only inſtrument uſed for this is a narrow ſpade, commonly termed a ſpit ſhovel.

The time of planting is commonly in the month of july, a little ſooner or later, according as the weather anſwers. The method is this: one man with his ſpit ſhovel raiſes between three and four inches of earth, and throws it before him about ſix or more inches; two perſons, generally women, following with heads, place them in the fartheſt edge of the trench he makes, at three inches diſtance from each other, or thereabouts; as ſoon as the digger or ſpitter has gone once the breadth of the ridge, he begins again at the other ſide, and digging as before, covers the roots laſt ſet, and makes the ſame room for the ſetters to place a new row, at the ſame diſtance from the firſt, that they are from one another. Thus they go on, till a whole ridge, containing commonly one rod, is planted; and the only nicety in digging is, to leave ſome part of the firſt ſtratum of earth untouched, to lie under the roots, and, in ſetting, to place the roots directly upon their bottom.

What ſort of roots are to be preferred ſhall be ſhewn under the fourth head, but it muſt be obſerved in this place, that formerly, when roots were very dear, they did not plant them ſo thick as they do now; and that they have always ſome regard to the ſize of the roots, placing the largeſt at a greater diſtance than the ſmall ones.

The quantity of roots planted in an acre, is generally about ſixteen quarters, or a hundred and twenty-eight buſhels, which, according to the diſtances left between them, as before aſſigned, and ſuppoſing all to be an inch in diameter one with another, ought to amount to three hundred and ninety-two thouſand and forty in number.

From the time that the roots are planted, till about the beginning of ſeptember, or ſometimes later, there is no more labour about them; but as they then begin to ſpire, and are ready to ſhew themſelves above ground (which is known by digging a few out of the earth), the ground muſt be carefully pared with a ſharp hoe, and the weeds, &c. raked into the furrows, otherwiſe they would hinder the growth of the plants.

3. *Gathering and drying the flowers.*—In ſome time after appear the Saffron flowers, and this leads us to the third branch of our preſent method. The flowers are gathered as well before as after they are full blown, and the moſt proper time for this is early in the morning. The owners of the Saffron get together a ſufficient number of hands, who place themſelves in different parts of the field, pull off the whole flowers, and throw them handful by handful into a baſket, and ſo continue till all the flowers are gathered, which happens commonly about ten or eleven o'clock.

Having then carried home all they have got, they immediately ſpread them upon a large table, and fall to picking out the ſtigmas, and together with them a pretty long proportion of the ſtyle itſelf; the reſt of the flower they throw away as uſeleſs. The next morning they return into the field again, whether it be wet or dry weather, and ſo on daily, even on Sundays, till the whole crop be gathered.

The ſtigmas being all picked out of the flowers, the next labour is to dry them on the kiln. The kiln is built upon a thick plank, that it may be moved from place to place, ſupported by four ſhort legs; the outſide conſiſts of eight pieces of wood about three inches thick, in form of a quadrangular frame, about twelve inches ſquare at the bottom on the inſide, and twenty-two inches at top, which is likewiſe equal to the perpendicular height of it. On the foreſide is left a hole about eight inches ſquare, and four inches above the plank, through which the fire is put in; over all the reſt laths are laid pretty thick, cloſe to one another, and nailed to the frame already mentioned, and then are plaiſtered over on both ſides, as are alſo the planks at bottom very thick, to ſerve for a hearth. Over the mouth, or wideſt part, goes a hair cloth, fixed to the ſides of the kiln, and likewiſe to two rollers, or moveable pieces of wood, which are turned by wedges or ſcrews, in order to ſtretch the cloth. Inſtead of the hair cloth, many people now uſe a net-work, or iron wire, with which it is obſerved that the Saffron dries ſooner, and with leſs quantity of fuel; but the difficulty in preſerving the Saffron from burning, makes the hair cloth be preferred by the niceſt judges in drying.

The kiln is placed in a light part of the houſe, and they begin by laying five or ſix ſheets of white paper on the hair cloth, upon which they ſpread the wet Saffron between two and three inches thick; this they cover with other ſheets of paper, and over theſe lay a coarſe blanket five or ſix times doubled, or, inſtead thereof, a canvas pillow filled with ſtraw; and after the fire has been lighted ſome time, the whole is covered with a board, having a large weight on it.

At firſt they give it a pretty ſtrong heat, to make the chives ſweat (as their expreſſion is;) and in this, if they do not uſe a great deal of care, they are in danger of ſcorching, and ſo of ſpoiling all that is on the kiln.

When it has been thus dried about an hour, they take off the board, blanket, and upper papers, and take the Saffron off from that which lies next it, raiſing at the ſame time the edges of the cake with a knife; then laying on the paper again, they ſlide in another board between the hair cloth and upper papers, and turn both papers and Saffron upſide-down, afterwards covering them as above.

The ſame heat is continued for an hour longer; then they look on the cake again, free it from the papers, and turn it; then they cover it, and lay on the weight as before. If nothing happens amiſs during theſe firſt two hours, they reckon the danger to be over; for they have nothing more to do but to keep a gentle fire, and to turn their cakes every half hour till thoroughly dry, for the doing of which as it ought, there are required full twenty-four hours.

In drying the larger plump threads they uſe nothing more, but towards the latter end of the crop, when theſe come to be ſmaller, they ſprinkle the cake with a little ſmall beer, to make it ſweat as it ought; and they begin now to think that uſing two linen cloths next the cake, inſtead of the two innermoſt papers, may be of ſome advantage in drying, but this practice is followed but by few.

Their fire may be made of any kind of fuel, but that which ſmokes the leaſt is beſt, and charcoal, for that reaſon, is preferred to any other.

What quantity of Saffron a firſt crop will produce, is very uncertain; ſometimes five or ſix pounds of wet threads are got from one rood, ſometimes not above one or two, and ſometimes not enough to make it worth while to gather and dry it; but this is always to be obſerved, that about five pounds of wet Saffron go to make one pound of dry, for the firſt three weeks of the crop, and ſix pounds during the laſt week; and when the heads are planted very thick, two pounds of dried Saffron may, at a medium, be allowed to an acre for the firſt crop, and twenty-four pounds for the two remaining, the third being conſiderably larger than the ſecond.

In order to obtain theſe, there is only a repetition to be made every year of the labour of hoeing, gathering, picking, and drying, in the ſame manner as before ſet down, without the addition of any thing new, except that they let cattle into the fields, after the leaves are decayed, to feed upon the weeds, or, perhaps, mow them for the ſame uſe.

4. *Management of the roots.*—About the Midſummer after the third crop is gathered, the roots muſt be all taken up and tranſplanted. To take up the Saffron heads, or break up the ground (as the term is,) they ſometimes plough it, ſometimes uſe a forked kind of hoe, called a pattock, and then the ground is harrowed once or twice over; during all which time of ploughing, or digging, and harrowing, fifteen or more people will find work enough to follow and gather the heads as they are turned up.

They are next to be carried to the houſe in ſacks, and there cleaned and raſed; this labour conſiſts in cleaning the roots thoroughly from earth, and from the remains of old roots, old ſkins and excreſcences, and thus they become fit to be planted in new ground immediately, or to be kept for ſome time without danger of ſpoiling.

The quantity of roots taken up, in proportion to thoſe which were planted, is uncertain; but at a medium, it may be ſaid, that allowing for all the accidents which happened to them in the ground, and in breaking up from each acre, may be had twenty-four quarters of clean roots, all fit to be planted.

The owners are ſure to chooſe for their own uſe the largeſt, plumpeſt, and fatteſt roots, but do leaſt of all approve the longeſt pointed ones, which they call ſpickets, or ſpickards, for very ſmall, round, or flat roots, are ſometimes obſerved to flower well.

This is the whole culture of Saffron in the country above-mentioned, and we have only now to conſider the charges and profits which may be ſuppoſed, one year with another, to attend that branch of agriculture; and of theſe I have drawn up the following computation for one acre of ground, according to the price of labour in this country.

	l.	s.	d.
Rent for three years — —	3	0	0
Ploughing for three years —	0	18	0
Dunging — — —	3	12	0
Hedging — — —	1	16	0
Spitting and ſetting the heads —	1	12	0
Weeding or paring the ground	1	4	0
Gathering and picking the flowers	6	10	0
Drying the flowers — —	1	6	0
Inſtruments of labour for three years, with the kiln, about —	0	10	0
Ploughing the ground once, and harrowing twice —	0	12	0
Gathering the Saffron heads —	1	0	0
Raiſing the heads — —	1	12	0
Total charge	23	12	0

This calculation is made upon ſuppoſition, that an acre of ground yields twenty-ſix pounds of nett Saffron in three years, which I ſtated only as a mean quantity between the greateſt and the leaſt, and therefore the price of Saffron muſt be judged accordingly, which I think cannot be done better than by fixing it at thirty ſhillings per pound; ſince in very plentiful years it is ſold at twenty, and is ſometimes worth between three and four pounds; at this rate, twenty-ſix pounds of Saffron are worth thirty-nine pounds, and the nett profits of an acre of ground producing Saffron, will, in three years, amount to fifteen pounds, thirteen ſhillings, or about five pounds four ſhillings yearly.

This, I ſay, may be reckoned the nett profit of an acre of Saffron, ſuppoſing that all the labour were to be hired for ready money; but as the planter and family do a conſiderable part of the work themſelves, ſome of this expence is ſaved; that is, by planting Saffron, he may not only reaſonably expect to clear about five pounds yearly per acre, but alſo to maintain himſelf and family for ſome part of each year; and it is upon this ſuppoſition only, that the reſult of other computations can be ſaid to have any tolerable degree of exactneſs, but the calculations themſelves are undoubtedly very inaccurate.

I have ſaid nothing here concerning the charge in buying, or profits in ſelling, the Saffron heads, becauſe, in many large tracts of ground, theſe muſt at length balance one another, while the quantity of ground planted yearly continues the ſame, which has been pretty much the caſe for ſeveral years paſt.

[CROCUS. See *Hypoxis, Ixia, Memecylon.*

CROSSOPETALUM. See *Rhacoma.*

CROSSOSTY̆LIS. (*From* Κροσσος, *a fringe, and* ϛυλις, *a little pillar or ſtyle: the ſtigma being fringed or jagged.*)

Lin. gen. Schreb. n. 1149. *Forſt. gen. t.* 44. *Juſſ.* 432.

Claſſ. 16. 6. Monadelphia Polyandria.

GENERIC CHARACTER.

CAL. *Perianth* turbinate, quadrangular, faſtened to the germ, four-parted: *ſegments* ovate, ſpreading, permanent.

COR. *Petals* four, elliptic; *claw* narrow, inſerted into the calyx.

Nectary: corpuſcles twenty, filiform, ciliate, between the ſtamens.

STAM. *Filaments* twenty, filiform, ſhorter than the calyx, connected at the baſe into a little pitcher. *Anthers* ſmall, roundiſh.

PIST. *Germ* convex, ſuperior. *Style* cylindric, the length of the ſtamens, permanent. *Stigmas* four, ſpreading very much, trifid.

PER. Berry? hemiſpherical, grooved, one-celled.

SEEDS very many, on a columnar receptacle in the centre of the fruit.

ESSENTIAL CHARACTER.

Cal. ſimple, four-parted. *Cor.* four-petalled. *Nect.* twenty corpuſcles between the filaments. *Stigmas* four, jagged. *Berry?*

SPECIES.

1. Croſſoſtylis biflora.
Forſt. gen. 88. *flor. auſtral. n.* 266.
Native of the Society iſles.

Cross-wort. See *Valantia.*]

CROTALARIA. (*From the form of the legume like a* κροταλον. *Linn.—Becauſe the ſeeds in the ripe cods make a rattling noiſe when ſhaken, like a Crotalum; or becauſe the children of the Indians uſe them inſtead of rattles. Miller.*)
Lin. gen. n. 862. *Reich.* 934. *Schreb.* 1172. *Dill. elth.* 122. *Gærtn. t.* 148.
Claſſ. 17. 4. Diadelphia Decandria.
Nat. order of *Papilionaceæ*; or *Leguminoſæ.* Juſſ. 354.

GENERIC CHARACTER.

Cal. *Perianth* three-parted, large, rather ſhorter than the corolla: the *two ſuperior diviſions* lanceolate, leaning on the ſtandard; the *third* lanceolate, concave, ſupporting the keel, three-cleft.

Cor. papilionaceous:
Standard cordate, acute, large, depreſſed on the ſides. *Wings* ovate, ſhorter by half than the ſtandard. *Keel* acuminate, length of the wings.

Stam. *Filaments* ten, connate, riſing, with a ſplit line on the back, and gaping baſe. *Anthers* ſimple.

Pist. *Germ* oblong, reflex, hirſute. *Style* ſimple, bent inwards at an angle, riſing. *Stigma* obtuſe.

Per. *Legume* ſhort, turgid, one-celled, two-valved, pedicelled.

Seeds one or two, globoſe-kidney-form.

Obs. *There is the greateſt affinity between* Crotalaria *and* Ononis.
Cr. laburnifolia *has the keel broad, compreſſed, and beaked; and the wings ſhorter by half than the ſtandard and keel.*

ESSENTIAL CHARACTER.

Legume turgid, inflated, pedicelled. *Filaments* connate, with a fiſſure on the back.

SPECIES.

* *Leaves ſimple.*

[1. Crotalaria perforata. *Perforated Crotalaria.*
Lin. ſpec. 1003. *Reich.* 3. 418. *mant.* 439. *amœn.* 6. *afr.* 38.
Leaves perfoliate, cordate, toothletted.]

2. Crotalaria perfoliata. *Perfoliate Crotalaria.*
Lin. ſpec. 1003. *Reich.* 3. 419. *Dill. elth.* 122. *t.* 102. *f.* 122.
Leaves perfoliate, cordate-ovate.

[3. Crotalaria amplexicaulis. *Stem-claſping Crotalaria.*
Lin. ſpec. 1003. *Reich.* 3. 419. *amœn.* 6. *afr.* 39. *Seba theſ.* 1. *t.* 24. (*Geniſta.*)
Stem-leaves claſping cordate alternate; floral-leaves oppoſite kidney-ſhaped coloured; flowers ſolitary.]

4. Crotalaria ſagittalis. *Virginian Crotalaria.*
Lin. ſpec. 1003. *Reich.* 3. 419. *hort. cliff.* 357. *Swartz obſ.* 278. *Gron. virg.* 105. *Mart. cent.* 43. *Herm. lugdb. t.* 203. *Pluk. alm. t.* 169. *f.* 6.
C. piloſa. *Mill. dict. n.* 2.
β. *Pluk. alm.* 122. *t.* 277. *f.* 2:
C. ſagittalis. *Mill. dict. n.* 3.
Leaves lanceolate, ſtipules (not petioles) decurrent, ſolitary two-toothed.

[5. Crotalaria chinenſis. *Chineſe Crotalaria.*
Lin. ſpec. 1003. *Reich.* 3. 419.
Leaves ovate ſubpetioled, ſtipules very minute.]

6. Crotalaria juncea. *Channel-ſtalked Crotalaria.*
Lin. ſpec. 1004. *Reich.* 3. 420. *mant.* 439. *hort. cliff.* 357. *upſ.* 210. *Trew. Ehret. t.* 47. *Pluk. alm. t.* 69. *f.* 5. *Rheed. mal.* 9. 47. *t.* 36.
Leaves lanceolate, petiolate-ſeſſile; ſtem ſtriated.

[7. Crotalaria imbricata. *Imbricate-leaved Crotalaria.*
Lin. ſpec. 1004. *ſyſt.* 649. *Reich.* 3. 420. *amœn.* 6. *afr.* 40. *Berg. cap.* 192. *Pluk. mant. t.* 388. *f.* 3.
Leaves ovate acute villoſe ſeſſile, flowers ſubſeſſile.]

8. Crotalaria retuſa. *Wedge-leaved Crotalaria.*
Lin. ſpec. 1004. *ſyſt.* 649. *Reich.* 3. 420. *fl. zeyl. n.* 276. *Gærtn. fruct.* 2. 316. *Herm. lugdb. t.* 201. *Rumph. amb.* 5. 278. *t.* 96. *f.* 1. *Rheed. mal.* 9. 45. *t.* 25. *Forſk. ægypt.* 134. *n.* 16. (Dolichos.)
Leaves oblong wedge-ſhaped retuſe.

[9. Crotalaria ſeſſiliflora. *Seſſile-flowered Crotalaria.*
Lin. ſpec. 1004. *ſyſt.* 649. *Reich.* 3. 420.
Leaves lanceolate ſubſeſſile; flowers ſeſſile lateral; ſtem equal.

10. Crotalaria triflora. *Three-flowered Crotalaria.*
Lin. ſpec. 1004. *ſyſt.* 649. *Reich.* 3. 421. *mant.* 440. *Berg. cap.* 193.
Leaves ovate ſeſſile ſmooth; branches angular; peduncles in threes, lateral one-flowered.]

11. Crotalaria verrucoſa. *Blue-flowered Crotalaria.*
Lin. ſpec. 1005. *Reich.* 3. 421. *fl. zeyl.* 277. *hort. cliff.* 357. *Burm. zeyl.* 81. *t.* 34. *Herm. lugdb. t.* 199. *Raii hiſt.* 1893. *Rheed. mal.* 9. 53. *t.* 29.
Leaves ovate; ſtipules lunate declined; branches four-cornered.

[12. Crotalaria biflora.
Lin. ſyſt. 649. *Reich.* 3. 421. *mant.* 516. 570. *Burm. ind.* 156. *t.* 48. *f.* 2. *Pet. gaz. t.* 30. *f.* 10.
Aſtragalus biflorus. *Lin. mant.* 273.
Leaves obtuſe; ſtems proſtrate herbaceous, peduncles two-flowered.

13. Crotalaria oppoſita.
Lin. ſyſt. 650. *ſuppl.* 322.
Liparia oppoſita. *Lin. ſyſt. ed.* 13. 554.
Spartium capenſe. *Lin. ſpec.* 995.
Smooth, without ſtipules; leaves oblong ſeſſile; peduncles axillary two-leaved.

14. Crotalaria linifolia. *Flax-leaved Crotalaria.*
Lin. ſyſt. 650. *ſuppl.* 322. *Rumph. amb.* 5. *t.* 96. *f.* 1. *Retz.*
Hirſute; leaves linear obtuſe hirſute petioled without ſtipules; ſtem angular; raceme terminating.

15. Crotalaria bifaria.
Lin. ſyſt. 650. *ſuppl.* 322.
Pubeſcent, diffuſed, ſtipuled; leaves in two rows, the lower orbicular, the upper oblong; peduncles one-flowered.

** *Leaves compound.*

16. Crotalaria lotifolia. *Lotus-leaved Crotalaria.*
Lin. ſpec. 1005. *Reich.* 3. 422. *Dill. elth.* 121. *t.* 102. *f.* 121. *Sloan. jam.* 2. 33. *t.* 176. *f.* 1, 2. *Raii ſuppl.* 465.
Leaves ternate obovate; flowers lateral ſubracemed.

17. Crotalaria lunaris.
Lin. ſpec. 1005. *Reich.* 3. 422. *hort. cliff.* 357.
Leaves ternate ovate acute; ſtipules ſemicordate lunate.]

18. Crotalaria laburnifolia.
Lin. ſpec. 1005. *ſyſt.* 650. *Reich.* 3. 422. *fl. zeyl.* 278. *Herm. lugdb. t.* 197. *Raii hiſt.* 1893. 1. *Burm. zeyl.* 82. *t.* 35. *Rheed. mal.* 9. 49. *t.* 27.
Leaves ternate ovate acuminate; ſtipules none; legumes pedicelled.

[19. Crotalaria cordifolia. *Heart-leaved Crotalaria.*
Lin. ſyſt. 650. *Reich.* 3. 423. *mant.* 266.
Spartium ſophoroides. *Berg. cap.* 198.
Leaves ternate obcordate mucronate; flowers in corymbs; ſtem ſhrubby.

20. Crotalaria incana. *Hoary Crotalaria.*
Lin. ſpec. 1005. *Reich.* 3. 423. *mant.* 440. *Swartz. obſ.* 278. *Jacqu. obſ.* 4. *t.* 82. *Sloan. jam.* 2. 34. *t.* 179. *f.* 1. *Raii ſuppl.* 466. 18. *Riv. tetr. t.* 138. (*C. trifolia.*)
Leaves ternate oval villoſe beneath; racemes ſpike-form; keel tomentoſe at the edge; legumes ſeſſile hirſute.

21. Crotalaria incaneſcens. *Spreading ſhrubby Crotalaria.*
Lin. ſyſt. 650. *ſuppl.* 323.
C. capenſis. *Jacqu. hort.* 3. 36. *t.* 64.
Leaves ternate obtuſe; ſtipules leafy; branches hoary.

22. Crotalaria heterophylla.
Lin. ſyſt. 650. *ſuppl.* 323.
Leaves ternate elliptic emarginate, the lower ſimple.

23. Crotalaria quinquefolia. *Five-leaved Crotalaria.*
Lin. ſpec. 1006. *Reich.* 3. 423. *Rheed. mal.* 9. 51. *t.* 28. *Raii ſuppl.* 465. 11.
Leaves quinate.

24. Crotalaria floribunda. *Small-flowered Crotalaria.*
Ait. hort. kew. 3. 19.
Leaves ternate wedge-form; branches pubeſcent, legumes pedicelled ſmooth wrinkled compreſſed keeled.

25. Crotalaria axillaris. *Two-flowered Crotalaria.*
Ait. hort. kew. 3. 20.
Leaves ternate ovate-elliptic hairy beneath; ſtipules ſubulate minute; peduncles axillary twin one-flowered.

26. Crotalaria pallida. *Pale-flowered Crotalaria.*
Ait. hort. kew. 3. 20.
Leaves ternate lanceolate ſmooth; racemes terminating ſpike-form.

* *Leaves ſimple.*

27. Crotalaria ſericea. *Silky-leaved Crotalaria.*
Retz. obſ. 5. *n.* 69.
Leaves lanceolate acute ſilky beneath; racemes elongated.

Mr. Miller has three other ſpecies.

28. Crotalaria fruticoſa.
Mill. dict. n. 4. *Houſt. Mſs.*
Leaves ſimple linear-lanceolate hirſute, petioles decurrent; ſtem ſhrubby.

29. Crotalaria villoſa.
Mill. dict. n. 8. *Lin. hort. cliff.* 357. *Herm. lugdb.* 170.
Leaves ſimple ovate villoſe; petioles entirely ſimple; branches round.

30. Crotalaria angulata.
Mill. dict. n. 9.
Leaves ovate ſeſſile; branchlets angular hirſute; flowers lateral very ſimple.

From Loureiro.

31. Crotalaria heptaphylla. *Seven-leaved Crotalaria.*
Lour. cochinch. 433.
Leaves pinnate with ſeven leaflets, ſpikes long, ſtem arboreous.

32. Crotalaria ſcandens. *Climbing Crotalaria.*
Lour. cochinch. 433.
Leaves oblong, peduncles many-flowered axillary, ſtem ſhrubby climbing.

DESCRIPTIONS, *&c.*

The plants of this genus are either herbs or ſhrubs; the leaves either ſimple, ternate, or in ſome few caſes digitate; ſtipules either ſcarcely any, or conſpicuous, and for the moſt part diſtinct from the petiole; flowers generally in ſpikes, in ſome ſpecies terminating, in others axillary, or elſe oppoſite to the leaves; the legume in moſt is ſhort, with only one or two ſeeds in it, but in ſome it is longer, and contains ſeveral ſeeds. The genus ought certainly to be reformed, and ſome of the ſpecies referred to other genera[a].

Dillenius diſtinguiſhes it from Anonis or Ononis, by the greater length and more ſwelling form of the legumes; he obſerves alſo that they are pendulous in this genus: that the plant has no ſpines; that the leaves are not ſerrate, and the petioles not leafy.

1. Height eight feet. Stem ſmooth and even, with alternate branches. Leaves ſmooth, veined, ſcarcely an inch in length. The flowers ſmooth, yellow, in a kind of umbel, two together, terminating the branches. Standard hoary, pubeſcent on the outſide. Legumes compreſſed, ſmooth, not pedicelled, acute.

Native of the Cape of Good Hope[b]; where a decoction of the leaves is eſteemed a powerful diuretic.]

2. Stem ſhrubby, four or five feet high, round, covered with a light-brown bark. Leaves ſmooth, about four inches long, and near three broad, [reſembling much thoſe of our common *Thorough-wax* (Bupleurum) both in ſize and ſhape, but they are ſtiffer and more veined. The flowers are almoſt as large as thoſe of the Pea, all the petals being large.] They are of a pale yellow colour, and come out ſingly from the upper part of the branches, ſitting cloſe in the axils of the leaves; and appear in auguſt. [Legume ſmooth, cartilaginous, browniſh. It has the appearance of being ſhrubby, but the branches periſh every year. Its height is two feet; and it grows in open woods two hundred miles to the back of the ſettlements in Carolina. It was cultivated, but did not flower, in the Eltham garden, about the year 1732[c].] Mr. Miller had it from Dr. Dale, probably at the ſame time; it flowered with him, but did not produce any pods.

[3. This is a ſmooth ſhrub. Leaves ſmooth: Flowering branches dichotomous; the flowers yellow, peduncled, from the diviſions.

Native of the Cape of Good Hope[d].

4. Root annual. Stem herbaceous, half a foot high and more, erect, ſubdivided, ſtrict; round, pubeſcent. Leaves on very ſhort petioles, alternate; entire, rounded at the baſe, hoary underneath, and ſomewhat hirſute; (but ſometimes ſmooth.) Stipules at the ſides of the petioles, decurrent, bifid at the top, acute, as it were ſagittate. Peduncles terminating, ſolitary, oppoſite to the petioles, ſtrict, round, two or three-flowered. Flowers yellow, pedicelled. Calyx five-parted; two ſegments poſterior, three anterior, ovate-lanceolate, hirſute: at the baſe are two or three leaflets. Standard of the corolla roundiſh, erect, ſpreading, pale: wings ovate, embracing the keel; which is bifid at the baſe, and blunt at the end. Five of the filaments ſhorter than the other five: anthers oblong, thoſe of the ſhorter filaments ſmaller, roundiſh. Legume ſubſeſſile, almoſt cylindric, veined, pellucid, when ripe blackiſh. Seeds pedicelled, fixed to the ſuture in a quadruple row, kidney-form, ſhining[e].

Native of South America and Jamaica. It was firſt raiſed here in the botanic garden at Chelſea, from ſeeds ſent by Mr. Robert Millar, Surgeon, from Porto Bello, in the year 1734[f].]

Miller makes two ſpecies of this, 1. C. piloſa, n. 2. the ſeeds of which were ſent from La Vera Cruz by Dr. Houſtoun. 2. C. ſagittalis, n. 3. which Dr. Dale ſent him from South Carolina; and Dr. Houſtoun from Jamaica; ſo that it grows naturally in ſeveral parts of America. The latter is a lower plant, and the flowers are not more than half the ſize of the others.

[5. Shrubby. Stems and branches pubeſcent, round. Leaves bluntiſh, very entire, ſomewhat hairy on both ſides. Racemes few-flowered, rough with hairs. Bractes lanceolate, the length of the peduncles. Calyxes rough with hairs, the length of the corolla; which is yellow, with a ſtriated banner. Stipules ſubulate. Native of China[g].]

6. This riſes with an angular, ruſhy, ſtiff ſtem, from three to near four feet in height, dividing into three or four branches. Leaves narrow-lanceolate, alternate, cloſely covered with ſoft ſilvery hairs, on very ſhort petioles. The flowers are produced at the ends of the branches, in looſe ſpikes. [Upper lip of the calyx two-parted; lower boat-form, obſcurely three-toothed. Corolla large, deep yellow, with the axils of the wings black, having the appearance of Spaniſh Broom, (Spartium junceum.)[h]] The ſtyle ſtands out beyond the ſtandard. The flowers are ſucceeded by large turgid pods, containing one row of large kidney-ſhaped ſeeds.

Native of the Eaſt-Indies. The ſeeds were brought to Mr. Miller from the coaſt of Malabar before 1768, and ſucceeded in the Chelſea garden.

[7. This is a ſhrub, warted with knots from the fallen leaves: theſe are crowded, ſubimbricate, ſilky, ſmall, without ſtipules. Flowers ſolitary, purple. Native of the Cape of Good Hope[i].]

8. This riſes with an herbaceous ſtem near three feet high, dividing into ſeveral branches. Leaves pale green and ſmooth, [obovate with a recurved point, whence they are retuſe. Stipules very ſmall,

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[a] Juſſieu.

[b] Linn. mant. & amoen.

[c] Dillenius.

[d] Linn. amoen.

[e] Swartz.

[f] Mart. cent.

[g] Linn. ſpec.

[h] Ibid.

[i] Linn. amoen.

ſubulate, ſtanding out.] The flowers are produced in ſpikes at the end of the branches; they are pretty large, and of a yellow colour, [with the banner often purpliſh above. Legume ſmooth, cylindric, horizontal [k]; widening upwards, inflated, turgid at the ſides, depreſſed along the ſeed-bearing ſuture, and towards the baſe gradually attenuated into the peduncle. Seeds from fifteen to twenty, three-cornered-reniform, ending in a hooked beak remote from the ſeed, ſmooth, ſhining, dark-cheſtnut colour [l].

Native of the Eaſt-Indies. Annual. Cultivated by Miller in 1731 [m].] He received the ſeeds from Boerhaave. It flowers in july; and the ſeeds ripen in autumn, provided the plants are brought forward in the ſpring.

[9. Annual. Scarcely a foot high. Stem erect, round, little branched, ſtriate-furrowed. Leaves ſmooth on their upper ſurface, hairy on their lower. Stipules hardly viſible. Flowers axillary, blue; with two oblong bractes.—Native of China [n].

10. The whole plant is ſmooth. Leaves almoſt three inches in length. Bractes from the axils of the leaves towards the top, in threes, a little ſmaller than the leaves, and the length of the flowers.—Native of the Cape [o]. Biennial: flowering in june. Introduced 1786, by Mr. Francis Maſſon [p].]

11. This is an annual plant. Stem herbaceous, four-cornered, two feet high, [erect, flexuoſe]; dividing into three or four branches at top, which have alſo four acute angles. Leaves warted, pale green, on very ſhort petioles. [Racemes terminating: flowers alternate, ſmooth [q],] of a light blue colour; ſucceeded by ſhort turgid pods, incloſing one row of kidney-ſhaped ſeeds. It flowers in july and auguſt, and the ſeeds ripen in autumn. Native of the Eaſt-Indies. [Cultivated 1731, by Mr. Miller [r].

12. Stem erect, a palm in height, round, hairy, terminated by the peduncle. Branches from the baſe of the ſtem, many, alternate, ſimple, much longer than the erect ſtem. Leaves alternate, on very ſhort petioles, elliptic or oval-oblong, without veins, a little hairy, an inch in length. Peduncles terminating; but on the branches, the branch extending itſelf beyond the flower, they become lateral. Corolla yellow; the banner ovate, aſcending, the length of the calyx; (which is divided into five parts, the upper part bifid) wings oblong, preſſed cloſe; keel ventricoſe, beaked. Filaments alternately longer and ſhorter; anthers oblongiſh, but on the barren filaments round. Germ ovate, with a villoſe ſtigma. Legume twin-globular (becoming by culture ſubcylindric) inflated, one-celled, containing ſeveral ſeeds, on ſtiff, briſtle-form pedicels. There is no diſtinct ſtamen in the flower.—In the garden it puts on an appearance very different from what it has in its native ſoil, in the Eaſt-Indies. Koenig found it in the iſland of St. Johanna [s].

13. Shrubby, ſtems ſimple, very ſmooth. Leaves obtuſe, erect. Peduncles on the top of the ſtem, elongated, with a pair of leaves towards the flower, like thoſe of the ſtem. The flower comes out between the leaves of the peduncle, is ſingle, nodding and yellow. Found by Thunberg at the Cape of Good Hope [t].

14. Stems erect, filiform, ruſhy, ſimple, hirſute, hoary. Leaves on very ſhort petioles, and ſhorter. Racemes long. Flowers nodding, yellow. Legumes ſhort, obtuſe. It is like enough to *C. juncea* n. 6. Obſerved by Koenig, in the Eaſt Indies [u].

15. Stems diffuſed, round, pubeſcent. Leaves on ſhort petioles, ſpreading very much. Stipules ovate, tubular, reflex. Peduncles terminating, erect, long, filiform. Bractes two, near the flower, on the peduncle, oppoſite, like ſtipules. Corollas blueiſh, of the larger ſize. Legumes oblong with an acumen, hiſpid.—It varies in the form of the leaves. Found by Koenig, in the queen of Tanjour's garden, Amma Koil [x].

16. Stems ſarmentoſe, ſlender and weak, at bottom ſtiff and woody, but higher up, herbaceous, round, from a foot to eighteen inches in height, and more; about the middle dividing into branches, which are not very frequent, on which at ſhort intervals grow ſmooth ternate leaves, with a pair of ſtipules at the baſe of each petiole. Flowers axillary, on peduncles ſhorter than in ſome other ſpecies, three or four together, yellow, reſembling thoſe of the common Lotus; the banner larger than the other petals, and reflex, but the edges inflex, marked with ſo many red lines on the hinder part, as to appear wholly red there; wings and keel unſpotted, the latter greeniſh yellow; the wings converge and cover the keel. Legumes from one to three, ſubhirſute, ſwelling, rattling when the ſeeds are ripe.—The ſeeds came either from the Havanna or Mexico [y]. It is a native of Jamaica. Flowers in june and july; and was cultivated in the Eltham garden, 1732 [z].

17. Native of the Cape of Good Hope.]

18. Stem ſhrubby, four or five feet high, dividing into many branches. Flowers large, yellow, in large bunches from the ſide of the branches, appearing from july to ſeptember, and making a fine appearance.

[Annual. Plant ſmooth. Legume in the calyx peduncled. Keel of the corolla broad, compreſſed, beaked; wings half the length of that and the banner [a].

19. A ſhrub, eight feet in height, branched: branches ſomewhat angular, with truncated ſcars. Leaves petioled; leaflets ſmooth, ſharp at the baſe, nearly equal. Petioles ſhorter than the leaves. Stipules briſtle-form, minute. Corymbs terminating, ſolitary, ovate: peduncles, calyxes and corollas violet-coloured. The flower reſembles that of *Sophora biflora*. Stamens connate. Native of the Cape, on rocks [b].

20. Root annual. Stem from two to four feet high, almoſt ſimple, erect, pubeſcent. Leaves elliptic, entire, nerved. General petioles long, angular, horizontal, pubeſcent; partial very ſhort, round. Stipules ſolitary, deciduous. Flowers ſubracemoſe, greeniſh yellow, rather large. Peduncles three or four-flowered, ſhort, axillary. Pedicels longer than the peduncles. Bractes two, ſubulate (ſetaceous. Lin.) under each flower. Calyx five-cleft, ſilky. Standard of the corolla fulvous, ſtreaked; the reſt yellow. Stigma acute. Legume ſubſeſſile, turgid-inflated, villoſe-pubeſcent, beaked with the permanent ſtyle. Seeds oblong. It has the common ſmell of the leguminoſe tribe, but is fetid [c].

Native of the Weſt-Indies. It flowers in june and july. Cultivated 1714, by the Dutcheſs of Beaufort [d].

21. A ſhrub with hoary branches, very finely white-tomentoſe, in which it differs evidently from *C. laburnifolia*, which is ſmooth. Leaves petioled, naked; leaflets oval, nearly equal; petioles hoary. Stipules two, at the origin of each petiole, exactly reſembling the leaves, only of half the length. Panicles ſmall, ſimple. Flowers yellow: wings ſhorter than the keel, which is lunate, and ſomewhat beaked.—It ſeems to be only a variety of *C. laburnifolia*, for the ſtipules drop, after it has flowered [e].

Native of the Cape of Good Hope; flowering from june to october. Introduced 1774, by Mr. Francis Maſſon [f].

22. Annual. Stem erect, a foot high, ſmooth, a little branched at top. Lower ſtem-leaves elliptic, oleraceous, ſmooth, ribbed with nerves: upper obovate, alike. Petioles very ſhort, channelled. Stipules ſmall, ſubulate, patulous. Raceme when flowering terminating, when fruiting lateral. Corollas yellow, ſomewhat teſtaceous on the outſide,

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[k] Linn. ſpec. [l] Gærtner. [m] Hort. kew. [n] Linn. ſpec. [o] Linn. ſpec. & mant. [p] Hort. kew. [q] Linn. zeyl. [r] Hort. kew. [s] Linn. mant. [t] Linn. ſuppl. [u] Ibid.

[x] Linn. ſuppl. [y] Dillenius. [z] Hort. kew. [a] Linn. ſpec. & ſyſt. [b] Linn. mant. [c] Swartz. [d] Hort. kew. [e] Linn. ſuppl. [f] Hort. kew.

ſtriate-nerved. Legumes ſmooth. Native of the Eaſt-Indies[g].

23. Leaflets narrow-lanceolate, obtuſe, often retuſe, almoſt naked, the ſide ones ſhorter. Calyxes bell-ſhaped. Flowers in racemes, alternate, ſmooth. Native of the Eaſt-Indies[h].

24. Native of the Cape of Good Hope. Found there by Mr. William Paterſon. It is ſhrubby, and flowers in july and auguſt. Introduced 1780, by the Counteſs of Strathmore.

25. Native of Guinea. Found there by Mr. William Braſs. It is annual, and flowers in july. Introduced 1781, by the Earl of Tankerville and Dr. Pitcairn.

26. Native of Africa. Found there by James Bruce, Eſq. It is annual, and flowers in june and july. Introduced 1775[i].

27. A lofty plant, appearing to be ſhrubby, but in reality annual. Stem branched, ſtriated. Leaves on ſhort petioles, oblong, lanceolate, with a minute point, decreaſing towards the petiole, the upper ſurface ſmooth. Stipules ſemicordate, acuminate. Racemes ſimple, terminating and axillary. Bractes cordate, acuminate. Flowers peduncled, ſolitary, yellow. Peduncles having two or three ſmall bractes in the middle. Upper lip of the calyx deeply bifid; lower three-toothed, with the teeth lanceolate. Style thickening towards the ſtigma, hairy. Communicated by Koenig[k].]

28. The twenty-eighth ſort grows naturally in Jamaica, whence the ſeeds were ſent me by the late Dr. Houſtoun; this riſes with a ſhrubby taper ſtalk near four feet high, ſending out many ſide branches, which are very ſlender, ligneous, and covered with a light brown bark; the younger ſhoots have a leafy border or wing on two ſides, but the old branches have none; the flowers are produced near the end of the branches, three or four growing alternate on a looſe ſpike; they are of a dirty yellow, and ſmall; the pods which ſucceed them are about an inch long, very turgid, and of a dark blue when ripe.

29. The twenty-ninth ſort grows naturally at the Cape of Good Hope, whence I received the ſeeds. This riſes with a ſhrubby ſtalk about five feet high, dividing into ſeveral branches, with roundiſh leaves, ſitting cloſe to the branches; they are of a hoary green, and ſoft to the touch, the branches are taper and ſmooth; the flowers are produced at the end of the branches in looſe ſpikes; they are about the ſize of thoſe of the eleventh ſort, and of a fine blue colour. They come out in june and july, and in warm ſeaſons the ſeeds ripen in autumn.

30. This is an annual plant, riſing with a taper upright ſtem near three feet high, dividing at top into ſeveral hairy upright branches. Leaves ovate-lanceolate, pale green. The flowers are produced ſingly from the ſide of the branches, are of a bright yellow, and are ſucceeded by ſhort turgid pods, having one row of kidney-ſhaped ſeeds. It flowers in july and auguſt, and will perfect ſeeds in autumn. It was ſent from Campeachy, where it grows naturally.

[31. This is a tree ten feet in height, with diffuſed branches. Leaves unequally pinnate; leaflets ovate-oblong, veined, ſubtomentoſe; petioles ſhort. Flowers white, axillary and terminating, in long ſimple ſolitary ſpikes. Calyx five-toothed, villoſe, ſhort. Standard of the corolla emarginate, riſing: wings oblong, half the length of the ſtandard: keel bent in, ſhorter than the wings. Legume pedicelled, turgid, villoſe, unequal. Seeds few, roundiſh.

32. This is a large ſhrub, with long, woody, ſcandent branches. Leaves ovate-oblong, acuminate, quite entire, ſmooth, alternate, petioled. Flowers white. Calyxes ſmooth. Petals nearly equal, ſpreading. Legume turgid, acuminate at both ends; containing few ſeeds. This and the preceding are natives of Cochinchina[l].]

PROPAGATION AND CULTURE.

Moſt of theſe plants are propagated by ſeeds, which muſt be ſown upon a hot-bed in the ſpring, and when the plants are come up an inch high, they ſhould be tranſplanted to another hot-bed to bring them forward, obſerving to ſhade them from the ſun till they have taken new root; after which they ſhould have free air admitted to them in proportion to the warmth of the ſeaſon, to prevent their being drawn up weak. When the plants have acquired ſtrength in this bed, they ſhould be carefully taken up, with balls of earth to their roots, and each planted in a ſeparate pot, filled with light kitchen-garden earth, and plunged into a moderate hot-bed of tanner's bark, carefully ſhading them till they are rooted again; then they muſt be treated in the ſame manner as other tender exotic plants, giving them proper air and water in warm weather; when the plants are grown ſo tall as to nearly reach the glaſſes of the hot-bed, the pots may be removed into an airy glaſs caſe, or ſtove, where they may be ſcreened from inclement weather, and have proper air in hot weather; with this treatment the plants will flower in july, and continue to produce freſh ſpikes of flowers till the end of auguſt; and thoſe ſpikes of flowers which appear early in the ſeaſon, will be ſucceeded by ripe ſeeds in ſeptember, ſoon after which the plants will decay.

6. This plant is annual in England, but by the lower part of the ſtalk growing woody, it appears to be of longer duration in the country where it naturally grows; though it will not live through the winter here, for if the plants are placed in a ſtove, the heat is too great for them, and in a green-houſe they are very ſubject to mouldineſs in damp weather. I have ſown the ſeeds of this in the full ground, where the plants have grown upward of three feet high, and have flowered very well, but no pods were formed on theſe; and when they have been treated tenderly, the plants have grown much larger, and produced a greater number of flowers, but theſe have produced no ſeeds. The only way which I could obtain any ſeeds, was by raiſing the plants in pots upon hot-beds; and the beginning of july turning them out of the pots into the full ground on a very warm border under a wall, in which ſituation they flowered very well, and ſome few pods of ſeeds were ripened.

18. It is eaſily propagated by cuttings, during the ſummer months, if the cuttings are planted in pots, and plunged into a moderate hot-bed, being careful to ſhade them till they have taken root, and frequently refreſh them with water: during the months of july, auguſt, and ſeptember, the plants may be expoſed to the open air in a ſheltered ſituation, where they will produce many flowers; but in the autumn they ſhould be placed in a temperate ſtove, to preſerve them in winter.

[Thoſe ſpecies which are natives of the Cape will be ſufficiently protected by the Conſervatory or dry Stove; but ſuch as come from the Eaſt-Indies, and the hotter parts of Africa, muſt be kept in the Bark Stove.]

CROTALARIA. See *Glycine* and *Sophora*.

CROTON. (Κροτων *of Dioſcorides. Derivation unknown.*)

Lin. gen. *n.* 1083. *Reich.* 1181. *Schreb.* 1462. *Gærtn. t.* 107. *Ricinoides Tourn.* 423.

Claſſ. 21. 9. Monoecia Monadelphia.—Monadelphia Dodecandria. *Thunb.*

Nat. order of *Tricoccæ.—Euphorbiæ.* Juſſ. 389.

GENERIC CHARACTER.

* *Male flowers* ſmaller than the females.

CAL. *Perianth* cylindric, five-toothed.

COR. *Petals* in ſome five, ſcarce larger than the calyx, oblong, obtuſe.

Nectary five glands, affixed to the receptacle, ſmall.

STAM. *Filaments* ten or fifteen, ſubulate, connected at the baſe, length of the flower. *Anthers* roundiſh, twin.

* *Female flowers* remote from the males, on the ſame plant.

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[g] Linn. ſuppl.
[h] Linn. ſpec.
[i] Hort. kew.
[k] Retz.
[l] Loureiro.

CAL. *Perianth* many-leaved: *leaflets* ovate-oblong, erect.

COR. *Petals* as in the males (in ſome ſcarce manifeſt.)

PIST. *Germ* roundiſh. *Styles* three, reflex-ſpreading, length of the flower, half-two-cleft. *Stigmas* reflex, two-cleft.

PER. *Capſule* roundiſh, three-lobed at the ſides, three-celled, each of the cells two-valved, ſize of the calyx; frequently much larger.

SEEDS ſolitary, ovate, large.

OBS. *This genus is allied to* Acalypha, *differing chiefly in the calyx. Some ſpecies are furniſhed with petals, others are apetalous. Several have the filaments detached.*

In Cr. tinctorium *the calyx is five-leaved: the petals five, lanceolate. Stamens eight, monadelphous.*

In Cr. lucidum: *the calyx in the male flowers is ten-leaved; corolla none; ſtamens twelve: In the female flowers calyx five-leaved; germ hirſute; ſtyles three, ſix-parted.* R.

Species 42 *is diœcous: ſpecies* 51, *polygamous.*

ESSENTIAL CHARACTER.

MALE. *Cal.* cylindric, five-toothed. *Cor.* five-petalled. *Stam.* ten to fifteen.

FEM. *Cal.* many-leaved. *Cor.* none. *Styles* three, bifid. *Capſ.* three-celled. *Seed* one.

SPECIES.

[1. Croton variegatum. *Variegated-leaved Croton.*

Lin. ſpec. 1424. *Reich.* 4. 183. *Burm. ind.* 303. *Rumph. amb.* 4. 65. *t.* 25. *Rheed. mal.* 6. 109. *t.* 61.

β. *Rumph. amb. t.* 26.

γ. *Rumph. amb. t.* 27.

Leaves lanceolate very entire ſmooth, painted, petioled.]

2. Croton lineare. *Willow-leaved Croton.*

Jacqu. amer. 256. *t.* 162. *f.* 4. *Ait. hort. kew.* 3. 374.

C. Caſcarilla. *Lin. ſpec.* 1424. *Reich.* 4. 183. *amœn.* 5. 411. *mat. med.* 206. *Swartz obſ.* 363. *Brown. jam.* 347. 5. *Sloan. jam.* 1. 133. 14. *t.* 86. *f.* 1. *Blackw. t.* 577. *Woodv. med. bot.* 116. *t.* 41. *Mill. dict. n.* 8.

Leaves linear very entire obtuſe, tomentoſe beneath, ſtem ſhrubby.

[3. Croton caſtaneifolium. *Cheſtnut-leaved Croton.*

Lin. ſpec. 1424. *Reich.* 4. 184.

Leaves lanceolate obtuſe ſerrate petioled ſmooth.]

4. Croton paluſtre. *Marſhy Croton.*

Lin. ſpec. 1424. *Reich.* 4. 184. *hort. cliff.* 445. *Mart. cent.* 38. (*Ricinoides.*)

Leaves ovate-lanceolate plaited ſerrate ſcabrous.

[5. Croton glabellum. *Laurel-leaved Croton.*

Lin. ſpec. 1425. *Reich.* 4. 185. *amœn.* 5. 409. *Brown. jam.* 348. 7. *Sloan. jam.* 2. 30. *t.* 174. *f.* 2. *Raii dendr.* 17.

Leaves ovate bluntiſh very entire, ſmooth and even; fruits peduncled.]

6. Croton tinctorium. *Officinal Croton.*

Lin. ſpec. 1425. *ſyſt.* 683. *Reich.* 4. 185. *hort. upſ.* 290. *mat. med.* 207. *Gærtn. fruct.* 2. 118. *Gouan. monſp.* 495. *Gron. orient.* 298. *Burm. ind. t.* 62. *f.* 1. *D'Aſſo. aragon. n.* 943.

Ricinoides ex qua paratur Tourneſol gallorum. *Tourn. inſt.* 655. *Niſſol. act.* 1712. 337. *t.* 17.

Heliotropium tricoccum. *Bauh. pin.* 253. *Raii hiſt.* 165. *Ger.* 265. 5. *emac.* 335. 4. *Park.* 439. 4.—parvum. *Lob. ic.* 261.—minus. *Geſn. ic.* 120. *t.* 4. *f.* 30.

Leaves rhombed repand; capſules pendulous; ſtem herbaceous.

[7. Croton glanduloſum.

Lin. ſpec. 1425. *Reich.* 4. 185. *amœn.* 5. 409. *Brown. jam.* 346. 1.

Leaves oblong ſerrate, biglandular at the baſe, fruits ſeſſile.]

8. Croton argenteum. *Silvery-leaved Croton.*

Lin. ſpec. 1425. *ſyſt.* 863. *Reich.* 4. 186. *hort. cliff.* 444. *Murr. in comm. gott.* 1781. *p.* 41. *t.* 4.

Leaves cordate-ovate, tomentoſe beneath, entire, ſerrate.

[9. Croton ſebiferum. *Poplar-leaved Croton,* or *Tallow-tree.*

Lin. ſpec. 1425. *ſyſt.* 863. *Reich.* 4. 186. *Pet. gaz. t.* 34. *f.* 3. (*Ricinus.*) *Pluk. amalth. t.* 390. *f.* 2.

Leaves rhomb-ovate acuminate flat ſmooth, glands ſubpetiolar.

10. Croton japonicum.

Lin. ſyſt. 863. *ſuppl.* 422. *Thunb. jap.* 270. *t.* 28, 29.

Leaves undivided and three-lobed, ovate acuminate entire ſmooth.

11. Croton acutum.

Lin. ſyſt. 863. *Thunb. jap.* 269.

Leaves ovate ſerrate acuminate two-glanded, ſtem herbaceous.

12. Croton Tiglium. *Purging Croton.*

Lin. ſpec. 1426. *Reich.* 4. 186. *fl. zeyl. n.* 343. *mat. med.* 207. *Gærtn. fruct.* 2. 119. *Lour. cochinch.* 582. *Burm. zeyl.* 200. *t.* 90. (Ricinoides.) *Rumph. amb.* 4. 98. *t.* 42. *Rheed. mal.* 2. 61. *t.* 75. *Raii hiſt.* 1803. 3.—1830. 58. 1855. & *ſuppl.* 112. 2. & 666. 2.

Pinus indica, nucleo purgante. *Bauh. pin.* 492.—& Lignum moluccenſe, fol. malvæ, &c. 393.

Leaves ovate ſmooth acuminate ſerrate, ſtem arboreous.

13. Croton lucidum. *Smooth Croton.*

Lin. ſpec. 1426. *ſyſt.* 864. *Reich.* 4. 186. *mant.* 497. *amœn.* 5. 410. *Brown. jam.* 347. *n.* 6.

C. ſpicatum. *Berg. in philoſ. tranſ. v.* 58. (1768.) *p.* 132. *t.* 7.

Leaves ovate ſmooth, flowers in ſpikes, ſtyles many-cleft, depreſſed-pubeſcent, becoming ſhrubby.

14. Croton lacciferum. *Lac Croton.*

Lin. ſpec. 1426. *Reich.* 4. 187. *fl. zeyl. n.* 344. *mat. med.* 207. *Gærtn. fruct.* 2. 119. *Lour. cochinch.* 582. *Burm. ind.* 304. *zeyl.* 201. *t.* 91. (*Ricinoides.*) *Pluk. alm.* 320. *Raii ſuppl.* 112. (*Ricinus ult.*) *Rumph. amb.* 3. 197. *t.* 127. (Halecus.) *Philoſ. tranſ. v.* 22. *p.* 157.

Lacca. *Garc. arom. l.* 1. *c.* 8.

Leaves ovate tomentoſe ſerrulate petioled, calyxes tomentoſe.

15. Croton balſamiferum. *Balſam Croton.*

Lin. ſyſt. 864. *Reich.* 4. 187. *mant.* 125. *Jacqu. amer.* 255. *t.* 162. *f.* 3. *hort.* 3. *t.* 46. *amer. pict. t.* 242.

Leaves ovate-lanceolate ſcabrous very entire, tomentoſe beneath.

16. Croton aromaticum. *Aromatic Croton.*

Lin. ſpec. 1427. *Reich.* 4. 187. *fl. zeyl. n.* 345. *Vahl ſymb.* 2. 98. *Gærtn. fruct.* 2. 119. *Burm. ind.* 204. *Burm. zeyl.* 202. 1. *Rumph. amb.* 3. 197. *t.* 126. *Herm. zeyl.* 11 & 46. *Lour. cochinch.* 583.

Leaves cordate-ovate ſcabrous ſerrate at the baſe beneath, and on the edge, having petioled glands, racemes terminating.

17. Croton humile. *Humble Croton.*

Lin. ſpec. 1427. *Reich.* 4. 188. *amœn.* 5. 410. *Brown. jam.* 347. *Swartz obſ.* 363.

Leaves cordate very entire ſcabrous ſubciliate tomentoſe beneath, ſtem ſhrubby.

18. Croton Ricinocarpos. *Surinam Croton.*

Lin. ſpec. 1427. *Reich.* 4. 188.

Mercurialis androgyna. *Lin. vir. cliff.* 98.

Ricinocarpos. *Boerh. lugdb.* 1. 254. 2. (*deſcript.*)

Leaves ſubcordate crenate, peduncles racemed, oppoſite to the leaves, ſtem herbaceous.

19. Croton moluccanum. *Molucca Croton.*

Lin. ſpec. 1427. *Reich.* 4. 188. *fl. zeyl. n.* 346. *Lour. cochinch.* 583. *Burm. ind.* 205. *zeyl.* 170. 1. (*Nux juglans*). *Pluk. alm. t.* 220. *f.* 5. (*Ricinus*).

Leaves cordate angular ſcabrous, tomentoſe beneath.

20. Croton flavens. *Yellow Croton* or *Balſam.*

Lin. ſpec. 1426. *Reich.* 4. 188. *amœn.* 5. 410. *Brown. jam.* 347. *n.* 3.

Leaves cordate oblong very entire tomentoſe on both ſides, branchlets more cloſely tomentoſe.

21. Croton capenſe. *Cape Croton.*
Lin. ſyſt. 864. *ſuppl.* 422.
Leaves haſtate and undivided lanceolate very entire and very ſmooth.]

22. Croton lobatum. *Various-leaved Croton.*
Lin. ſpec. 1427. *Reich.* 4. 189. *hort. cliff.* 445. *Forſk. ægypt.* 163. *Mart. cent.* 46. (*Ricinoides*).
Leaves unarmed-ſerrate, the lower five-lobed, the upper three-lobed.

[23. Croton ſpinoſum. *Thorny-leaved Croton.*
Lin. ſpec. 1427. *Reich.* 4. 189. *fl. zeyl. n.* 347. *p.* 238. *Forſk. ægypt. cent.* 6. 163. *Pluk. alm. t.* 108. *f.* 3.
Leaves palmate five-lobed and three-lobed, thorny-ſerrate; flowers ſcattered over the ſtem, and ſubſeſſile.

24. Croton Aſtroites. *Woolly Croton.*
Ait. hort. kew. 3. 375.
Leaves oval ſubcordate very entire ſtarry-tomentoſe on both ſides, branchlets more cloſely tomentoſe.

25. Croton punctatum. *Dotted-leaved Croton.*
Retz. obſ. 5. *n.* 85. *Jacqu. ic. rar.*
Leaves ovate acute entire, tomentoſe and dotted beneath, ſtem ſhrubby.

26. Croton nutans.
Forſt. fl. auſtr. n. 354. *Vahl ſymb.* 2. 96.
Leaves rhomb-ovate acuminate waved ſmooth, glands marginal.

27. Croton Inophyllum.
Forſt. fl. auſtr. n. 355.
Leaves obovate very entire, ſtem arboreous.

28. Croton hirtum.
L'Herit. ſtirp. nov. faſc. 1. 17.
Leaves ovate ſerrate, with glanduliferous hairs at the baſe, ſpikes ſeſſile, ſtem hiſpid.]

29. Croton althææfolium.
Mill. dict. n. 9.
Ricinoides americana truteſcens, althææ fol. *Plum. cat.* 20.
Leaves oblong-cordate tomentoſe, ſtem ſhrubby branched, flowers in terminating ſpikes.

30. Croton ſalviæfolium.
Mill. dict. n. 10.
Ricinus ſalviæ fol. utrinque molli. *Pet. hort. ſicc.*
Leaves cordate acute, tomentoſe beneath, ſtem ſhrubby, flowers in ſpikes terminating and axillary.

31. Croton ſeſſiliflorum.
Swartz. prodr. 100.
Leaves ovate acuminate quite entire ſmooth, flowers ſeſſile axillary dioecous five-ſtamened.

32. Croton globoſum.
Swartz. prodr. 100.
Leaves ovate obtuſe entire, peduncles in pairs, flowers dioecous, fruits globular, echinate-hiſpid.

33. Croton divaricatum.
Swartz. prodr. 100.
Leaves oblong obtuſe ſerrate, rough with hairs, biglandular at the baſe, racemes terminating ſolitary, ſtem ſhrubby, branches dichotomous divaricate.

34. Croton nitens.
Swartz. prodr. 100.
Leaves cordate-elliptic acuminate almoſt entire ſmooth ſhining above, dotted and ſilvery underneath, racemes axillary, leaves ſhorter, erect.

35. Croton laurinum.
Swartz. prodr. 100.
Leaves oblong acute quite entire, of ſome conſiſtence, ſmooth, petioles rugged, they and the leaves dotted underneath, racemes axillary, very long, patulous, ſtem arboreſcent.

36. Croton pallens.
Swartz. obſ. 100.]
C. fruticoſum. *Mill. dict. n.* 6.
Ricinoides fruteſcens, lauri fol., calyce ampliſſimo viridi. *Houſt. Mſs.*
Leaves ovate acuminate quite entire, ſmooth on both ſides, racemes ſolitary erect terminating; calyxes larger than the fruit.

37. Croton macrophyllum.
Swartz. prodr. 100.
Leaves cordate-roundiſh acuminate entire thick tomentoſe, nerved underneath.

38. Crotum populifolium.
Swartz. prodr. 101. *Vahl ſymb.* 2. 97.
Leaves broad-ovate acuminate ſerrate-toothed, ſomewhat rough with hairs, with one gland at the baſe above, petioles the length of the leaves, racemes terminating erect ſolitary, ſtem ſhrubby.

39. Croton cochinchinenſe.
C. punctatum. *Lour. cochinch.* 581.
Leaves lanceolate quite entire hoary underneath, ſhining, dotted, capſules ſcurfy.

40. Croton lanatum.
Lour. cochinch. 581.
Leaves ovate-lanceolate quite entire ſmooth oppoſite, corollas woolly, capſules ſix-valved.

41. Croton congeſtum.
Lour. cochinch. 582.
Leaves ovate gaſh-ſerrate ſmooth veined, flowers heaped naked axillary.

42. Croton dioicum.
Cavan. ic. hiſp. 4. *n.* 6. *t.* 6.
Leaves oblong obtuſe hoary, flowers terminating, on the male in ſpikes, on the female by threes.

43. Croton plicatum.
Vahl ſymb. 1. 78.
Leaves ovate plaited crenate hirſute, ſtem herbaceous.

44. Croton obliquum.
Vahl ſymb. 1. 78.
C. argenteum. *Forſk. ægypt.* 75. *n.* 491?
Leaves ovate-lanceolate quite entire, ſtem herbaceous, tomentoſe.

45. Croton coccineum.
Vahl ſymb. 2. 97.
Leaves ovate acuminate quite entire ſmooth, biglandular at the baſe, dotted with ſcarlet underneath, racemes terminating.

46. Croton lævigatum.
Vahl ſymb. 2. 97.
Leaves elliptic, very ſmooth and even, without glands, entire and ſerrate, obtuſe, racemes terminating, elongated.

47. Croton betulinum.
Vahl ſymb. 2. 98.
Leaves ovate obtuſe crenate-toothed, rugged, with dots on the upper ſurface, ſomewhat rough, with hairs underneath, racemes axillary.

48. Croton goſſypifolium.
Vahl ſymb. 2. 98. *t.* 49.
Leaves cordate three-lobed tomentoſe, biglandular at the baſe underneath, ſtem arboreous.

49. Croton procumbens.
Jacqu. amer.
Leaves wedge-ſhaped acute quite entire.

50. Croton niveum.
Jacqu. amer. pict. t. 263. *f.* 59.
Leaves cordate acuminate ſerrulate, tomentoſe-ſhining beneath, ſtem ſhrubby.

51. Croton polygamum.
Jacqu. amer. pict. t. 243.
Leaves lanceolate ſerrate, thinly ſet with decumbent hairs.

52. Croton? cyanoſpermum.
Gærtn. fruct. 2. 120.

53. Croton cardioſpermum.
Gærtn. fruct. 2. 120.

DESCRIPTIONS, &c.

The plants of this numerous genus are herbaceous, or more frequently ſhrubby. Leaves accompanied with ſtipules, generally alternate, ſeldom oppoſite. Flowers axillary or terminating, uſually in ſpikes, but ſometimes in corymbs: the ſpikes are moſtly monoecous (ſometimes dioecous, n. 2. or polygamous, n. 51.); the males above, the females below[a]. They are chiefly inhabitants of the Eaſt or Weſt-Indies: the ſixth ſpecies alone is European.

1. Native of Amboina and Japan: alſo of Mallicollo and Tanna in the South Seas.]

2. This riſes with a ſhrubby ſtem about ſix or ſeven feet high, ſending out many ſide branches, which are covered with a ſmooth bark of a yellowiſh

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[a] Juſſieu.

white colour, and garniſhed very cloſely with narrow ſtiff leaves, near three inches long, and about one eighth of an inch broad, of a light green on their upper ſide, but their under of the ſame colour with the bark, the midrib is furrowed on their upper ſide, and very prominent on the lower: the upper part of the branches divide into four or five ſmaller, ariſing from the ſame joint, and nearly equal in length; between theſe ariſes a long looſe ſpike of whitiſh green flowers. The whole plant has an aromatic odour when rubbed.

[According to Jacquin, it is only four feet high, and upright, the branches round, the leaves on a ſhort petiole, furniſhed with two ſtiffiſh ſtipules. Swartz remarks, that on the coaſt it has narrower leaves, and broader ones more in land; and that the flowers are dioecous.

It reſembles the European Roſemary pretty much, both in the manner of its growth, and the form and colour of its leaves, whence it has acquired the name of *Wild Roſemary*, in Jamaica. It is frequent on the ſouth ſide of the iſland, and generally uſed in warm reſolutive baths and fomentations[b]. Native of Jamaica, and other parts of the Weſt-Indies. It flowers in july, and was introduced about 1772 by Mr. William Malcolm[c].] It had, however, been cultivated before by Mr. Miller, to whom the ſeeds were ſent from Jamaica by Dr. Houſtoun.

[3. Native of South America[d].

4. Root annual. Stems round, fungous, ſmooth, procumbent or erect. Leaves oblong, ſerrate, ſmooth on both ſides, uſually two inches long, ſeldom one broad; petioles half an inch in length. Flowers axillary, towards the top of the ſtem, on ſpikes two inches long, in the upper part of which are four or five males, in the lower three or four females. The fruit is the ſize of a pea, rough with warts, or ſoft little ſpines. It varies in the ſize and form of the leaves.

Cultivated in the botanic garden at Chelſea in 1731[e]. Martyn has given an outline of the wild plant, by the ſide of that which was raiſed in the garden; and they differ ſo widely, that it would be difficult to ſuppoſe them of the ſame ſpecies, did we not know what great changes ſoil and climate will operate.]

Mr. Miller ſays, that the plant in its native marſhes has broad flat ſtalks, and leaves three inches long, ſcarce a quarter of an inch broad, rough, and but little indented on the edge; but that in dry ground the leaves are ovate, upwards of two inches broad, and ſerrate. He had the ſeeds from Dr. Houſtoun, who diſcovered it near La Vera Cruz. It flowers in july, and the ſeeds ripen in autumn.

[5. This grows in a ſhrubby form, and is ſeldom under ſeven or eight feet in height. All the parts of the plant are of an active warm nature, and have a pretty agreeable ſmell. It is common in all the low lands about Spaniſh town and Kingſton in Jamaica[f]: and was introduced here in 1778, by Thomas Clarke, M. D.[g]]

6. Root annual. Stem herbaceous, branching, about nine inches high. Leaves near two inches long, and one inch and a quarter broad in their wideſt part, on ſlender petioles near four inches long. Flowers in ſhort ſpikes from the ſide of the ſtalks, at the ends of the branches. [Stems covered with a glaucous meal. Leaves rhomboid, toothed, ſubtomentoſe. The male flowers diſpoſed in racemes. Calyx five-parted (five-leaved. *Lin.*) Petals five, lanceolate. Stamens eight or nine, monadelphous. Female flowers below the males, axillary, peduncled. Capſules tricoccous, ſcabrous, nodding. See n. 43.

The women about Albudebar dye their ſtockings with it.

Niſſole dyed both ſilk and wool of an elegant blue colour. But the attempts in France to produce a material from it for dyeing ſimilar to Indigo, did not meet with ſucceſs[h].]

This is the plant from which the Tournſol is made, that is uſed for colouring wines and jellies. It is made of the juice which is lodged between the calyx and the ſeeds: this, if rubbed on cloths, at firſt appears of a lively green, but ſoon changes to a blueiſh purple; if theſe cloths are put into water, and afterwards wrung, they will dye the water of a claret colour; the rags thus dyed, are brought to England, and ſold in the druggiſts ſhops by the name of Tournſol.

[Native of the South of France, Spain and Italy; and the kingdom of Tunis.

Cultivated 1570[i]. It flowers in july.

7. This ſeldom riſes above ſixteen or ſeventeen inches in height. The ſeeds are ſmall, and picked up every where in the fields, both by the wild and tame fowls, in the iſland of Jamaica, of which it is a native, in the Savannahs of Liguanea[k].]

8. Root annual. Stem a foot high, angular; branches naked from their diviſion to the top. Leaves an inch and half long, and three quarters of an inch broad, on petioles an inch in length. Flowers in ſhort cloſe terminating ſpikes, the upper ones male, the lower female, all white, the former ſoon falling.

[The head of fruits has three oval, hirſute, toothed bractes[l].

Introduced before 1733, by William Houſtoun, M. D.[m] who found it at La Vera Cruz, and ſent the ſeeds to Mr. Miller.

9. Leaflets broader than they are long, and involute: there are two glands at the baſe of the leaf[n].

The leaves dye a very fine black: in october they wither, turn to a dirty crimſon colour, and fall off before the capſules. The young leaves ſhoot out again in march. Each capſule contains three hard black ſhells, the ſize of pepper-corns or common peas, covered entirely with a delicate ſnow-white ſubſtance. It is not this that produces the Tallow, as is commonly ſuppoſed; but it is the oil expreſſed from the kernel, and this white ſubſtance muſt be well cleared from the ſhells before they are broken, for that will conſiderably leſſen the quantity of oil. For this purpoſe the ſhells ſhould remain ten or fifteen days in water to ſoak, and then they may be cleared of the white ſubſtance by rubbing; it will not, however, part from the ſhell without difficulty. The oil drops from the preſs like thick glutinous lamp oil, and ſoon hardens by cold to the conſiſtence of common tallow: by boiling it becomes as hard as bee's-wax[o].

It is a native of China; flowering in may and june, and ripening the ſeeds in november:—it flowers here in ſeptember; and was introduced in 1755, by Hugh Duke of Northumberland[p].

In Chineſe it is named Ko Sheu or Ou Ko, or as the French write it U-kieu.

10. Stem ſubangular, naked at bottom, tomentoſe at top, ſimple, a foot high and more. Leaves alternate, petioled, green above, yellowiſh beneath, netted all over with the veins, growing gradually ſmaller towards the top, the uppermoſt tomentoſe. Flowers terminating in ſpikes, which are peduncled, tomentoſe, and the length of the finger[q].

It bears a great reſemblance to *C. ſebiferum*, but the leaves are much larger, more acuminate, with five nerves running from the baſe: the panicle is villoſe, divided into racemes, and pyramidal[r].

Native of Japan: flowering in july and auguſt[s].

11. Stem angular, ſimple, ſmooth. Leaves alternate, petioled, unequally ſerrate, ſmooth, two inches wide, and between three and four long. Petioles angular, a finger's length. Two emarginate glands on the edge of the leaf, above the baſe. Flowers in racemes, the males at the end, the females below.

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[b] Browne.
[c] Hort. kew.
[d] Linn. ſpec.
[e] Houſtoun, in mart. cent.
[f] Browne.
[g] Hort. kew.
[h] D'Aſſo.
[i] Hort. kew. from Lobel.
[k] Browne.
[l] Linn. ſyſt.
[m] Hort. kew.
[n] Linn. ſyſt.
[o] Blake Mſs. ſee Duhalde; and Groſier, p. 438. engl. edit.
[p] Hort. kew.
[q] Thunberg.
[r] Linn. ſuppl.
[s] Thunberg.

Raceme axillary, looſe, angular, ſmooth, a palm or ſpan in length. Calyx deeply five-parted, diviſions lanceolate, ſmooth, patulous. Petals white, woolly, the length of the calyx. Filaments about twelve, filiform.—Corolla in the female flowers none. Germ ſuperior, ovate, villoſe: ſtyles five, filiform: ſtigmas ſimple, obtuſe. Capſule three-cornered, obtuſe, villoſe, aſh-coloured, three-valved, three-celled.—It differs from *C. glanduloſum*, in its acute, ſmooth leaves, and peduncled fruits.—Cultivated in Japan, whither it was brought by the Portugueze. It flowers in ſeptember[t].

12. This is a middle-ſized tree, with a few ſpreading branches. Leaves alternate, nerved, on long petioles. Flowers in erect, ſimple, terminating racemes, ſcarcely the length of the leaf, the lower ones female, the upper male, pale-coloured; calyx five-leaved, very ſhort, under the capſule reflected. In the males corolla five-petalled, with fifteen ſtamens; in the females corolla none[u]. Capſule three-cornered-ovate, rather large, coriaceous, thin, ſmooth, three-grooved, tricoccous. Partitions very thin, almoſt membranaceous. Seeds convex on one ſide, very bluntly angular on the other, with a very thin edge, ſtraw-coloured, brown or blackiſh[x].

Native of the Eaſt-Indies, China and Cochinchina.

13. Calyx of the male ten-leaved, imbricate, hirſute within. Corolla none. Stamens twelve.—Calyx of the females five-leaved. Germ hirſute. Styles three, ſix-parted[y].

It ſeldom riſes above three feet in height; is pretty ſimple towards the root, and divides into three or four ſimple branches towards the top. Leaves pointed both ways. Frequent in St. Elizabeth's, Jamaica[z].

14. This is a middle-ſized tree, with a few long ſpreading branches, which according to Burmann are angular and rugged. Leaves ſubacuminate, unequally toothed, ſcattered over the branches, tomentoſe on both ſides, on long petioles: from the axils of theſe, ſays Burmann, ariſe ſmaller branches, bearing ſmaller leaves on petioles an inch in length. Racemes terminating, and very ſimple. Flowers white, with five-leaved calyxes; the upper male, villoſe, with a five-petalled corolla, and from fifteen to twenty ſtamens; the lower female, tomentoſe[a]: capſules ſmall, globular, without any groove, tricoccous, with the five-leaved ſpreading calyx permanent at the baſe: ſkin coriaceous, quite entire, white, tomentoſe on the outſide: ſhells the ſubſtance of paper, white, opening elaſtically. Seeds roundiſh, turgidly lens-ſhaped, very obſcurely wrinkled, of a brown bay colour[b], the ſize of hemp.

The leaves infuſed in warm water or milk purge and vomit—It exudes a very fine lac ſpontaneouſly; this appears like a bud at the origin of the branches, but ſparingly. They uſe this in Ceylon to varniſh their lances, the handles of their tools, &c. It is ſuperior to that which in Pegu and Siam is formed by the ants, and much more pure[c].

Lac is ſaid to exude in ſmall quantities from this and other ſpecies; but all that ſubſtance which we commonly call Gum Lac in Europe is the work of the red ants, who are ſuppoſed to collect or ſuck the reſinous juice from this and perhaps other trees, to digeſt it with the animal acid in their ſtomachs, and then to incruſt the branches with it, to ſerve as a neſt or comb for their young. It is not properly a gum, reſin or oil, not being ſoluble either in water or fat oils. The uſe of this ſubſtance is well known in dyeing ſilk and woollens of a ſcarlet colour, and the leather called Morocco leather, for ſealing-wax, varniſh, &c. The wood is light, white and brittle. The bark and reſin are reputed to be ſerviceable in ulcers of the mouth, in the gonorrhœa, fluor albus, dyſentery, &c.[d]

Native of the Eaſt-Indies, as Aſſam on the borders of Thibet, where the tree is called Bihar; the ſouthern provinces of Cochinchina, and Cambodia.

15. This is an upright, branched, diffuſed ſhrub, three or four feet high, very ſweet-ſmelling, covered all over with a cloſe yellowiſh nap, and abounding with a balſamic, thickiſh, odorous, browniſh ſap, which exudes wherever a cut or rupture is made. Leaves petioled, green above, ferruginous-yellow underneath, thick, ſcatteringly alternate, two or three inches long, numerous. Spikes ſubterminating from the diviſions of the younger branchlets. Flowers ſmall, with white petals[e]. It much reſembles *C. humile*, but the leaves are not cordate[f].

Native of Martinico, Curaçao and Jamaica.

16. This is a middle-ſized tree with ſpreading branches, ſubdivided, round, rugged, with minute dots interſperſed with other larger ones, tomentoſe towards the end; hairs ſtellate. Leaves large, ſpreading, five-nerved, unequally ſerrate; the younger ones ſubtomentoſe, with ſtellate hairs, eſpecially underneath, and acuminate, the older ones almoſt naked, only a little hairy on the veins, beneath rugged, with dots, paler, obtuſe. Petioles tomentoſe, one-third only of the length of the leaf. Stipules briſtle-ſhaped, deciduous. Racemes terminating, quite ſimple, rather erect, two inches long. Bracte briſtle-ſhaped at the baſe of each pedicel. Flowers numerous, ſcattered, villoſe; the lower female, the upper male: the latter with the leaflets of the calyx ovate and numerous, ſtamens villoſe at the baſe[g]. Capſule ovate or globular, with the ſhort calyx turned back below, ſmooth, coriaceous, thick, brown, with ſix paler lines: ſkin corky, thick. Seeds ovate-oblong, convex on one ſide, angular on the other, wrinkled, with obſcure tubercles of a dark bay colour[h]. Herman collected a lac from the wounded bark, but in ſmall quantities.

Native of the iſland of Ceylon, and of China near Canton. Gærtner will not allow that it is *Halecus litorea* of Rumphius.

17. This is a ſhrub two feet high, with a ſmooth branching ſtem; the branches hoary at the end. Leaves alternate, rufous, clammy, with warts terminated by minute white hairs, contiguous at the baſe: petioles ſomewhat hairy. Spikes terminating, erect: male flowers above, five to ſeven, ſmaller, whitiſh; calyx five-leaved, leaflets hoary; petals five, white, equal to the calyx; filaments from twenty to twenty-four, anthers compreſſed, whitiſh: females below, larger, greeniſh; calyx five-leaved, leaflets tomentoſe or hoary; corolla none. Germ three-grooved, hirſute; ſtyles three, contiguous at the baſe, white, four-parted to the middle; ſtigmas firſt white, then rufeſcent. Capſule tricoccous, ſomewhat hirſute. Seeds roundiſh. The ſmell of the whole herb is ſtrong and balſamic[i]: it is very hot and pungent upon the palate; and is frequently uſed in baths and fomentations for nervous weakneſſes. Native of Jamaica in ſavannahs about Kingſton[k].

18. Branches alternate. Leaves alternate, petioled, naked. Peduncles longer than the leaves. The flowers every where heaped together in the racemes, the males and females mixed. Calyx three-leaved, narrow, white. It is an annual plant, native of Surinam[l].

The ſeeds were ſent to Boerhaave by John Hartogh.

19. This is a tree eight feet in height, with long reclining branches. Leaves alternate, broad, acute or acuminate, toothed, with a repand edge as in *Tuſſilago*, on long petioles. Flowers white, in ſhort racemes: males above, with a five-cleft calyx, a five-petalled obtuſe reflex corolla, and ten ſtamens;

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[t] Thunberg.

[u] Loureiro and Linn. zeyl.

[x] Gærtner.

[y] Linn. mant. & ſyſt.

[z] Browne.

[a] Loureiro and Linn. zeyl.

[b] Gærtner.

[c] Herman.

[d] Loureiro, Bomare dict. art. Fourmi. Philoſ. tranſ. vol. 71 and 79. Nicholſon's Chemiſtry, 490.

[e] Jacquin.

[f] Linn. mant.

[g] Vahl & Linn. zeyl.

[h] Gærtner.

[i] Swartz.

[k] Browne.

[l] Linn. ſpec.

females at the baſe two or three together, with a five-cleft calyx, and a five-petalled, acute, erect corolla. Capſule ſmooth and even, bigger than a walnut; a great quantity of oil is extracted from it. Native of Ceylon and the Molucca iſlands[m].

20. This riſes frequently to the height of two or three feet. In ſize and general form it is like the ſeventeenth ſort, but is eaſily diſtinguiſhed by the thickneſs of its extreme branches, which are pretty ſoft and luxuriant. All parts of the plant are equally ſharp; and ſometimes uſed in reſolutive baths. Native of Jamaica, in ſavannahs about Kingſton[n].

21. Found at the Cape of Good Hope by Thunberg[o].

22. Stems round, furrowed, herbaceous, ſlightly hairy, erect, branched, a foot and half in height. At the top of the ſtem and ends of the branches come out ſpikes of flowers five or ſix inches in length; on the upper half of theſe are male flowers, which are ſmall, having a five-cleft calyx, and a corolla of five very ſmall petals, both of a purple colour; the females are below, on the ſame ſpike; theſe have no petals, but a roundiſh germ incloſed in a green many-leaved calyx; the ſtyles are purple, fringed at the end, and permanent. The fruit is ſmooth, the ſize of a large pea, or a horſe-bean[p].

It is an annual plant, and flowers in july. Houſtoun found it commonly about Vera Cruz, and ſent the ſeeds to England in 1730[q].

23. Native of the Eaſt-Indies.

24. Shrubby. Flowering in july and auguſt. Native of the Weſt-Indies. Mr. Francis Maſſon. Introduced 1782[r].

The ſpecific character given of this ſpecies in the Kew catalogue is very nearly the ſame with that which is given by Linneus of the twentieth.

25. Fructification in a ſpike; capſules ſilky, ſcarlet, hairy. Sent from Ceylon by Koenig[s].

26. This reſembles C. ſebiferum, but the leaves are leſs acuminate; the glands are not on the petiole at the inſertion of the leaves, but rather on the margin of the leaf itſelf, a little above the baſe; the ſpikes are elongated, two or three inches in length; the flowers are diſtinct[t].

Native of the Society and Friendly iſles, and the New Hebrides[u].

27. Native of New Caledonia.—There are two other ſpecies of Croton found in the iſle of Tanna. *Forſt.* 551. 552.

28. This is an annual plant, a foot in height. Stem herbaceous, erect, round, glandular, with ſtellate hairs on each gland, ſparingly branched, dichotomous or trichotomous at top: branches patulous, the lower alternate, the upper oppoſite, or in whorls three together. There are ſome glands next the ſtipules on each ſide. Leaves alternate, except the uppermoſt, which are oppoſite from the forks of the branches; they are ſpreading, ſubcordate, unequally ſerrate or toothed, acute, and have a few pedicelled glands near the petiole, but on the edge; they are three-nerved, the nerves papilloſe-hiſpid, veined, wrinkled, pale green on both ſides, three inches long, two inches and a half broad. Petioles ſhorter than the leaf, round on one ſide, grooved on the other, hiſpid and papilloſe like the ſtem. Stipules two, ſubulate, hairy, permanent. Spikes between the forks of the branchlets terminating, erect, ſeſſile, ſix lines long. Flowers cloſe, ſeſſile, duſky herbaceous, from one to two lines in length: under each flower a linear hairy bracte, ciliate on each ſide, with three glandular hairs, the length of the calyx, permanent. Male flowers above, with a five-leaved calyx, five-petalled corolla, and ten filaments: females below, with a five-leaved calyx, and no corolla. Capſule rugged, rough with hairs. Seeds oblong, gibbous on the outſide, within ſomewhat angular, and ſcored with a line, having a ſcar at top, and being of a brown colour.

It is ſingular in having glands of three different ſorts: 1. villiferous veſicles on the ſtem, branches, petioles, nerves and fruit: 2. a few naked glomerate glands below the axils: 3. pedicelled glands at the baſe of the leaves, and at the edges of the bractes. It differs from *C. paluſtre* in having ſeſſile ſpikes, not axillary, leaves three-nerved, not plaited, nor the nerves parallel: it differs from *C. glanduloſum* in having pedicelled glands.

Native of Guiana. Raiſed in the Paris garden from ſeeds ſent by Louis Richard. It flowered in 1783, but periſhed without producing ſeeds[x].]

29. The twenty-ninth ſort grows naturally in Jamaica, from whence it was ſent me by the late Dr. Houſtoun; this riſes with a ſhrubby ſtalk ſix or ſeven feet high, dividing upward into ſeveral branches, which are covered with a yellowiſh down, garniſhed with long heart-ſhaped leaves, ending in acute points; theſe are two inches and a half long, and one broad in their wideſt part, ſtanding on long foot-ſtalks, covered on both ſides with a woolly down of the ſame colour as the branches. The flowers are produced on long cloſe ſpikes at the end of the branches; the male flowers, which are ſituated on the upper part of the ſpikes, have white flowers of one leaf, divided into five parts almoſt to the bottom, and have five taper ſtamens, ſituated in the bottom. The female flowers on the lower part of the ſpikes, have large woolly calyxes, and are ſucceeded by round capſules.

30. The thirtieth ſort riſes with a ſhrubby ſtalk near four feet high, dividing into many ſmaller branches, which have a ſilvery bark, and are garniſhed with ſmall heart-ſhaped leaves, about three quarters of an inch long, and half as broad at their baſe, ending in acute points; theſe are woolly on both ſides, but their under ſide is ſilvery, their upper ſide of a yellowiſh green. The flowers are produced in ſhort ſpikes at the end of the branches, are ſmall, white, and have woolly calyxes. The female flowers on the lower part of the ſpikes are ſucceeded by roundiſh capſules.

[31. Native of Hiſpaniola.

32. Native of Jamaica.

The place of theſe two is between the fifth and ſixth ſpecies.

33. Native of the Weſt-Indies. Its place is between the eighth and ninth ſpecies.

34, 35. Natives of Jamaica. Their place is between the ninth and tenth ſpecies[y].]

36. This riſes with a ſhrubby ſtem to the height of ſeven or eight feet, is covered with an aſh-coloured bark, and divides at top into many ſlender branches; ſome of theſe are terminated by five or ſix branchlets, all ariſing from the ſame joint; theſe are naked below, but towards their upper part they have ſmooth lanceolate leaves, about two inches and a half long, and three quarters of an inch broad, on pretty long foot-ſtalks; the flowers are produced in ſhort ſpikes at the ends of the branches, are of an herbaceous colour, and are incloſed in large green calyxes. Native of Jamaica, where it was diſcovered by Dr. Houſtoun.

[37. Native of the Weſt-Indies. The place of this is between the ninth and tenth ſpecies[z].

38. Branches ſmooth, ſcarred. Leaves approximating towards the top, broad-ovate, unequally tooth-ſerrate, with ſtellate fulvous hairs on both ſides: petioles the length of the leaves. Raceme terminating, erect, an inch and half long. Peduncle rough with hairs. Calyxes of the females with lanceolate, hairy, tooth-gaſhed leaflets, and glandular teeth: of the males ſmooth, coloured. Germ rough with hairs[a]. Native of Jamaica, and other parts of the Weſt-Indies. Its place is between the tenth and eleventh ſpecies. 31 to 35 incluſive are ſhrubby; the three laſt are perennial[b].]

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[m] Loureiro. Linn. zeyl. & Burm. zeyl.
[n] Browne.
[o] Linn. ſuppl.
[p] Houſtoun in Mart. cent.
[q] Mart. cent.
[r] Hort. kew.
[s] Retz.
[t] Vahl.
[u] Forſter.

[x] L'Heritier.
[y] Swartz.
[z] Ibid.
[a] Vahl.
[b] Swartz.

Mr. Miller has a Croton under this name, but it is a different ſort. The ſtem is ſhrubby, ſeven or eight feet high, ſending out many irregular branches, covered with an aſh-coloured bark. Leaves heart-ſhaped, near four inches long, and two inches broad in their wideſt part, ending in acute points; they are of a light green on their upper ſide, but woolly on their under, and have ſlender foot-ſtalks; they come out ſingle, and two or three from the ſame joint. The flowers are produced in ſhort ſpikes from the ſide of the branches; they are of a whitiſh green colour. It was ſent from Jamaica by Mr. Robert Millar.

39. This is a middle-ſized tree, with ſpreading branches. Leaves alternate, ſmooth, white underneath, dotted, whence Loureiro has given this ſpecies the name of *punctatum*, but that having been before occupied by Retzius, I have been compelled to change it; and perhaps after all, this may prove to be no more than a variety of *C. Caſcarilla*, to which Loureiro obſerves it bears a reſemblance, only the leaves are not tomentoſe, and are void of ſmell.—The flowers are white, in ſimple, oblong, terminating racemes, the females at the baſe; both have a five-parted, bell-ſhaped calyx; and five lanceolate-ovate, ſpreading petals, nearly equal to the calyx: the males have fourteen filaments, longer than the corolla: the females have a three-cornered, ſuperior germ, three ſhort ſtyles, and three quadrifid ſtigmas, the clefts filiform, and bent in.

Native of the woods of Cochinchina[c].

40. This is a large tree, with ſpreading branches. The flowers white, in ſimple, terminating racemes. Male flowers at the top: calyx tubular, five-parted, erect; corolla five-petalled, petals ovate, concave, woolly within, equal to the calyx; filaments fifteen, equal to the corolla: females below; calyx five-leaved, leaflets ovate, acute, ſpreading, permanent; corolla none; germ ovate, ſuperior, ſtyle none, ſtigmas three, filiform, ſhort, bifid, reflex. Capſule ovate; ſeeds ovate, tubercled at top. Native of mountain woods in Cochinchina.

The wood is white, heavy, and very durable: it is uſed in building, and for piles of bridges[d].

41. Stem ſuffruticoſe, five feet high, with many reclining branches. Leaves alternate, unequal. The male flowers have eighteen ſtamens; the females are ſucceeded by pendulous capſules; neither have any petals. Native of China, about Canton[e].

42. Stem ſuffruticoſe, round, with divaricating branches; the whole plant clothed with a ſoft nap. Leaves ſcattered, ſubſeſſile, ſilvery underneath, quite entire, ſomewhat channelled, patulous. Male flowers in terminating ſpikes, each flower pedicelled, and having a ſubulate bracte: calyx half-five-cleft, bell-ſhaped: corolla none, except the five yellow nectareous glands placed in a ring at the bottom of the calyx: filaments twelve or thirteen, free or detached, a little longer than the calyx, fixed in the bottom of it, villoſe, green. Female flowers like the males in the calyx and glands, but on a ſeparate individual, in threes, terminating, on ſhort peduncles: germ tomentoſe, globular-three-cornered; ſtyles three, united at the baſe, half-five-cleft: capſule larger than a pea, with one ovate, very ſmooth ſeed in each cell. Before the ſpikes come, this plant much reſembles the Stock-gilliflower, or *Cheiranthus incanus*.

Native of Mexico. Cultivated in the garden of the Duke del Infantado near Madrid; flowering and fruiting all the month of auguſt[f].

43. Branches round, ſomewhat rugged, hoary, hirſute above, as are alſo the leaves, with cloſe ſtellate hairs. Leaves like thoſe of *Heliotropium ſupinum*, wrinkled, rounded at the top, ſoft, hoary, half an inch or more in length. Petiole the length of the leaf; a purple gland at the top, and two underneath at the baſe of the leaf. The infloreſcence as in *C. tinctorium* (n. 6.). Capſules pendulous, of a violet purple colour. It is by no means a variety of *C. tinctorium*; the leaves of which are rhomboid angular-toothed, ſubrepand flat, the younger ones only having a ſingle plait or two; they are hoary indeed underneath, but with minute, not long, very copious hirſute hairs; the petiole has no gland, there being only the pair at the baſe of the leaf.

Obſerved in Arabia by Forſkal[g].

44. This is allied to the preceding; but the hairs are leſs diſtinct, ſo that the whole plant appears to be tomentoſe; the leaves are narrow, flat, quite entire, and have no glands either on the petiole, or at the baſe of the leaves, which are oblique and narrower on one ſide at the baſe. Native of Egypt[h].

The proper place of theſe two is between the ſixth and ſeventh ſpecies.

45. Branches round, with a brown bark, mealy-villoſe at top. Leaves two or three inches long, attenuated at the end, ſomewhat ſharp at the baſe, three-nerved, netted underneath, and ſlightly tinged with numerous, very minute, ſcarlet pellucid dots, and having a brown gland on each ſide at the inſertion of the petiole, which is an inch and half long and round. Racemes either ſingle, or ſeveral from the topmoſt axils crowded together, two inches long. Peduncle of a yellow ferruginous colour, angular. Flowers ſubſeſſile. Styles reflex. Germ whitiſh, dotted with ſcarlet. Capſules oblong, ſcarlet.

Found in Ceylon by Koenig[i].

46. Branches round, proliferous, ſcaly with meal, and aſh-coloured at top. Leaves heaped at the ends of the branchlets, two inches and more in length, paler underneath, membranaceous, either quite entire or obſcurely and remotely ſerrate, the ſerratures blunt, always quite entire at the baſe. A minute gland by the ſide of the petiole, at its inſertion underneath. Stipules ſubulate, deciduous. Peduncle terminating, erect, ſtriate-angular, covered with farinaceous ſcales, a ſpan long, muricated with fallen flowers. Calyx ſubhirſute. Stamens numerous.

Native of Hainam: obſerved by Dr. Dahl[k]. The place of this and the preceding is between the twelfth and thirteenth ſpecies.

47. This has the appearance of *Betula* or Birch. Branches round, with a purpliſh bark, tomentoſe-hoary at the end. Leaves have ſtellate hairs underneath; the younger ones are hoary, and have a minute pedicelled gland at each ſide of the baſe underneath; petiole ſhorter than the leaf, filiform. Racemes at the end of the branches, but as theſe grow forward, becoming lateral, an inch and half in length, erect. Flowers ſmall, rough with hairs; females below; calyx five-leaved; leaflets linear, blunt. Native of the iſland of St. Thomas in the Eaſt-Indies. The place is between the ſeventeenth and eighteenth ſpecies[l].

48. This is a tall tree, with round branches, tomentoſe and hoary at top. Leaves heaped towards the ends of the branches, alternate, a long ſpan and more in length, the lobes ovate, acute, the middle one elongated; they are ſcarcely toothletted, tomentoſe on both ſides, with ſtellate hairs, ſoft, whiter underneath, the younger ones hoary. Petiole one-third of the length of the leaf. Underneath at the inſertion of the leaf on each ſide is a minute brown ſeſſile gland. Raceme terminating, erect, tomentoſe, about a ſpan in length. Flowers copious, ſcattered, males intermixed with females. Germ hirſute, hoary. Styles three, two-parted. Native of the iſland of Trinidad, found there by von Rhor. Its proper place is between the twenty-firſt and twenty-ſecond ſpecies[m].

49. This is an inodorous, ſhrubby, ſmooth plant, three feet high, the ſtems partly procumbent, partly erect. Leaves petioled, alternate, two inches long. Peduncles axillary and very ſhort, having uſually four males at top, and two females at bottom. Flowers ſmall, green; the petals of the females twice as long as the calyx. Common at Carthagena[n].

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[c] Loureiro.
[d] Ibid.
[e] Ibid.
[f] Cavanilles.
[g] Vahl.
[h] Ibid.
[i] Ibid.
[k] Ibid.
[l] Ibid.
[m] Ibid.
[n] Jacquin.

50. This is a ſhrub ten feet high, erect, having a pleaſant aromatic ſmell through all parts of it. Leaves green above, but beneath ſilvery and ſhining, varying much in ſize. Spikes cloſe, an inch long, loaded with many male flowers, but having very few females either below them or intermixed with them. Calyx tomentoſe, ſubferruginous. Corolla white. Styles three, branched, the length of the germ, reflex, and embracing it cloſely. The flowers come out in vaſt abundance before the appearance of the leaves, and the males falling off whiten all the ground. Native of Carthagena[o].

51. This is an upright ſhrub, four feet high, but little ſubdivided. Branches round, ſmooth, aſh-coloured. Leaves acute, ſmoothiſh, green on both ſides, beſet with ſilvery hairs, on very ſhort petioles, alternate, almoſt three inches long. Peduncles many-flowered, very ſhort, axillary, one or two. Flowers whitiſh, inodorous, hermaphrodite, male and female on the ſame or different plants. The firſt have a three-grooved germ, a ſemitrifid villoſe ſtyle, and oblong petals longer than the five-leaved calyx: the laſt have a corolla the length of the calyx, which is looſe and ſpreading, and a three-grooved ſemitrifid ſtyle, with the ſegments bifid. It flowers in june and july, uſually before the leaves appear. Native of Carthagena[p].

Many of the new ſpecies deſcribed above from ſeveral authors, may hereafter, from a more accurate examination by ſuch as have leiſure and opportunity, turn out either to be varieties, or the ſame ſpecies under different names, in the mean time they are given here on the authority of their reſpective authors.

Gærtner has added two very doubtful ſpecies, of which he thinks one (n. 52.) may be an *Adrachne*, (Andrachne) on account of its twin ſeeds, and ſlightly curved embryo, though it differs from that and all the *Tricoccæ* in the ſtructure of the ſeed. The fruit of the other (n. 53.) does not belong to a *Croton*, but having received it under that name, and not knowing where elſe to place it, he has left it under that genus.

52. Calyx five-leaved, ſmall, turned back below the capſule, which is globular, ſmooth, very obſcurely three-grooved, three-celled, tricoccous. Shells of the ſubſtance of paper, bivalve, elaſtic. In each cell a pair of ſeeds glued together, convex on one ſide, very obtuſely angular on the other; but when ſeparate acutely three-cornered, acuminate at the top and baſe, a ſort of dry berry, violet-coloured or blue purple, of a very ſmooth, even, ſhining ſurface; outer covering membranaceous, ſpongy within, middle bony, ſmall, obliquely cordate, compreſſed; inner membranaceous, pale, faſtened to the albumen.—It is called in Ceylon *Lyan-gheddie*.

53. Capſule globular, terminated by a three-ſided three-tubercled point, ſmooth, without any groove, tricoccous. Rind corky, thick, opening into ſix parts from the baſe. Shells the ſubſtance of paper, elaſtic, white, ovate. Seeds ſolitary, heart-ſhaped, ſomewhat compreſſed, convex on one ſide, on the other flat or ſlightly concave, with an umbilical perforation in the hollow of the heart. Outer covering membranaceous, wrinkled; middle cruſtaceous, brittle, pale ſtraw-colour; inner membranaceous, very thin, brown.—It is called in Ceylon *Kebella* and *Kebbele*; theſe differ only in the colour of the outer covering of the ſeed, which in the former is fulvous or red, in the latter duſky or brown[q].]

PROPAGATION AND CULTURE.

All theſe plants, except the ſixth, are natives of warm countries, and will not thrive in England, unleſs they be tenderly treated. They are all propagated by ſeeds; thoſe which are annual perfect their ſeeds in England; but the ſhrubby ſorts very rarely arrive to that perfection, ſo their ſeeds muſt be procured from the countries where they naturally grow. The ſeeds muſt be ſown on a hot-bed early in the ſpring, and when the plants are fit to remove, they ſhould be each tranſplanted into a ſmall pot, and plunged into a moderate hot-bed of tanner's bark, where they ſhould be ſhaded from the ſun till they have taken freſh root; then they muſt have air admitted to them daily, in proportion to the warmth of the ſeaſon; they muſt alſo be frequently refreſhed with water. After the plants are grown too tall to remain in the frames, they ſhould be removed, either into the ſtove or a glaſs caſe, where there is a hot-bed of tanner's bark, into which the pots ſhould be plunged, and there the annual ſorts will flower and perfect their ſeeds; but the ſhrubby ſorts muſt be removed into the bark-ſtove in the autumn, and during the winter ſeaſon they ſhould have but little water; and the ſtove ſhould be kept in a good temperature of heat, otherwiſe they will not live through the winter in England.

As theſe plants retain their leaves all the year, they make a pretty variety in winter, when they are intermixed with other plants, whoſe leaves are of different forms and colours from theſe.

6. The ſeeds of this plant ſhould be ſown in the autumn, ſoon after they are ripe, in a ſmall pot filled with light earth, and plunged into an old tan-bed in a frame, where they may be ſcreened from cold in the winter; and in the ſpring following the pot ſhould be removed to a freſh hot-bed, which will bring up the plants in a month's time; when theſe are grown large enough to remove, they ſhould be each planted in a ſmall pot, and plunged into a freſh hot-bed, being careful to ſhade the glaſſes daily, until the plants have taken new root; then they ſhould have air daily admitted according to the warmth of the ſeaſon, and but little water given to them: with this management I have had the plants flower and produce good ſeeds here, but never could obtain any with other treatment.

Unleſs the plants are brought forward in a hot-bed, the ſeeds do not ripen in this country. [Moſt of the ſhrubby ſorts may be increaſed by cuttings or layers, or both. C. lineare and Aſtroites will ſtrike very eaſily from cuttings: C. glabellum and ſebiferum not ſo eaſily, but they may be raiſed from layers, when ſeeds cannot be procured from abroad.

Croton. See *Cluytia*, and *Tragia*.

Crow-berry. See *Empetrum*.

Crow-foot. See *Ranunculus*.

Crow-Garlick. See *Allium*.]

Crown-Imperial. See *Fritillaria*.

CRUCIANELLA. (*Dimin. from crux, a croſs; the leaves being placed croſswiſe.*)

Lin. gen. n. 126. *Reich.* 133. *Schreb.* 163. *Gærtn.* 24. *Rubeola Tourn.* 50.

Claſſ. 4. 1. Tetrandria Monogynia.

Nat. order of *Stellatæ*.—*Rubiaceæ*. Juſſ. 197.

GENERIC CHARACTER.

Cal. *Perianth* two-leaved, inferior: *leaflets* lanceolate, ſlightly keeled, acuminate, ſtiff, converging-compreſſed.

Cor. one-petalled, funnel-form. *Tube* cylindric, filiform, longer than the calyx. *Border* four-cleft; *diviſions* tailed, with the points inflex.

Stam. *Filaments* four, placed in the mouth of the tube. *Anthers* ſimple.

Pist. *Germ* compreſſed, between the calyx and corolla. *Style* two-cleft, filiform, length of the tube. *Stigmas* two, obtuſe, oblong.

Per. *Capſules* two, connate.

Seeds ſolitary, oblong.

Obs. Crucianella Maritima *has five-cleft corollas, with five ſtamens.*

Cr. Ægyptiaca *and* capitata *have alſo five-cleft flowers.* R.

ESSENTIAL CHARACTER.

Cal. two-leaved. (Involucre two or three-leaved, chaffy, calyx none. *G.*) *Cor.* one-petalled, funnel-form, with a filiform tube, and tailed border. *Seeds* two, linear (inferior, naked, bald. *G.*)

SPECIES.

1. Crucianella anguſtifolia. *Narrow-leaved Crucian.* *Lin. ſpec.* 157. *Reich.* 307. *hort. upſ.* 27. *cliff.* 32. *Sabb. hort.* 2. *t.* 12. *Gærtn. fruct.* 111.

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[o] Jacquin.

[p] Ibid.

[q] Gærtner, 2. p. 120.

Rubia anguſtifolia ſpicata. *Bauh. pin.* 334. *prodr.* 145. *Raii hiſt.* 485. *Park.* 276. 2.

Pſeudo-rubia. *Mor. hiſt.* 3. *ſ.* 9. *t.* 22. *f. penult.*

Erect; leaves in ſixes linear; flowers in ſpikes.

2. Crucianella latifolia. *Broad-leaved Crucianella.*

Lin. ſpec. 158. *ſyſt.* 151. *Reich.* 307. *hort. upſ.* 27. *cliff.* 33.

Rubia latifolia ſpicata. *Bauh. pin.* 334. *Raii hiſt.* 485.

R. ſpicata. *Bauh. hiſt.* 721. 2.—cretica. *Ger. emac.* 1119. 4.—latiore fol. *Park.* 275. 1.

Procumbent; leaves in fours lanceolate; flowers in ſpikes.

[3. Crucianella ægyptiaca. *Ægyptian Crucianella.*

Lin. ſyſt. 151. *Reich* 308. *mant.* 38.

C. herbacea. *Forſk. ægypt.* 30.

Leaves in fours ſublinear; flowers in ſpikes five-cleft.

4. Crucianella patula. *Spreading Crucianella.*

Lin. ſpec. 158. *Reich.* 308. *amœn.* 3. 401.

Diffuſed; leaves in ſixes; flowers ſcattered.]

5. Crucianella maritima. *Sea Crucianella.*

Lin. ſpec. 158. *ſyſt.* 151. *Reich.* 308. *Sabb. hort.* 2. *t.* 13.

Rubia maritima. *Bauh. pin.* 334. *Dod. pempt.* 357. *Cluſ. hiſt.* 2. 176. *Raii hiſt.* 485. *Ger.* 961. *emac.* 1119. 3. *Park. theat.* 275. 6.

R. marina narbonenſium. *Bauh. hiſt.* 721, 722. *f.* 1.

A procumbent underſhrub; leaves in fours mucronate; flowers oppoſite five-cleft.

[6. Crucianella monſpeliaca. *Montpellier Crucianella.*

Lin. ſpec. 158. *Reich.* 308. *Sauv. monſ.* 225. *Villars dauph.* 2. 316.

Rubia ſpicata repens. *Magn. monſp.* 225. *Raii hiſt.* 486.

Procumbent; leaves acute, thoſe on the ſtem in fours and ovate; on the branches about five and linear; flowers in ſpikes.]

7. Crucianella hiſpida.

Mill. dict. n. 4.

Rubeola americana hirſuta, parietariæ fol., flor. umbellatis purpureis. *Houſt. Mſs.*

Stem hiſpid; leaves lanceolate hirſute oppoſite; flowers umbelled terminating.

8. Crucianella americana.

Mill. dict. n. 5.

Leaves linear-lanceolate hirſute oppoſite, ſtem erect villoſe, flowers ſolitary axillary.

[9. Crucianella capitata.

Billardiere ic. ſyr. 1. *p.* 12. *t.* 3.

Procumbent, ſuffruticoſe, leaves in ſixes, ſublinear, flowers in heads, five-cleft.

DESCRIPTIONS, &c.

Theſe are herbaceous plants. Leaves ſtellate, from four to ſix in a whorl, often linear. Flowers bracted, in cloſe terminating ſpikes, or ſometimes but not ſo commonly in corymbs.]

1. This is an annual plant, which riſes with ſeveral upright ſtalks a foot high, having ſix or ſeven very narrow leaves in whorls at each joint. The flowers grow in cloſe ſpikes at the top, and from the ſides of the branches; they are ſmall, white, not longer than the calyx, and make no great appearance. It flowers in june and july, and the ſeeds ripen in autumn.—Native of the South of France and Italy.

[Cultivated 1659 in the botanic garden at Oxford[a].]

2. This is alſo an annual plant, ſending out ſeveral branching ſtalks from the root, which lie proſtrate. The flowers are produced in long ſpikes at the extremities of the branches; they are very ſmall, and make no great appearance.

[The ſtem is ſometimes erect, and perhaps it is only a variety of the foregoing. *Lin. ſyſt.*

Ray obſerves that the firſt differs from this only in the narrowneſs of the leaves and ſpikes, and the general lowneſs and ſmallneſs of the plant.—Native of the South of France and the iſlands of the Archipelago.

Cultivated 1663[b]. It flowers in june and july.

3. Annual. Stems not at all woody, a palm in height, at firſt erect, then ſpreading, at the root diffuſed or proſtrate. Leaves revolute, ſcabrous on the upper ſurface and at the edge; the loweſt ovate, the lower lanceolate, the reſt linear. Spikes terminating, ſolitary, lax. Bractes lanceolate, not keeled. Flowers hirſute, longer than the bractes, yellowiſh white, five-cleft and awned, as in *C. maritima.*—Native of Egypt[c].

4. Native of Spain. Annual.]

5. This is like the ſecond in the appearance of the leaves and ſtalks, but the flowers grow on the ſide of the ſtalks, almoſt in whorls, and make little appearance.

[Stems procumbent, perennial, woody. Leaves lanceolate, ſtiff, acute. Bractes ovate. Corollas five-cleft, awned; anthers black. Flowers triſt, yellowiſh colour; cloſed in the day, opening in the night, and of a ſtrong ſmell[d].—Native of the South of France, Italy, and Sicily.

Cultivated 1640[e]. It flowers in june and july.

6. Root annual. Plant ſmall, glaucous all over[f]. Stems thickiſh, diffuſed. Branches alternate, ſtraight, ſimple. Spikes terminating, like thoſe of the firſt ſpecies[g].

This creeps by the root, and the ſpikes are much larger, longer, and more frequent[h].

Native of the South of France, about Montpellier, and Vienne: alſo in Paleſtine.]

7. This has four-cornered rough prickly ſtalks, which bend downward. The flowers are produced in ſmall cluſters at the ends of the branches; the corolla is blue, and cut into four parts at the top; the capſules are two joined together, with one oblong ſeed in each.

8. This riſes with a ſhrubby branching ſtalk near three feet high; with narrow-lanceolate leaves covered with ſtinging hairs. Flowers pale blue, ſucceeded by twin fruit like the former.

Both are natives of La Vera Cruz in New Spain, whence they were ſent by Dr. Houſtoun. The plants grew in the Chelſea garden very well during the ſummer ſeaſon, but periſhed in the autumn before their ſeeds were ripe.

[9. Root perennial, horizontal, ſtrong, woody. Stem ſuffruticoſe, weak, naked at bottom; branches filiform. Leaves uſually ſix together, ovate-lanceolate, acute, rugged, rolled back on the ſides, on the fruit-bearing branches remote, on the others approximating. Flowers dark, almoſt black, ſome peduncled, others ſeſſile, ſupported by an involucre, which is one-leafed, two-parted, and has ſix or ſeven teeth. The ſeſſile flowers have the calyx or bracte three-toothed: the peduncled flowers have a three-leaved inferior calyx with unequal leaflets. Border of the corolla five-cleft, the ſegments bent in and having a claw at the tip. Filaments five, very ſhort: anthers oblong, two-grooved, dark-coloured. Style ſhorter than the tube, cloven and one part longer than the other: ſtigmas capitate, obtuſe. Capſules two, not opening, connate, one-celled. Seeds ſolitary, oblong.—Native of mount Lebanon, near the ſummit[i].]

PROPAGATION AND CULTURE.

1. 2. 5. 6. Theſe are preſerved in ſome gardens for the ſake of variety; if the ſeeds are ſown on a bed of light earth early in the ſpring, where they are deſigned to remain, they will require no other culture, but to thin them where they are too cloſe, and keep them clean from weeds; or if the ſeeds are permitted to ſcatter, the plants will come up in the ſpring, and require no other treatment; but the fifth ſort will not ripen its ſeeds here, when the autumn is not favourable.

Cruciata. See *Anagallis, Aſperula, Galium, Gentiana, Rubia,* and *Valantia.*

Crucita. See *Cruzita.*

[**Crupina.** See *Centaurea.*

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[a] Hort. kew.

[b] Ibid. from Ger. emac.

[c] Linn. mant.

[d] Linn. ſpec.

[e] Hort. kew. from Parkinſon.

[f] Villars.

[g] Linn. ſpec.

[h] Ray from Magnol.

[i] Billardiere.

Crus corvi. See *Panicum.*

Crus Galli. See *Cratægus* and *Panicum.*

Crusta Ollæ. See *Oldenlandia.*

Crux Andreæ. See *Aſcyrum.*

CRUZITA.

Lin. gen. n. 167. *Reich.* 179. *Schreb.* 224. *Loefl.*
Claſſ. 4. 2. Tetrandria Digynia.
Atriplices. Juſſ. 85.

GENERIC CHARACTER.

Cal. *Perianth* three-leaved: the anterior leaf linear, acute, the lateral ones ovate, concave: permanent.

Cor. *Petals* four, of the appearance of the calyx, ovate, concave, the two outward ones perfectly entire; the inner ones with a very thin lacerated border.

Stam. *Filaments* four, capillary, a little ſhorter than the calyx. *Anthers* ſmall.

Pist. *Germ* ovate, obtuſe, compreſſed. *Style* very ſhort, two-parted: with ſpreading diviſions. *Stigmas* ſimple.

Per. none. *Corolla* converging, deciduous with the ſeed.

Seed ſingle, naked.

Obs. *The author now names the corolla the interior four-leaved calyx, and the perianth the exterior three-leaved calyx; therefore there is no corolla.* Syſt. veget. R.

ESSENTIAL CHARACTER.

Inner calyx four-leaved; *outer* three-leaved. *Cor.* none. *Seed* one.

SPECIES.

1. Cruzita hiſpanica.
Lin. ſpec. 179. *ſyſt.* 167. *Reich.* 351. *Loefl. itin.* 203.

DESCRIPTION, &c.

Stem high. Leaves oppoſite, lanceolate, quite entire. Flowers ſpiked, collected into a panicle.—Native of South America[a].

CRYPSIS. (From Κρυψις, *a hiding or concealing; the ſpike of flowers being concealed within the ſheath of the leaf.*)

Ait. hort. kew. 3. 505. *Lin. gen. Schreb. p.* 785. *n.* 1710. Pallaſia. *Scop. hiſt. nat.* 62. Antitragus. *Gærtn. t.* 80.
Claſſ. 2. 2. Diandria Digynia.
Nat. order of *Graſſes.*

GENERIC CHARACTER.

Cal. *Glume* one-flowered, two-valved: *valves* oblong-lanceolate, keeled, awnleſs; outer ſmaller.

Cor. *Glume* two-valved: *valves* lanceolate-oblong, awnleſs; inner longer than the calyx, outer ſhorter than the calyx.

Stam. *Filaments* two, capillary, longer than the corolla. *Anthers* oblong, cordate, incumbent.

Pist. *Germ* ſuperior, oblong. *Styles* two, capillary, ſhorter than the ſtamens. *Stigmas* hairy.

Per. none. *Corolla* incloſing the ſeed.

Seed ſingle, ſubcolumnar.

ESSENTIAL CHARACTER.

Cal. Glume two-valved, one-flowered. *Cor.* Glume two-valved, awnleſs.

SPECIES.

1. Crypſis aculeata. *Prickly Crypſis.*
Ait. hort. kew. 1. 48. *Vahl. ſymb.* 2. 17.
α. Schœnus aculeatus. *Lin. ſpec.* 63. *ſyſt. ed.* 13. *p.* 81. *Schreb. gram.* 2. 62. *t.* 32.
Phleum ſchoenoides. *Jacqu. auſtr.* 5. 29. *t. app.* 7.
Anthoxanthum aculeatum. *Lin. ſuppl.* 89. *ſyſt. ed.* 14. 73.
Antitragus aculeatus. *Gærtn. fruct.* 2. *p.* 7.
Phalaris vaginiflora. *Forſk. ægypt.* 18.
Dactylis? *Pallas it. ruth.* 2. 733. *t.* K. *f.* 1. & *t.* Q. *f.* 2.
Gramen aculeatum. *Camer. epit.* 745.
β. Phleum ſchoenoides. *Jacqu. obſ. in collect.* 1. *p.* 111. *ic.* 1. *t.* 15.

DESCRIPTION, &c.

Root annual. Culms many diffuſed, four inches high, branching, covered with the ſheaths of the leaves, which are ſmooth except at the edge; the upper ones gradually broader. Spike ſubglobular, almoſt faſtigiate, with the flowers almoſt ſeſſile in the boſom of the involucre; which is three-leaved, and a little longer than the ſpike[b]. Or, as Gærtner expreſſes it, the flowers are in a head, covered by two or three leaves, which are ventricoſe at the baſe, and ſerve it for an involucre. The flowers ſometimes have three ſtamens. The common receptacle is conical and tubercled, covered all over with florets. Seed free, without any groove, looſely ſurrounded by the calyx and corolla, which are both permanent; it is ſomewhat of an elliptic form, compreſſedly lenticular, pale, but where the ſcutellum is, brown or cheſtnut-coloured, ſmooth but not ſhining. The ſcutellum is linear-lanceolate, nearly the ſame length with the ſeed, and placed at one edge of it. The embryo is long, ſubulate and yellowiſh.

This graſs was ſucceſſively named *Schœnus, Phleum,* and *Anthoxanthum* by Linneus. It differs abundantly from the firſt in its ſcutellate embryo: from the ſecond both in the form and ſituation of the calyx and ſcutellum or eſcutcheon: from the third, in its want of the awned nectary, and in its whole habit. It is therefore of a diſtinct genus. Gærtner thinks it might poſſibly have been known to Pliny under the name of *Tragos;* hence and from its bearing ſome ſimilitude to Kali, which is by ſome called *Tragos,* he names it *Antitragus.* Pliny's words are: "Eſt alia herba Tragos, ſemipedem alta, "fruticoſa, ſine foliis, puſillis racemis rubentibus, "grano tritici, acuto acumine, & ipſa in maritimis "naſcens." L. 25. ſ. 17. p. 440.

This graſs is a native of the South of Europe and Siberia. It is common alſo in Barbary.—Monſ. Thouin introduced it at Kew in 1783. It flowers in auguſt[c].

CRYPTOSTŎMUM. (*From* Κρυπτω, *to conceal, and* στομα, *the mouth: becauſe the mouth or opening of the corolla is concealed by the nectary.*)

Lin. gen. Schreb. n. 344. Moutabea. *Aubl.* 274. *Juſſ.* 420.
Claſſ. 5. 1. Pentandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, funnel-form, ventricoſe at the baſe, coloured, with a five-cleft border: *ſegments* lanceolate, unequal.

Cor. one-petalled, funnel-form: *tube* very ſhort, inſerted into the throat of the calyx: *border* five-cleft; ſegments lanceolate, acute, unequal, converging.

Nectary faſtened to the baſe of the corolla, broad, arched, cloſing the mouth of the corolla, five-toothed.

Stam. *Filaments* none. *Anthers* five, each inſerted below each toothlet of the nectary.

Pist. *Germ* roundiſh, in the bottom of the calyx. *Style* cylindric, the length of the calyx. *Stigma* capitate.

Per. *Berry* globular, three-celled.

Seeds ſolitary, ovate, acute, marked with a large *hilum* or ſcar.

ESSENTIAL CHARACTER.

Cal. ventricoſe, five-cleft. Tube of the corolla inſerted into the throat of the calyx, border five-cleft. *Nect.* five-toothed, cloſing the mouth of the corolla. *Berry. Seeds* ſcarred.

SPECIES.

1. Cryptoſtomum gujanenſe. *Guiana Cryptoſtomum.*
Moutabea Guianenſis. *Aubl. pl. Guian.* 2. *p.* 680.
Cryptoſtomum guijanenſe. *Lin. ſyſt. nat. Gmel. p.* 390.

DESCRIPTION, &c.

This, which is the only ſpecies known, is a kind of ſpreading ſhrub, which grows in the iſle of Cayenne and in Guiana. Its native name is Aimoutabu.

The root of this ſhrub puts forth ſeveral twiggy and branching ſtems, of the length of five or ſix feet or more. By means of theſe twigs and branches it forms buſhes, more or leſs thick. Theſe branches are garniſhed with alternate, nearly ſeſſile, ſmooth, green, entire, oval leaves, terminating in a point. The flowers are produced in little cluſters from the boſoms of the leaves. They exhale an odour much reſembling that of the Syringa. The ovary becomes a three-celled yellow berry, each cell containing a kind of Almond, of an agreeable ſubſtance and of a gelatinous nature, and which the Creoles are fond of.

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[a] Linn. ſpec.

[b] Linn. ſuppl.

[c] Hort. kew.

CUBÆA.

Scop. Lin. gen. Schreb. n. 702. Tachigali. *Aubl. t.* 143. Tachigalia. *Juſſ.* 349.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Lomentaceæ. Leguminoſæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, turbinate, ſpreading, permanent; five-parted: *parts* roundiſh, cancave, four erect, the fifth and loweſt larger, declined.

Cor. *Petals* five, oblong, almoſt equal, furniſhed with claws, inſerted into the neck of the calyx; the three upper ones erect, the two lower declined.

Stam. *Filaments* ten, villoſe at the baſe, inſerted into the calyx below the petals, the three upper ones ſhorter, filiform, erect, preſſed cloſe to the upper petals; the ſeven lower ones longer, capillary, incumbent on and longer than the lower petals. *Anthers* oblong.

Pist. *Germ* oblong, pedicelled. *Style* capillary. *Stigma* acute.

Per. *Legume* long, coriaceous, villoſe, ventricoſe, obliquely acuminate, one-celled.

Seeds ſeveral, ſomewhat kidney-form.

ESSENTIAL CHARACTER.

Cal. turbinate, five-parted, unequal, permanent. *Petals* five, unequal. *Filaments* villoſe, three ſhorter. *Germ* pedicelled. *Legume* villoſe, ſix or ſeven-ſeeded.

SPECIES.

1. Cubæa paniculata. *Panicled Cubæa.*
Tachigali paniculata. *Aubl. pl. Guian.* 1. *p.* 372. *t.* 143. *fig.* 1.

2. Cubæa trigona. *Trigonal Cubæa.*
Tachigali trigona. *Aubl. pl. Guian.* 1. *p.* 374. *t.* 143. *fig.* 2.

DESCRIPTIONS, &c.

1. The firſt of theſe, or Cubæa paniculata, is a tree of ſixty feet high, extremely branchy at top: the branches are thick, the ſmaller ones or ramulets trigonal, growing in a ſcattered manner: the leaves are large, alternate, pinnate: the leaflets in ſix pairs, oppoſite, ſubovate, acute, quite entire, green and ſmooth above, ſomewhat downy beneath, and of an aſh-coloured green: there are two oppoſite ſtipules at the baſe of the leaf-rib: the flowers are ſpicated, terminal, and diſpoſed into a very ample panicle: the ramulets of the panicle are long, trigonal, and many-flowered. The flowers alternate, ſubpedunculated. It grows near the banks of rivers. Its native name is Tachigali.

2. This is found in the ſame ſituations, and is probably rather a variety of the former than truly diſtinct; and differs in having the pinnules ſituated alternately on the triangular midrib.

Cuckold Tree. See *Mimoſa.*

Cuckow Flower. See *Cardamine.*

Cuckow Pint or Pintle. See *Arum.*]

CUCUBALUS. (*Cucubalus of Pliny. From* κακος, *bad, and* βολος, *a caſt*; *or* βαλλω, *to caſt.* Lin.)

Lin. gen. n. 566. *Reich.* 615. *Schreb.* 771. *Gærtn.* 77. *Tourn.* 176. *Juſſ.* 302.

Claſſ. 10. 3. Decandria Trigynia.

Nat. order of *Caryophyllei.*

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, tubular, five-toothed, permanent.

Cor. *Petals* five. *Claws* the length of the calyx. *Border* flat: *diviſions* often bifid.
Nectary none crowning the corolla.

Stam. *Filaments* ten, ſubulate; the alternate ones later, alternately inſerted into the claws of the petal. *Anthers* oblong.

Pist. *Germ* ſomewhat oblong. *Styles* three, longer than the ſtamens, ſubulate. *Stigmas* pubeſcent, oblong, bent in an oppoſite direction to the ſun.

Per. *Capſule* covered, acuminate, three-celled, gaping five ways at the tip.

Seeds very many, roundiſh.

Obs. *The genus is diſtinguiſhed from Silene by the corolla having no nectarial crown.*

C. otites *is diœcous.*

The figure of the calyx is various in different ſpecies. R.

C. bacciferus *has a crowned corolla, and therefore is to be referred to the genus* Silene.
Hall. R.

It has alſo a one-celled berry. S.

ESSENTIAL CHARACTER.

Cal. inflated. *Pet.* five, having claws, but no crown. *Capſ.* three-celled.

SPECIES.

1. Cucubalus bacciferus. *Berry-bearing Campion.*
Lin. ſpec. 591. *ſyſt.* 419. *Reich.* 2. 340. *hort. cliff.* 170. *upſ.* 109. *Hudſ. angl.* 185. *Pollich pal. n.* 414. *Mill. fig. t.* 112. *Gærtn. fruct.* 1. 376. *Krock. ſileſ. n.* 658.

Silene baccifera. *With.* 452. *Villars dauph.* 3. 605.

Lychnis baccifera. *Scop. carn. n.* 517.

Lychnanthus volubilis. *Gmel. in act. petrop.* 1759. *v.* 14. *p.* 525. *t.* 17. *f.* 1.

Viſcago bacc. petalis ſerratis. *Hall. helv. n.* 912.

Cucubalus Plinii. *Lugd.* 1429. *Tournef. inſt.* 339. *Raii ſyn.* 267. *Mor. hiſt. ſ.* 1. *t.* 1. *f.* 7.

Alſine ſcandens baccifera. *Bauh. pin.* 250.

A. baccifera. *Ger. emac.* 614. 13. *Raii hiſt.* 682.

A. repens. *Dod. pempt.* 403.—baccifera. *Park. theat.* 759. 1.

Cucubalum, vel. Alſine baccifera. *Bauh. hiſt.* 2. 175. 1.

Calyxes bell-ſhaped, petals diſtant, pericarps coloured, branches divaricate.

2. Cucubalus Behen. *Bladder-Campion,* or *Spatling Poppy.*
Lin. ſpec. 591. *Reich.* 2. 340. *fl. ſuec. n.* 385. *lapp.* 180. *hort. cliff.* 176. *Hudſ. angl.* 186. *With.* 445. *Relh. cant.* 318. *Engl. bot.* 164. *Pollich pal. n.* 415. *Leers herb. n.* 332. *Allion. pedem. n.* 1586. *Fl. dan. t.* 857. *D'Aſſo aragon. n.* 372. *Plenck, ic. t.* 349. *Villars dauph.* 3. 613. *Krock. ſileſ. n.* 659.

Viſcago caule brachiato nodoſo, calycibus inflatis venoſis. *Hall. helv. n.* 913.

Lychnis Behen. *Scop. carn. n.* 514.

L. ſylveſtris, quæ Been album vulgo. *Bauh. pin.* 205. *Raii hiſt.* 998. *ſyn.* 337. *Mor. hiſt. ſ.* 5. *t.* 20. *f.* 1. *Pet. brit. t.* 57. *f.* 2. *Blackw. t.* 268.

Behen album. *Ger.* 550. 2. *emac.* 678. 2. *Bauh. hiſt.* 3. 356.

Papaver ſpumeum. *Lob. ic.* 340. *Park. theat.* 263.

β. Lychnis maritima repens. *Bauh. pin.* 205. *Raii hiſt.* 998. *Bauh. hiſt.* 3. 357. 1. *Ger.* 382. 2. *emac.* 469. 2. *Park.* 639. 3, 4.

Silene amoena. *Hudſ. angl.* 188—not of Linneus.

Calyxes ſubglobular ſmooth netted-veined; capſules three-celled, corollas almoſt naked.

3. Cucubalus fabarius.
Lin. ſpec. 591. *Reich.* 2. 341.

Lychnis maritima ſaxatilis, fol. anacampſerotis. *Tournef. cor.* 24. *Boerh. lugdb.* 1. 214.

Behen album ſ. Polemonium ſaxatile, fabariæ folio, ſiculum. *Bocc. muſ.* 133. *t.* 92.

Leaves obovate fleſhy.

4. Cucubalus viſcoſus. *Clammy Campion.*
Lin. ſpec. 592. *ſyſt.* 419. *Reich.* 2. 341. *fl. ſuec. n.* 386. *Krock. ſileſ. n.* 660.

C. dubrenſis. *Mill. dict. n.* 6.

Lychnis. *Till. piſ.* 105. *Tourn. cor.* 24. 14. *itin.* 2. *t.* 361.—viſcoſa. *Scop. carn. n.* 518? (See n. 16.)

Flowers lateral, every way decumbent; ſtem undivided, leaves reflex at the baſe.

5. Cucubalus ſtellatus. *Four-leaved Campion.*
Lin. ſpec. 592. *Reich.* 2. 341. *hort. upſ.* 110. *Gron. virg.* 50. (Silene). *Cold. noveb.* 106. (Drypis).

Lychnis caryophyllæus virginianus, &c. *Raii hiſt.* 1895.
Leaves in fours.

[6. Cucubalus ægyptiacus. *Egyptian Campion.*
Lin. ſyſt. 419. *Reich.* 2. 342. *mant.* 385.
Flowers erect, petals emarginate retroflex, with a toothlet on each ſide.]

7. Cucubalus italicus. *Italian Campion.*
Lin. ſpec. 593. *Reich.* 2. 342. *Jacqu. obſ.* 4. *p.* 12. *t.* 97.
Petals ſemibifid, calyxes club-ſhaped, panicle dichotomous erect, ſtamens and piſtils declined, ſtem erect.

[8. Cucubalus tataricus. *Hyſſop-leaved Campion.*
Lin. ſpec. 592. *Reich.* 2. 342. *hort. upſ.* 111.
Petals two-parted, flowers in one row, decumbent, peduncles oppoſite ſolitary erect, ſtem entirely ſimple.

9. Cucubalus ſibiricus. *Siberian Campion.*
Lin. ſpec. 592. *Reich.* 2. 342. *Gmel. ſib.* 4. 140. *n.* 34.
Viſcago. *Hall. goett.* 1. 150. *fig.*
Petals emarginate, flowers ſubverticilled, whorls umbellate leafleſs.]

10. Cucubalus catholicus. *Panicled Campion.*
Lin. ſpec. 593. *Reich.* 2. 342. *hort. upſ.* 111. *Jacqu. hort.* 1. 23. *t.* 59. *Krock. ſileſ. n.* 661.
Lychnis. *Cupan. cath.* 110.
β. L. nocturna non viſcoſa, herbaceo flore. *Dill. elth.* 425. *t.* 316. *f.* 408.
Petals two-parted, flowers panicled, ſtamens long, leaves lanceolate-ovate.

[11. Cucubalus molliſſimus. *Velvet Campion.*
Lin. ſpec. 593. *Reich.* 2. 343. *mant.* 385.
Petals half-two-parted, panicle dichotomous, ſtem and leaves ſoft like velvet, root-leaves ſpatulate.]

12. Cucubalus Otites. *Spaniſh Campion* or *Catchfly.*
Lin. ſpec. 594. *Reich.* 2. 343. *hort. cliff.* 272. *Hudſ. angl.* 186. *With.* 446. *Sowerby engl. bot. t.* 85. *Relh. cant. n.* 319. *Fl. dan. t.* 518. *D'Aſſo aragon. n.* 373. *Pollich pal. n.* 416. *Plenck, ic. t.* 348. *Villars dauph.* 3. 615. *Krock. ſileſ. n.* 662.
Viſcago. *Hall. helv. n.* 920.
Lychnis Otites. *Scop. carn. n.* 515.
L. viſcoſa, fl. muſcoſo. *Bauh. pin.* 206. *Raii hiſt.* 1002. & 1895. *ſyn.* 340. *Mor. hiſt. ſ.* 5. *t.* 20. *f.* 5. *Pet. brit. t.* 57. *f.* 11.
L. ſylveſtris ſeſamoides minor, fl. muſcoſo. *Mentz. pug. t.* 3. *f.* 2.
Seſamoides magnum ſalmanticum. *Cluſ. hiſt.* 1. 295. 1. *Ger.* 396. 1. *emac.* 493. 1.
Muſcipula ſalamantica major. *Park. theat.* 636.
M. muſc. fl., ſ. Ocymoides belliforme. *Bauh. hiſt.* 3. 350. 2.
Flowers dioecous, petals linear undivided.

[13. Cucubalus reflexus.
Lin. ſpec. 594. *ſyſt.* 419. *Reich.* 2. 343. *hort. upſ.* 112.
Lychnis. *Magn. monſp.* 171. *t.* 170. *Mor. hiſt.* 2. 544. *app. t.* 36. *Raii hiſt.* 996. 12.
Flowers ſpiked alternate in one row ſubſeſſile, petals ſubbipartite obſcure.

14. Cucubalus ſaxifragus.
Lin. ſyſt. 420. *Reich.* 2. 344. *mant.* 71. *Schreb. dec.* 9. *t.* 5.
Lychnis orientalis minima, &c. *Tournef. cor.* 24.
Petals bifid, calyxes ſtriated, the terminating ones ſubſeſſile, the ſide ones peduncled.

15. Cucubalus pumilio. *Dwarf Campion.*
Lin. ſyſt. 420. *Reich.* 2. 344. *mant.* 71.
Silene pumilio. *Jacqu. auſtr.* 5. *app. t.* 2.
Lychnis pumilio. *Scop. carn. n.* 513.
Betonica coronaria, &c. *Bauh. hiſt.* 3. 337.
Caryophyllus alpinus, calyce oblongo hirſuto. *Bauh. pin.* 209. *Mor. hiſt. ſ.* 5. *t.* 25. *f. ult.*
Stems one-flowered, ſhorter than the flower.

16. Cucubalus glutinoſus.
Retz. obſ. 2. *n.* 50.
Petals two-parted, calyxes club-ſhaped, panicle dichotomous ſpreading very much, ſtamens and piſtils ſtraight.]

17. Cucubalus paniculatus.
Mill. dict. n. 12.
Root-leaves ovate, acute, ſtem-leaves lanceolate oppoſite; flowers panicled, erect.

DESCRIPTIONS, *&c.*

1. [Root perennial, creeping, and ſpreading far in the ground. The whole plant ſomewhat hairy. Stems mounting four or five and even eight or ten feet, among buſhes, but trailing if not ſupported; herbaceous, and dyeing to the root every year: they are cylindric, roughiſh, and of a pleaſant green. Side branches oppoſite at each joint, horizontal or ſlanting downwards; the joints large. The leaves grow oppoſite at every joint, and reſemble thoſe of Chickweed both in ſhape and colour, but are larger and ſoft to the touch, being a little villoſe; they are oval-lanceolate, very entire, on ſhort leaf-ſtalks, thoſe below the branches bent down to the ſtem. Flowers axillary, ſtanding ſingle on ſlender peduncles, and nodding. Calyx ovate, bellying, cloven more than half way down, frequently tinged with purple. Petals ſpreading, white, cloven, claws very narrow, little ears at the baſe of the border, ſerrated at the end; ſo that this, according to ſome authors, is properly a *Silene.* Fruit an oval capſule reſembling a berry, almoſt as large as a ſmall black cherry, very black when ripe, ſmooth, ſhining, ſoft, and full of pulp: at firſt it has three cells, but the partitions being of a looſe texture, they ſoon ſhrivel up, and give the appearance of there being but one cell; it does not open at the point as in *Silene* and this genus. As the fruit enlarges, the calyx becomes more reflex; and when it is at the full ſize, appears open, the calyx being turned back to the peduncle. Seeds from thirty or thirty-five to forty, pedicelled, ſhining, wrinkled, kidney-form, blackiſh[a].

I have left this ſpecies where Linneus has placed it, though Haller and others think that it does not properly belong to this genus. Dr. Stokes has given the following ſpecific character—*ſtem branched, flowers ſolitary from the diviſions of the branches, calyxes bell-ſhaped five-cleft, petals bifid diſtant:* and remarks that its habit is that of *Ceraſtium,* but its general ſtructure that of *Silene;* and that it ſeems to form the connecting link between them.

Native of Germany, Flanders, France, Switzerland, Carniola, Italy, Spain; in woods and hedges. Mr. Ray obſerved it about Frankfort; in Italy and the South of France.—In Britain it has been found only in the Iſle of Angleſea, by Mr. Fowlkes of Llanbeder near Ruthin, a great collector of many rare Britiſh plants which I preſerve in my herbarium.—Johnſon in Gerarde ſpeaks of it as being wild in England, but ſays, that he has not ſeen it growing but in the garden of his friend Mr. Pemble at Marribone.—Parkinſon affirms that he has ſometimes found it by hedge ſides in our own land.—It flowers in june and july.

According to Mr. Miller, the berries are affirmed to be no leſs deadly, than the *Atropa* or deadly Nightſhade itſelf.

2. Root perennial, woody, yellow on the outſide, white within. Plant generally free from hairs. Stem decumbent at the baſe, branched, and dichotomous near the ſummit, round, green or red, a foot or eighteen inches in height; the joints large. Leaves below the forkings of the ſtem connate, frequently tinged with purple; the reſt not properly connate, but ſeſſile in pairs, cordate-lanceolate, very entire, covered on both ſurfaces with numerous pimples; they are ſoft and of a ſea-green colour: ſometimes however they are rough, or fringed with prickle-like hairs, or have a few hairs ſcattered over the ſurface. Flowers, ſome ſolitary at the diviſions of the ſtem, others crowded at the ends of the branches, ſome on long peduncles, nodding. Calyx inflated, longer than the claws of the petals, veined with green or browniſh purple, but ſometimes without veins. Petals white, cleft beyond the middle, diſtant, the ſegments frequently ſlightly ſerrulate; the

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[a] Miller's figures, Withering, Stokes in With. Woodw. Mſſ. Scopoli.

claws having rudiments of a crown, and thus forming a link between this genus and *Silene*. Stamens not longer than the germ, five of them fixed to a glandular nectary at the bottom of the flower, and ſhedding their farina ſooner than the other five, which are fixed to the petals: anthers yellowiſh, (ſometimes purple) with a greeniſh dirty yellow farina. Germ blackiſh and ſmooth, ſupported by a ten-cornered column: ſtigma not pubeſcent. Capſule generally opening ſix ways, but ſometimes five or ſeven, each valve generally ſplitting into two teeth: three-celled only at the baſe. Seeds ſmall, angular, prickly, glaucous-brown [b].

Linneus informs us, that a female variety is frequent in the Upſal garden; ſmaller than the hermaphrodite, the calyxes exactly ovate, more duſky, not oblong-ovate, corolla leſs, ſtamens ſhorter by half than the corolla terminated by a tubercle without anthers, ſtyles three or five, longer than the corolla, declining. Both plants are fertile [c].

This ſpecies varies with broader and narrower leaves, ſmooth and hairy; alſo with a double flower. Hence Mr. Miller has made three ſpecies of this:] 1. *C. latifolius*, our Engliſh Spatling Poppy, which he defines to have erect ſmooth ſtems, and the ſtamens longer than the corolla. 2. *C. anguſtifolius*, the Alpine Campion, differing from the foregoing in having much longer and narrower leaves, the ſtalks more divided and ſpreading, and the roots not creeping. 3. *C. Behen* (*var. γ. Lin. fl. ſuec.*); native of Sweden and other northern countries, where it paſſes for our common ſort. The ſtalks of this are much larger, the leaves longer and more pointed; the calyx curiouſly veined like net-work, of a purpliſh colour, whereas that of our common ſort is plain.

[Native of almoſt every part of Europe, in corn fields and dry paſtures; flowering in june, july, and auguſt.

According to Linneus, horſes, cows, ſheep, and goats eat it: Schreber on the contrary ſays that cattle reject it.—In Gothland, they apply the herb externally in eryſipelatous eruptions [d].—The leaves boiled have ſomething of the flavour of Peas, and proved of great uſe to the inhabitants of Minorca in 1685, when a ſwarm of locuſts had deſtroyed the harveſt [e].

Beſides thoſe given above, it has the names of *white corn Campion*, and *white Bottle*.]

3. Root biennial, putting out many ſucculent leaves near the ground, out of the middle of which ariſes an upright ſtalk about fifteen inches high, the lower part of which has leaves of the ſame form and conſiſtence as thoſe at bottom, but ſmaller; theſe are placed oppoſite; the upper part of the ſtalk divides into two ſmaller, on which ſtand a few ſmall herbaceous flowers at each joint. It flowers in june, and ſometimes ripens ſeeds in autumn.

It was diſcovered in the Levant by Tournefort, who ſent the ſeeds to the royal garden at Paris. It is a native of Sicily.

[4. Root biennial. Stem very ſimple, a foot high, erect, firm, round, villoſe, viſcid at top. Root-leaves narrow-lanceolate, almoſt ſmooth, acuminate; ſtem-leaves broader, claſping, viſcid-villoſe, ſomewhat waved, reflex at the baſe, not on the ſides. Peduncles oppoſite, ſhort, three-flowered. Flowers decumbent: calyx cylindric, ten-cornered, viſcid; petals white, two-parted. Stamens longer than the corolla; anthers greeniſh. Styles longer than the corolla. The flowers do not all turn one way, as in moſt of the ſpecies, but nod every way, and ſmell ſweet at night. Fruit ovate, one-celled [f].

Native of the Levant, Italy, Carniola, Sweden. Linneus obſerves that this is one of the many plants common to Sweden and Mount Ararat, as we find from Tournefort's collections.—It is certain that the Dover Campion (*Raii ſyn.* 340. 12.) is not this plant; but in the opinion of Dr. Stokes, nothing more than a variety of *Silene nutans*, if at all different. Retzius however, who cultivated them in his garden, ſays that the Dover Campion is ſo like *C. italicus* (n. 7.) in all reſpects, that he cannot diſtinguiſh them. The Italian plant indeed is more tender and delicate; that of Dover more ſtiff, larger, more patient of cold, the petals ſomewhat deeper cloven and not ſtained underneath as the Italian is, but theſe differences not being ſufficient to conſtitute a ſpecific diſtinction, he regards them as varieties.—Mr. Miller ſays the root is perennial, the corolla pale red, and that it flowers in june.]

5. The fifth ſort grows naturally in Virginia and Canada. This has a perennial root, from which ariſe two or three ſlender upright ſtalks about a foot high, their lower part having four leaves at each joint, placed in form of a croſs; theſe are ſmooth, of a deep green, about an inch and an half long, and half an inch broad near their baſe, terminating in acute points; the joints of the upper part of the ſtalk have white fringed flowers, ſtanding ſingle upon pretty long peduncles, which come out by pairs oppoſite. The flowers appear in june, and in warm ſeaſons the ſeeds will ripen in England.

[Petals four-cleft, with two-parted lobes; and having no crown [g].

Cultivated in 1768, by Mr. Miller [h].

6. Stem weak, branching, ſpread upon the ground. Leaves linear (not ſmooth), the younger ones ciliate at the baſe. Flowers axillary, ſolitary, ſeſſile. Calyx cylindric, in the fruit obovate, ten-cornered, with the interſtices membranaceous, the teeth ſmall. Petals minute, hardly longer than the calyx. Styles often four.—Found in Egypt, by Haſſelquiſt [i].]

7. Stem about two feet high, viſcid, and from each joint two ſide branches, under which are ſituated two very narrow leaves; it ſpreads out and forms a ſort of panicle at top, the ſtem and branches being terminated by cluſters of greeniſh flowers.

[Biennial. Leaves lanceolate, bluntiſh, pointing one way. Stem, eſpecially at bottom, hoary with a ſcarcely viſible cotton. Flowers on peduncles, erect: calyxes club-ſhaped, marked with ten grooves. Petals broadiſh, white, beneath lead colour [k].

Jacquin obſerves, that the branches are dichotomous; the leaves leſs tomentoſe than the ſtem, ſeſſile, ſome bluntiſh others pointed, the upper ones almoſt linear [l] and the ſtamens concolor with the piſtil inclining towards the ground.

Retzius conſiders our Dover Campion as a variety of this. See n. 4.

Native of Italy. Cultivated 1768, by Mr. Miller [l]. It flowers in may and june, and the ſeeds ripen in autumn.

8. Native of Ruſſia. Introduced about 1772. It flowers from june to auguſt; and is perennial [m].

9. Stamens longer than the flower.—Native of Siberia [n]. Introduced 1773, by Chevalier Murray. It flowers from june to auguſt; and is perennial [o].]

10. This is a perennial plant, ſending out many long leaves near the ground, between theſe ariſe round viſcid ſtalks three feet high (or from eighteen inches to that height), having at each joint two long narrow leaves, ending in acute points. The ſtalks branch out into many diviſions, on the upper parts of which the peduncles ariſe from each joint by pairs oppoſite; each of theſe ſuſtains three or four flowers of an herbaceous colour. [To this we may add, that the ſtems are erect or nearly ſo, glaucous, very ſmooth and thick. Leaves ſeſſile, waved, glaucous, ſmooth, quite entire, only on the lower part of the ſtem, and connate. Flowers in a nodding panicle: calyx ventricoſe, inflated, not ſinuated or angular: petals white: anthers reddiſh: ſtyles white: capſule ſubglobular [p]. Linneus affirms, that the calyx is duſky or brown; Krocker ſays, it is either of a very pale whitiſh bay, or elſe greeniſh and glaucous netted with bay-coloured veins.

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[b] Withering, Stokes in With. Woodw. Mſſ. Relhan, Pollich, Haller, Gmelin, Scopoli.

[c] Linn. ſpec.

[d] Linn. ſuec.

[e] Withering.

[f] Lin. ſuec.

[g] Linn. ſpec.

[h] Hort. kew.

[i] Linn. mant.

[k] Linn. ſpec.

[l] Hort. kew.

[m] Ibid.

[n] Linn. ſpec.

[o] Hort. kew.

[p] Krocker.

Native of Italy, Sicily, and Sileſia. Cultivated 1711, in the botanic garden at Chelſea[q]. It flowers in auguſt.

β. Perennial. Root-leaves many, oblong, narrow (the firſt broader) ſmooth, without veins. Stems two feet high and more, round, ſmooth, purpliſh towards the top, glaucous, not viſcid: towards the middle and upper part come out branches in pairs, of a purpliſh green colour, dividing into others that are ſimilar, which put forth flowers in june and july: calyxes oblong, cylindric, ſmooth, pale, glaucous; corollas herbaceous or yellowiſh green, petals narrow, divided to the middle, opening at night. Five of the ſtamens come out firſt, and afterwards the five others; anthers greeniſh. Capſule ſix-valved. At firſt the flowers are crowded into an oblong, pendulous ſpike; then they become looſer and form a thin nodding panicle; and when the ſeeds grow ripe, the whole panicle becomes erect.—It was ſent over by Boerhaave, and cultivated in the Eltham garden[r].

11. Stems many, rather ſtiff, erect, a foot high, ſomewhat tomentoſe, very ſoft: branches at bottom alternate, ſhorter. Stems mixed with thoſe which are barren, ſhorter by half than the others, erect; crowded with leaves at the end. Lower leaves ſpatulate; the reſt lanceolate; all ſomewhat fleſhy, very ſoft, tomentoſe, bluntiſh, ſomewhat reflected at the end, ſpreading. Panicle brachiate, with dichotomous branches, (viſcid, with three-flowered branchlets, *mant.*). Calyxes obtuſely toothed, club-ſhaped, erect, very ſoft. Flowers white, erect; borders ſhorter than the calyx, cloven half way; claws longer than the calyx. Stamens the length of the calyx. Styles longer than the corolla. Perennial, ſhrubby.—Native of the ſea coaſts of Italy[s].

12. Root long, fuſiform, ſlender. The root-leaves form a thick tuft, and are wedge-ſhaped, or rather ſpatulate, entire and acuminate, diminiſhing into a long channelled foot-ſtalk: they are clammy, and rough with minute, thick-ſet, curved, and ſometimes ſtellated hairs. From theſe ariſe one or ſeveral ſtems, from one to two feet high, upright, the lower part cloathed with a few oppoſite leaves, ſhaped like the root-leaves, the upper part is naked and clammy; at the bottom of the panicle are two membranaceous connate bractes, and the ſame under each ſet of flower-ſtalks. The lower part of the panicle both of the male and female flowers conſiſts of oppoſite branches, each topped with a kind of umbel (to which the two bracteal leaves form a ſort of general involucre) of ſeſſile flowers, and others each on a ſingle peduncle; ſome of the umbels are proliferous, and bear ſecond, and theſe again third umbels. The male flowers often produce abortive piſtils, and the females abortive ſtamens. The male plants bear more flowers, and in cloſer panicles than the female. Capſules long, elliptical[t], ſix-valved*. Calyx ſtreaked with green lines. Corolla pale green, or herbaceous-yellow: petals narrow, linear, very entire, a little bent in at the tip. Five filaments longer and five ſhorter than the corolla. Styles three[u], or rather varying from three to five[x]. *Pollich ſays that the flowers he deſcribes are hermaphrodite: ſuch are rarely ſeen with us.*

The male plant, ſays Haller, has a larger flower, and a reddiſh calyx: the female has a ſmaller flower, and a green calyx.]

The male plants often grow four or five feet high; but thoſe of the female are ſeldom above three feet. The flowers of the former are produced in looſe ſpikes from the lower joints of the ſtalk, but on the upper part, they ſtand in ſingle peduncles in cluſters quite round the ſtalks; theſe are ſmall, and of a greeniſh colour. The female plants have three or four flowers growing upon each peduncle, which ariſes from the ſide of the ſtalk.

[According to Scopoli, the male flowers are apetalous, and have the rudiment of a three-ſtyled germ. With us both ſexes have the ſame narrow entire yellowiſh petals.—In Tartary it is found with a hermaphrodite flower.

Native of Germany, Denmark, Switzerland, the Valais, France, Italy, Carniola, Spain, Siberia, England, in gravelly and ſandy ſoils: as in gravel pits, on the north ſide of Newmarket, about Chippenham. Beyond Barton Mills in the way to Brandon, and beyond Brandon in the road to Hillborough. Near Swaffham and Narborough, Norfolk.—It flowers in july and auguſt. It is marked by Linneus, Villars, Krocker, *&c.* as perennial. Miller ſays biennial: and ſo it is marked in the Kew catalogue.

Gerarde calls it great Baſtard Weld or Woade: he had the ſeeds from Padua, and expected the flowers 1597.—Parkinſon names it greater Spaniſh Catchfly. They did not know that it was a native of England; Ray ſeems firſt to have noticed this.

Ray alſo ſays, it is known in Suffolk by the name of Star of the Earth, and is in great repute as a remedy for the Hydrophobia. See hiſt. p. 1895. and Philoſ. tranſ. n. 187. Though Ray has no doubt of its efficacy, we ſhould be ſorry now to depend on ſuch a remedy in ſuch a diſorder.

13. Linneus deſires that this may be compared with *Silene mutabilis*, of which perhaps it may be only a variety.

According to Moriſon, the ſtem is a foot high, and erect; two narrow hirſute leaves at each joint: towards the top it bears white flowers, with narrow petals cloven to the middle, all turned one way; capſules oblong, hirſute on the outſide; ſeeds blackiſh.

Magnol thus deſcribes his plant: root white, fibrous. Stem (ſometimes there are two) a palm and half in height. Root-leaves form a tuft on the ground, like thoſe of Daiſy, and are hairy; ſtem-leaves two oppoſite at each joint, narrow and oblong. At the top of the ſtem a ſpike of flowers, bent down at firſt like a Scorpion's tail, but gradually becoming erect, after the flowers fall. Petals whitiſh, deeply cloven, bending inwards when they begin to wither. It is an annual plant. Linneus marks it as perennial.

Native of Montpellier.—Ray found Moriſon's plant about Naples, and Meſſina.

14. Root perennial. Stem a palm in height, with linear leaflets. Every calyx is ſeſſile between two leaflets, and from the axils of theſe other petioles frequently ariſe, and therefore it is not between two ſcales as in the genus Dianthus.—Native of the Levant[y].

15. Root-leaves forming a tuft, linear, obtuſe, ſmooth and even. Stem very ſimple and ſhort, bearing one flower, but having often three joints. Calyx oblong, bell-ſhaped, patulous, obtuſe, pubeſcent, the length of the ſtem[z]. Corolla red, the borders elliptic: germ ſeſſile: ſtyles ſhort[a].—Near Geneva. In Styria, and the mountains bordering on Carinthia. Mountains of Italy and Moravia. Perennial.

16. Root flowering the ſecond year. Stems erect, dichotomous, ſomewhat villoſe, here and there covered with a tenacious viſcid juice. Leaves lanceolate, acute, very entire, hiſpid, eſpecially the midrib; the upper ones linear. Calyx funnel-form, ten-angled, viſcid, when fruit-bearing club-ſhaped. Corolla greeniſh white; claws the length of the calyx, border cloven almoſt to the baſe. Stamens ſtraight, the length of the corolla or rather longer; anthers incumbent. Germ pedicelled, cylindric, obtuſe, higher than the calyx; ſtyles three diverging; ſtigmas very ſimple, obtuſe. Capſule globular (having a club-ſhaped appearance on account of the pedicel) half-three-celled, opening with a ſix-toothed, revolute top. Seeds kidney form[b].——Retzius doubts whether the Lychnis viſcoſa Scop. 518. (ſee n. 4) be different from this.]

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[q] Hort. kew. [r] Dillenius. [s] Linn. ſpec. and mant.
[t] Woodw. Mſſ. * Scopoli. [u] Pollich. [x] Engl. bot.

[y] Linn. mant. [z] Ibid. [a] Scopoli. [b] Retz.

17. This is a biennial plant. Root-leaves many, on long petioles. From among theſe ariſes an upright ſtalk, ſending out two oppoſite ſide-branches at each joint; under each of theſe is one lanceolate acute leaf. Theſe ſide-branches, and alſo the upright ſtems are terminated by whitiſh flowers, formed into a panicle, and ſtanding erect. They appear in june, and are ſucceeded by ſeeds which ripen in autumn.—Native of Spain and Italy, whence Mr. Miller had the ſeeds. He cultivated it in 1759.

PROPAGATION AND CULTURE.

1. Delights in ſhade, and will thrive in almoſt any ſoil. It is apt to multiply too faſt by its creeping roots.

2. A rambling weed, and ſeldom cultivated. The root ſtrikes ſo deep into the ground, as not eaſily to be deſtroyed by the plough; and therefore it is frequently ſeen growing in bunches among corn.

3. The plant is biennial, generally periſhing when it has produced ſeeds; but unleſs it is ſown upon very dry rubbiſh, and in a warm ſituation, the plants will not live through the winter in England; for when they are in good ground they grow large, and are ſo replete with moiſture, as to be affected by the firſt froſt in the autumn; but where they have grown upon an old wall, I have known them eſcape, when all thoſe were killed which grew in the ground.

7 to 10, 12, *&c.* Theſe are propagated by ſeeds, which ſhould be ſown where the plants are deſigned to remain; for as they ſend out long top roots, they do not bear tranſplanting, unleſs it is performed while the plants are young. The twelfth is very hardy, and will thrive in almoſt any ſoil or ſituation, but agrees beſt with a dry ſoil. It is neceſſary to have ſome male plants among the females, to have perfect ſeeds.

[Cucubalus. See *Lychnis* and *Silene.*

Cucullaria. See *Valantia.*

Cucumber. See *Cucumis.*]

CUCUMIS. (From Κικυὸς, or Σικυος, and that from Hebrew קיקא. Varro ſays, *Cucumeres dicuntur a curvore, ut curvimeres dicti.*)
Lin. gen. n. 1092. *Reich.* 1192. *Schreb.* 1479. *Juſſieu* 395. *Gærtn. t.* 88. *Tourn.* 31. Melo. *Tourn.* 32. Anguria. *Tourn.* Colocynthis. *Tourn.*
Claſſ. 21. 10. Monoecia Syngeneſia.
Nat. order of *Cucurbitaceæ.*

GENERIC CHARACTER.

* *Male flowers.*

Cal. *Perianth* one-leafed, bell-ſhaped, the margin terminated by five ſubulate teeth.

Cor. five-parted, growing to the calyx, bell-ſhaped: *diviſions* ovate, veiny-wrinkled.

Stam. *Filaments* three, very ſhort, inſerted into the calyx, converging, of which two are bifid at the tip. The *anthers* are lines creeping upwards and downwards, outwardly adnate. *Receptacle* three-cornered, truncated, in the centre of the flower.

* *Female flowers* on the ſame plant with the males.

Cal. *Perianth* as in the males, ſuperior, deciduous.

Cor. as in the males.

Stam. none. *Filaments* three, acuminate, very ſmall, without anthers.

Pist. *Germ* inferior, large. *Style* cylindric, very ſhort. *Stigmas* three, thick, gibbous, two-parted, turned outwards.

Per. *Pome* (Berry, *G.*) three-celled; (or four-celled, *G.*) cells membranaceous, ſoft, ſeparate (into two ſecondary ones, *G.*)

Seeds numerous, ovate-acute, compreſſed, placed in a double order.

ESSENTIAL CHARACTER.

Calyx five-toothed. *Cor.* five-parted.
Male. *Filaments* three.
Fem. *Piſt.* three-cleft. *Pome* with argute ſeeds.

SPECIES.

[1. Cucumis Colocynthis. *Bitter Cucumber* or *Gourd, Coloquintida.*
Lin. ſpec. 1435. *Reich.* 4. 204. *hort. upſ.* 293. *mat. med.* 209. *Blackw. t.* 441. *Sabb. hort.* 1. *t.* 70.
Colocynthis fr. rotundo, major. *Bauh. pin.* 313.
Colocynthis. *Cam. epit.* 982. *Bauh. hiſt.* 2. 232. *Ger.* 768. *emac.* 915. *Raii hiſt.* 642. *Mor. hiſt. ſ.* 1. *t.* 6. *f.* 1.
C. vulgaris. *Park. theat.* 160.
Leaves multifid; fruits globular ſmooth.

2. Cucumis prophetarum. *Globe Cucumber.*
Lin. ſpec. 1436. *Reich.* 4. 204. *amœn.* 4. 295. *Jacqu. hort.* 1. *t.* 9. *Blackw. t.* 589. *Shaw afr.* 164. (Colocynthis.)
Leaves cordate five-lobed toothletted obtuſe; fruits globular ſpiny-muricate.

3. Cucumis Anguria. *Round prickly-fruited Cucumber.*
Lin. ſpec. 1436. *ſyſt.* 869. *Reich.* 4. 205. *hort. upſ.* 292. *Brown. jam.* 353. 1. *Pluk. phyt.* 170. *f.* 3.
Anguria amer. fr. echinato eduli. *Tourn. inſt.* 107. *Mill. fig. t.* 33.
Leaves palmate-ſinuate; fruits globular echinate.

4. Cucumis africanus. *African Cucumber.*
Lin. ſyſt. 869. *ſuppl.* 423.
Leaves palmate-ſinuate; ſtem angular; fruits oval echinate.

5. Cucumis acutangulus. *Acute-angled Cucumber.*
Lin. ſpec. 1436. *ſyſt.* 869. *Reich.* 4. 205. *Jacqu. hort.* 3. *t.* 73, 74. *Grew muſ.* 229. *t.* 17. *f.* 2. *Pluk. phyt. t.* 172. *f.* 1. *Rumph. amb.* 5. *t.* 149. *Lour. cochinch.* 591. *Burm. ind.* 209.
Leaves rounded-angular; fruits with ten acute angles.]

6. Cucumis Melo. *Common* or *Muſk Melon.*
Lin. ſpec. 1436. *Reich.* 4. 205. *hort. cliff.* 451. *upſ.* 292. *mat. med.* 210. *Sabb. hort.* 1. *t.* 65. *Blackw. t.* 329. *Lour. cochinch.* 591.
Melo. *Mill. dict. Bauh. hiſt.* 2. 242. *Ger.* 771. *emac.* 917. *Park. par.* 525. *Raii hiſt.* 644. *Mor.* 1. 6. 3, 4.
M. vulgaris *Bauh. pin.* 310.
Angles of the leaves rounded; fruits toruloſe.

[7. Cucumis Dudaim. *Apple-ſhaped Cucumber.*
Lin. ſpec. 1437. *Reich.* 4. 206. *Dill. elth.* 223. *t.* 177. *f.* 218. *Raii ſuppl.* 333. (Melo.) *Walth. hort.* 133. *t.* 21. (Cucumis.)
Angles of the leaves rounded; fruits ſpherical with the navel retuſe.]

8. Cucumis Chate. *Hairy Cucumber.*
Lin. ſpec. 1437. *Reich.* 4. 206. *Haſſelqu. itin.* 491. *edit. engl.* 258. *Forſk. ægypt. cent.* 6. *p.* 163. *Raii hiſt.* 646. 4.
C. ægyptius rotundifolius. *Bauh. pin.* 310. *Mor.* 1. 7. 3.
C. ægyptius Chate. *Bauh. hiſt.* 2. 248. *f.* 2.
Chate. *Alp. ægypt.* 114. *t.* 116. *Veſl. ægypt.* 47.
Hirſute; angles of the leaves entire, rounded; fruits fuſiform, drawn to a point at each end, rough with hairs.

9. Cucumis ſativus. *Common Cucumber.*
Lin. ſpec. 1437. *Reich.* 4. 206. *hort. cliff.* 451. *upſ.* 292. *mat. med.* 210. *Gærtn. fruct.* 2. 47. *Lour. cochinch.* 591. *Sabbat. hort.* 1. *t.* 63. *Black. t.* 4. *Park. theat.* 772. 1.
C. ſativus vulgaris. *Bauh. pin.* 310.
C. vulgaris. *Dod. pempt.* 66. *Bauh. hiſt.* 2. 245. *Ger.* 762. 1. & 764. *emac.* 910. 1. & 4. *Raii hiſt.* 645. *Mor.* 1. 6. 6.
Cucumer. *Park. parad.* 524.
Leaves ſtraight between the angles; fruits oblong, ſcabrous.

[10. Cucumis anguinus. *Serpent Cucumber* or *Melon.*
Lin. ſpec. 1437. *Reich.* 4. 207. *Rumph. amb.* 5. 407. *t.* 148.
Leaves lobate; fraits cylindric very long, ſmooth and even, writhed.]

11. Cucumis flexuoſus. *Flexuoſe Cucumber* or *Melon.*
Lin. ſpec. 1437. *Reich.* 4. 207. *Bauh. pin.* 310. *Thunb. jap.* 324. *Raii hiſt.* 646.
C. oblongus. *Bauh. hiſt.* 2. 247. *Dod. pemp.* 662.

C. anguinus. *Ger.* 763. 3. *emac.* 910. 2. *Mor.* 1. 6. 7.—flexuoſus. *Park. theat.* 772. 2.
Leaves angular-ſublobate; fruits cylindric furrowed curved.

12. Cucumis conomon.
Lin. ſyſt. 869. *Thunb. jap.* 324.
Leaves angular-ſublobate toothed; fruits fuſiform ten-furrowed ſmooth.

13. Cucumis maderaſpatanus.
Lin. ſpec. 1438. *Reich.* 4. 207. *hort. upſ.* 293. *Lour. cochinch.* 592. *Lin. fl. zeyl.* 356. (Bryonia.) *Berg. cap.* 351. (Bryonia.) *Pluk. alm.* 123. *t.* 170. *f.* 2.
Leaves cordate entire toothletted; fruits globular ſmooth.

DESCRIPTIONS, *&c.*

Theſe are all annual plants, with herbaceous ſcandent ſtems. The leaves of *Colocynthis* and *Anguria* are palmate-laciniate, in the other ſpecies they are heart-ſhaped. Peduncles ſhort, one or many-flowered. Fruit of *Colocynthis* ovate, of a comparatively ſmaller ſize, with a dry bitter pulp or fleſh not eatable: of *Anguria* ſmaller than any of the reſt, echinate on the outſide, within pulpy, watery, eatable: of *Melon* ovate, fleſhy, ſweet, with a grooved or netted ſurface: of *Cucumber* oblong, ſubcylindric, the ſurface unequal, within fleſhy, inſipid[a].

1. Coloquintida has leaves of a dark green, rough, and deeply laciniated in the manner of thoſe of the Citrul, but ſmaller: the ſtems are rough, and trailing, like thoſe of Bryony. The flowers are rather ſmall and of a dull yellowiſh colour: the fruit is round; of the ſize of an Orange; it is green at firſt, but grows yellow when quite ripe: the pulp or internal part is light, ſpongy, and white, and is moſt intenſely and intolerably bitter: it is this ſubſtance dried which is the Coloquintida of the ſhops. Its native place is unknown.

Gerarde ſays, it has been delivered unto him for a truth, that Coloquintida grows in the ſands of the Mediterranean ſea ſhore wild, eſpecially at that ſide of Barbary, as alſo without the mouth of the ſtraits near to Santa Cruz, *&c.*

It flowers from may to auguſt. Cultivated in 1551[c].

2. The plant is ſmaller in every part than the common Melon, and has a nauſeous odour: the ſtem and footſtalks are rough and angular: the leaves are cordate, rough beneath, five-lobed, and toothed; the intermediate lobe nearly twice the length of the others: the peduncles are one-flowered: the fruits are ſmooth, but are armed with ſoft and innocent prickles ſcattered upon them. They are variegated with uncertain ſtreaks, alternately greeniſh and yellowiſh: their bitterneſs equals that of Coloquintida[d].

Native of the Levant; flowering from june to ſeptember. Introduced 1777, by Joſ. Nic. de Jacquin, M. D.[e]

3. Flowers ſmall, like thoſe of Bryony. Stems angular hiſpid[f].

The fruit of this ſort is eaten when green, by the inhabitants of the Weſt Indian iſlands, where it is indigenous, as Cucumbers; but theſe are far inferior to our common Cucumber. The fruit ſeldom grows ſo large as a pullet's egg, and is in ſhape like it; but the rind is cloſely beſet with blunt prickles, ſomewhat like the ſkin of a hedgehog: where it is expoſed to the full air, it is of a dark green colour, but when it is cloſely covered, either by the leaves or weeds, it is white[g]. The fruit is frequently uſed in the ſugar iſlands, with other herbs, in ſoups; and is eſteemed an agreeable and wholeſome ingredient in them[h].

It flowers in july and auguſt; and was cultivated by Mr. Miller in 1755[i].

4. Stems numerous, ſomewhat angular, proſtrate. Leaves five-cleft. Flowers ſmall.—Native of the the Cape of Good Hope[k].

5. Flowers yellow; males terminating, on many-flowered peduncles: females lateral, ſolitary. Leaves cordate, ſharply angular, ſerrate-toothed, hairy. Stem five-cornered, acute, climbing. Fruits ovate or oblong, obtuſe, five inches long, browniſh-yellow, ſmooth. Seeds ſuboval, compreſſed, ſmooth, black, looking as if they had been chewed, as in Anguria[l]. The fruit is very inſipid, but it is eaten boiled and pickled.

Native of India. Flowering from june to ſeptember. Cultivated 1692, by Biſhop Compton[m].

6. Melon or Muſk Melon has the ſtems procumbent or trailing to a great length, and very much branched, furniſhed with tendrils for climbing. Leaves palmate-ſinuate, or entire, waving about the edge and ſlightly toothed, with rounded corners; rough with briſtles. Flowers pale yellow, lateral, ſolitary. Calyx covered with white hairs. Corolla wrinkled, ribbed, and having briſtles along the ribs on the outſide. The female flowers, as they are commonly called, have four large anthers, and the germ is ſubglobular and covered with white hairs. This diſcovery of the flowers commonly called females being real hermaphrodites with fertile anthers, as they ſeem to be, makes it probably leſs neceſſary to carry the males to them, as practiſed by ſome gardeners, though nature having provided male flowers, it is moſt likely that the pollen in the anthers of the others is frequently defective.—Fruit roundiſh or oval, blunt, commonly furrowed longitudinally, ſometimes netted, ſometimes warted or carbuncled, from four to ten or twelve inches in length and diameter, yellowiſh green or white; pulp firm, muſky, reddiſh ſeldom green. Seeds many, oblong, pale, in a watery pulp. It was firſt introduced into Europe from Perſia.

It has lately been affirmed that it is a native of Calmuc Tartary: but it is difficult to determine the original country of thoſe plants which have been cultivated time immemorial. It appears from Lobel to have been cultivated in England before 1570.

Gerarde (1597) ſays, that he has ſeen at the Queen's houſe at Saint James very many of his firſt ſort (green with a red fleſh) ripe, through the diligent and curious nouriſhing of them by a ſkilful gentleman the keeper of the ſaid houſe, called Maſter Fowle; and in other places near unto the right honorable, the Lord of Suſſex houſe of Bermondſey by London, where from year to year there is very great plenty, eſpecially if the weather be any thing temperate.

Parkinſon (1629) informs us that Melons have been only eaten by great perſonages, becauſe the fruit was not only delicate but rare; and therefore divers were brought from France, and ſince were nurſed up by the kings or noblemens gardiners only: but now divers others that have ſkill and conveniency of ground for them do plant them and make them more common.

7. The lower leaves roundiſh, the upper ſomewhat angular, both toothed about the edge, ſomewhat hirſute, paler underneath. Flowers yellow, divided into five or ſix roundiſh ſegments, ſlightly crenate on the edge. Fruit the ſize and form of an Orange; the rind ſmooth, ſometimes ſparingly warted, ſlightly furrowed only at top, variegated with green and dark orange, and oblong unequal green ſpots, when the fruit is full ripe becoming yellow and at length whitiſh: it has a very fragrant vinous muſky ſmell, and a whitiſh, flaccid, inſipid pulp[n].

It is a native of the Levant. Dillenius ſays that the ſeeds which grew in the Eltham garden (1732) were reported to come from Morocco, and were received from Mr. Peter Collinſon, who had them from Lord Petre. It flowers in july and auguſt.

8. Stems decumbent, cirrhoſe, obſcurely five-cornered. The whole plant covered cloſe and thick with ſoft, white, pullucid hairs, like the germ in the common Melon, which differs from this in being rough with ſtiffiſh, conical, diſtant hairs. The

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[a] Juſſieu.

[c] Hort. kew.

[d] Jacquin.

[e] Hort. kew.

[f] Linn. ſpec.

[g] Miller's figures.

[h] Browne.

[i] Hort. kew.

[k] Linn. ſuppl.

[l] Linn. and Loureiro.

[m] Hort. kew.

[n] Dillenius.

fruit ſwells in the middle, is rough, with erect, white hairs, and has a beak at each end[o]. In the fertile earth round Cairo, after the inundation of the Nile, and no where elſe in Egypt.—Linneus ſays Egypt and Arabia.—Native of the Levant[p].

The fruit is rather watery; the fleſh almoſt of the ſame ſubſtance with the Melon; the taſte ſomewhat ſweet and cool, but not ſo cool as the water melon. The grandees and Europeans in Egypt eat it as the moſt pleaſant fruit they have, and that from which they have leaſt to apprehend[q]. With us it is very indifferent. Cultivated in 1768, by Mr. Miller[r].

9. The common Cucumber, ſo generally cultivated for the table, is ſo well known, ſays Mr. Miller, as not to require a particular deſcription. [We may however remark, that the leaves differ from thoſe of the Melon very much in their form, running out into ſharp angles, eſpecially at the end, with the line between the angles ſtraight, having the nerves prominent on the upper ſurface, and very rough, with briſtles; they are alſo of a firmer texture. In the flowers the ſegments of the calyx are much longer; the corolla of a deeper yellow, each petal or part much wrinkled, commonly rolled in at the edges, the ribs at the back briſtly as in the Melon, and the principal rib ending in a long green point: there are no veſtiges of anthers in the female flowers, and the germ is very oblong, angular but obſcurely, not hairy, but muricated with prickles ariſing from a ſmooth warty ſubſtance: in ſome of the highly-cultivated varieties this natural pricklineſs vaniſhes.

The principal varieties are the following:

1. Common rough green prickly.—Six or ſeven inches long, with a dark green ſkin, cloſely ſet with ſmall prickles. Hardy, a plentiful bearer, but does not fruit early.

2. Short green prickly.—Three or four inches long. Skin rather ſmooth, but having ſmall black prickles. One of the hardieſt and earlieſt ſorts.

3. Long green prickly.—From ſix to eight or nine inches long, thinly ſet with prickles. This is a good bearer, and the beſt for the main crops. There is a variety of this with white fruit.

4. Early green cluſter.—Shortiſh, early, and remarkable for the flowers appearing in cluſters.]

5. Long ſmooth green Turkey.—The ſtalks and leaves much larger than the former ſorts. The fruit is generally twice the length (ten to fifteen inches), and has a ſmooth rind without prickles.

6. Long ſmooth white Turkey.—Differs little from the foregoing, except in colour. It is, however, leſs watery, and is therefore generally better eſteemed.

[7. Large ſmooth green Roman.—The plants are very ſtrong; and the fruit large, long, and quite ſmooth.]

8. Long white prickly Dutch.—Fruit eight or ten inches long, white, with ſmall black prickles. A bad bearer, at leaſt with us, and not ſo hardy as the common ſorts; but the fruit is leſs watery, and has fewer ſeeds.

[The four laſt varieties are all, indeed, but indifferent bearers; but the fruit being very large, handſome, and well taſted, ſome plants ſhould be admitted where there is room.

Parkinſon (parad. 1629.) enumerates the long green—the ſhort—the long yellow—the early ripe or French—the Dantſicke—the Muſcovic. He alſo informs us, that pickled Cucumbers, which were then much uſed for ſauce all winter long, came from beyond ſea; and though ſome ſtrove to equal them, yet theſe were nothing comparable to the former.

Ray, in his travels, obſerves that in Italy they call our Cucumbers *Citrulli*; and water Melons and Pompions *Cucumeri*. In Spaniſh it is called *Cohombro*; in French *Concombre*; in Swediſh *Gurka*; in Daniſh *Angurke*, *Agurke*; in Dutch *Komkommer*; in German *Gurke*, *Kukummer*.

10. Flowers ſmaller than others of the genus, and with a long tube: leaves a palm long and broad; divided, but not very deeply, into five or ſeven ſegments, obſcurely toothed at the edges. The flowers ſcarce exceed the ſize of Jeſſamine flowers. The fruit or Cucumber is three feet, or three feet and a half long; it is never ſtraight, but ſtrangely twiſted, ſo as to reſemble a ſnake: it is externally of a grayiſh green, and grows very red in time. The odour is rank, and the taſte bitter[s].

11. Fruit the ſize of a large pear, of an oblong cylindric form, ſmooth, even, eatable and delicious. It is cultivated about Nagaſaki and elſewhere in Japan; is ripe in june, and is called by the Dutch Banket-Melon[t]. Cultivated 1597[u].

12. Stem decumbent, ſtriated, hiſpid with ſcattered hairs, as are the petioles. Leaves cordate, nerved, pale underneath, rough, with hairs on both ſides, eſpecially the nerves underneath. Flowers axillary, peduncled, aggregate, yellow. Peduncles very ſhort, hiſpid. Fruit the ſize of a man's head, or larger, oblong. It is cultivated every where in Japan: the fruit preſerved is ſold under the name of *Connemon*, and is a common food among the Japoneſe; it is alſo frequently eaten by the Dutch at Batavia, and is ſometimes brought to Holland[x].

13. Stem herbaceous, ſlender, angular. Leaves frequently angular at the baſe, oblong, acute, ſmooth[y]. Loureiro ſays, it is very nearly allied to Melothria. According to him, the ſtem is round, ſlender, branched, climbing. Leaves roundiſh, petioled, alternate, ſmall. Flowers white, axillary, on many-flowered peduncles. Fruit half an inch in diameter, yellow.—Native of Ceylon and other parts of the Eaſt-Indies, of Cochinchina, and alſo of the Cape of Good Hope.

Virtues.

The plants of this genus in general, or, to ſpeak more properly, of this natural tribe, are conſidered as cooling: the ſpecies moſt in uſe is the C. ſativus, or common Cucumber: this, however, when it is too large, or advanced beyond a certain period of its growth, acquires a bitterneſs, and then becomes unwholeſome. The Melon alſo under certain circumſtances is apt to diſagree, unleſs corrected by ingredients of a warming nature, as pepper, &c. The Citrul or water melon is much eſteemed as a cooling food in the warmer climates. The ſeeds of melons, cucumbers, &c. were formerly uſed in medicine, under the title of the cold ſeeds, in emulſions, &c. Coloquintida, or the dried pulp of the C. Colocynthis, is an extremely ſtrong and irritating cathartic, and has been ſometimes commended not only as an efficacious purgative, but alſo as an alterative, in obſtinate chronical diſorders; others, however, have conſidered it as a dangerous drug: its principal uſe has been that of a ſtimulus to other purgative medicines: thus an extract of Colocynth has been ſometimes ordered in conjunction with aloes; and for mixing with various purgative pills, &c.

PROPAGATION AND CULTURE.

1 to 5. and 10 to 13. Being annual plants, are raiſed from ſeed; and coming from hot or warm climates, require the protection of the dry or bark ſtove; eſpecially the third, which is a native of the Weſt-Indies.]

6. THE MELON.

Varieties or ſorts.—There is a great variety of this fruit cultivated in the different parts of the world, and in this country there are too many of them propagated, which are of no value, eſpecially by thoſe who ſupply the markets, where their ſize is chiefly regarded; ſo that by endeavouring to augment their bulk, the fruit is rendered of no value; I ſhall therefore only mention a very few of the varieties, which are the moſt deſerving of care, excluding the common Melons, as being unworthy of the trouble and expence in cultivating.

1. The ſort of Melon which is in the greateſt eſteem among all the curious in every part of Europe, is the Cantaleupe; which is ſo called from a place about fourteen miles from Rome, where the

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[o] Linn. ſpec.
[p] Hort. kew.
[q] Haſſelquiſt.
[r] Hort. kew.
[s] Rumphius.
[t] Thunberg.
[u] Hort. kew. from Ger.
[x] Thunberg.
[y] Linn. zeyl.

pope has a country ſeat, in which place this fruit has been long cultivated; but it was brought thither from that part of Armenia which borders on Perſia, where this fruit is in ſo great plenty, that a horſe-load is ſold for a French crown. The fleſh of this Melon, when in perfection, is delicious, and does not offend the moſt tender ſtomachs, but may be eaten with ſafety. The Dutch are ſo fond of this fruit, as to cultivate very few other ſorts, and by way of pre-eminence, call it only by the appellation of Cantaleupe, and never join the title of Melon to it, which they apply indifferently to all the other ſorts. The outer coat of this is very rough, and full of knobs and protuberances like warts; it is of a middling ſize, rather round than long, and the fleſh is for the moſt part of an Orange colour, though there are ſome with a greeniſh fleſh, but I have never met with any of that colour ſo good as thoſe of the other.

2. The Romana is by ſome much eſteemed, and when the fruit is well conditioned, the plants in perfect health, and the ſeaſon dry, it is a good Melon, and may be brought forwarder in the ſeaſon than the Cantaleupe; therefore thoſe who are deſirous of early Melons may cultivate this ſort.

3. The Succado is alſo a good ſort, and may be cultivated for early fruit, but theſe muſt give way to the Cantaleupe, when that is in ſeaſon.

4. The Zatte is alſo a very good Melon, but very ſmall. The fruit of this is ſeldom bigger than a large orange; it is a little flatted at the two ends, and the outer coat is warted like the Cantaleupe, but there is ſo little fleſh in one of theſe fruit, that they are ſcarce worthy the trouble of propagating.

5. The ſmall Portugal Melon, which is by ſome called the Dormer Melon, is a pretty good fruit, and the plants generally producing them in plenty; by many people this is preferred to moſt other, eſpecially thoſe who love a plenty, and are not ſo nice in diſtinguiſhing the quality: this may alſo be cultivated for an early crop.

6. But the beſt Melon for this purpoſe is the Black Galloway, which was brought from Portugal by Lord Galloway many years ſince, but of late years is rarely to be met with in England, it having degenerated by growing among other ſorts. The fruit of this ſort will ripen in a ſhorter time from its firſt ſetting, than any other which I have yet ſeen; and when ſuffered to ripen naturally, is not a bad fruit.

Of the ſeeds.—The few varieties here mentioned, are ſufficient to ſatisfy the curious, and there are ſcarce any other which deſerve the trouble; indeed thoſe who have a true taſte for this fruit, ſeldom cultivate any but the Cantaleupe; but as I before obſerved, where this fruit is deſired early in the ſeaſon, the Cantaleupe is not ſo proper as ſome of the other, therefore a few plants of one of the other ſorts ſhould be raiſed earlier in the ſpring, but ſhould be in a different part of the garden from the Cantaleupe Melons; for when two ſorts of Melons grow near, they cannot be preſerved perfectly right; therefore the Dutch and German gardeners are very careful in this reſpect, and in order to keep the ſort in perfection, do not plant any other ſort of Melon, Cucumber, or Gourd, near theſe, leſt, by the impregnation of the farina of thoſe other, theſe fruit ſhould be rendered bad; and in this particular I am convinced, from long experience, they are right; and from the not obſerving this, many perſons who are lovers of this fruit, have gradually diminiſhed their goodneſs, without knowing the cauſe, and have imputed it to the long cultivating from the ſeeds ſaved in the ſame garden, believing it abſolutely neceſſary to procure ſeeds from a diſtant place frequently to preſerve them good: indeed, where a perſon can ſecurely depend on the care and ſkill of thoſe he procures the ſeeds from, it is a very good method to exchange ſeeds now and then; but there are ſo few who are exact in making choice of the fruits from which they ſave the ſeeds, or careful enough to do it themſelves, but often depend on others to clean the ſeed, that I ſhould adviſe every one to do it himſelf, which is the ſure way to have it good; for I have frequently been deceived myſelf, by depending on the fidelity and ſkill of others; nor could I procure any of theſe ſeeds from Cantaleupe which were good, until my much honoured friend the Chevalier Rathgeb ſent me plentifully of it from thence; though I had often been ſupplied with ſeeds by perſons who I thought could not be deceived in their choice, and who lived near the place of their growth.

Before I quit this head, I beg leave to caution all perſons againſt depending upon ſeeds which are brought from abroad, either by thoſe perſons who import them for ſale, or gentlemen who frequently bring or ſend over theſe ſeeds to their friends, for it ſeldom happens that any of theſe prove tolerable. I have been ſo often deceived by theſe myſelf, as to determine never to make trial of any of theſe ſeeds again, unleſs I receive them from a perſon who is ſkilful, and who eat of the fruit himſelf of which he ſaved the ſeeds; for in Italy, Spain, Portugal, and many parts of France, the gardeners are very careleſs in the choice of all their ſeeds, but of the Melons they are remarkably ſo; and as for thoſe which come from Conſtantinople, Aleppo, and other parts of Turkey, I have rarely ſeen one Melon produced from thoſe ſeeds which was tolerable.

The ſeeds of Melons ſhould not be ſown until they are three years old, nor would I chuſe to ſow them when they are more than ſix; for although they will grow at ten or twelve years old, yet the fruit which are produced from thoſe old ſeeds are ſeldom ſo thick fleſhed as thoſe which come from ſeeds which are freſher: and it is the ſame of light ſeeds, which ſwim upon water when they are taken out of the pulp, for I have made ſome trials of theſe, and have had them grow at three years old; but not one of the Melons produced on theſe plants was near ſo deep fleſhed, as thoſe which grew upon plants raiſed from heavy ſeeds taken out of the ſame fruit, though they grew in the ſame bed, and were cultivated exactly in the ſame manner; nor was their fleſh ſo firm, but rather inclining to be meally; therefore I would not adviſe the ſowing of theſe light ſeeds, nor thoſe which are very old.

Method of cultivation.—Having thus largely treated of the choice of the ſorts, and of the ſeeds, I ſhall next proceed to the method of cultivating them, in order to obtain plenty of good fruit: the method which I am going to preſcribe being very different from what has been conſtantly practiſed in England, will, I doubt not, be objected to by many; but it is what has been practiſed in all the good gardens in Holland and Germany, where the Cantaleupe Melon is produced in great plenty and perfection; and from ſeveral years experience, I have found this to be the only method in which theſe Melons can be cultivated with ſucceſs; and I am likewiſe convinced of its being the beſt way to obtain plenty of any other ſort of Melon.

It is common to hear many perſons valuing themſelves upon having two or three early Melons, which when brought to the table are not better than a Pumpkin, and theſe are procured at a great expence, and with much trouble; and in order to have them ripe a little earlier than they would naturally come, if ſuffered to grow to their full ſize, the ſtem upon which the fruit grows is commonly twiſted, to prevent the nouriſhment entering the fruit, whereby the growth is checked; then the fruit is cloſely covered with the mowings of graſs-plats, laid of a ſufficient depth to cauſe a fermentation, by which the fruit becomes coloured: but where this unnatural method is practiſed, the fruit has little fleſh, and that has neither moiſture, firmneſs, or flavour; ſo that after four months attendance, with a great expence of dung, &c. there may, perhaps, be three or four brace of Melons produced, which are fitter for the dunghill than the table. Therefore my advice is, never to attempt to have theſe fruit ripe earlier than the middle or latter end of june, which is generally ſoon enough for this climate; and from that time to the end of ſeptember, they may be had in plenty, if they are ſkilfully managed; and when the autumn has continued favourable, I have had them very good in the middle of october.

Sowing the ſeeds.—But in order to continue this fruit ſo long, the ſeeds muſt be ſown at two or three different ſeaſons: the firſt ſhould be ſown about the middle or end of february, if the ſeaſon proves forward; but if it is otherwiſe, it will be better to defer it till the end of that month; the future ſucceſs greatly depends on the raiſing the plants in ſtrength, which cannot be ſo well effected, if the weather ſhould prove ſo bad after the plants are come up, as that a ſufficient quantity of freſh air cannot be admitted to them, therefore it is not adviſeable to be too early in ſowing the ſeeds.

When the ſeaſon is come, theſe ſeeds may be ſown on the upper ſide of a Cucumber-bed, where there are any; and if there are none, a proper quantity of new horſe-dung muſt be provided, which muſt be thrown in a heap to ferment, and turned over, that it may acquire an equal heat, in the ſame manner as is directed for Cucumbers; and the plants muſt be raiſed and managed in the ſame manner as is directed for them, until they are planted where they are to remain for good, to which article the reader is deſired to turn, to avoid repetition.

The ſecond ſeaſon for ſowing theſe ſeeds is about the middle of march, and both theſe ſowings muſt be underſtood to be planted under frames; for thoſe which are deſigned for bell or hand-glaſſes, or to be covered with oil papers, ſhould not be ſown till about a week in april; for when theſe are ſown earlier, if the plants are properly managed, they will grow ſo long as to extend their ſhoots to the ſides of the glaſſes, before it will be ſafe to let them run out; for it often happens in this country, that we have ſharp morning froſts in the middle of may; ſo that if the ends of theſe Vines are then without the glaſſes, if they are not covered with mats to guard them againſt the froſt, they will be in danger of ſuffering greatly therefrom; and on the other hand, if the plants have ſpread ſo much as to fill the glaſſes, and not permitted to run out, they will be in equal danger of ſuffering by their confinement, from the heat of the ſun in the day time; therefore it is that I ſhould adviſe the putting the ſeed rather a little later into the hot-bed for the glaſſes, than thoſe which are to be covered with the oil papers. Nor will the times here mentioned be found too late, for I have put the ſeeds of Cantaleupe Melons into a hot-bed the third of may, which were not tranſplanted, but remained where they were ſown, and covered with oiled paper; and from this bed I cut a large crop of good fruit, which ripened about the latter end of auguſt, and continued till the end of october. This I only mention, to ſhew what has and may be done, though it muſt not be always depended on.

Preparing the beds or ridges.—But we next come to the making and preparing of the beds, or, as the gardeners term it, the ridges, into which the plants are to be put out to remain; theſe ſhould always be placed in a warm ſituation, where they may be defended from all cold and ſtrong winds, for the eaſt and north winds are generally very troubleſome in the ſpring of the year; ſo that if the place be expoſed to thoſe aſpects, it will be difficult to admit a proper ſhare of freſh air to the young plants; and if it is much expoſed to the ſouth-weſt winds, which often are very boiſterous in ſummer and autumn, theſe will turn up and diſplace the Vines, whereby they will ſuffer greatly; therefore the beſt poſition for theſe beds is where they are open to the ſouth, or a little inclined to the eaſt, and ſheltered at a diſtance by trees from the other points: this place ſhould be incloſed with a good Reed fence, which is better for this purpoſe than any other incloſure, becauſe the winds are deadened by the Reeds, and are not reverberated, as they are by walls, pales, and other cloſe fences; but in making the incloſure, it ſhould be extended to ſuch diſtance every way from the beds, as not to obſtruct the ſun's rays during any part of the day; this ſhould have a door wide enough to admit of wheelbarrows paſſing, to carry in dung, earth, &c. and it ſhould be kept locked, that no perſons ſhould be allowed to go in but thoſe who have buſineſs; for ignorant perſons, having often curioſity to look into the beds, open the glaſſes and let the cold air to the plants, and frequently leave the glaſſes in part open; or ſometimes when they are raiſed by the gardener to admit the freſh air, the tilts are thrown down, ſo that the air is excluded; all which are very injurious to the young plants, as is alſo the handling of the fruit after it is ſet; therefore none ſhould be admitted, but when the perſon who is intruſted with the care of them is there.

Preparation of the earth and dung.—The next thing is the preparation of the earth for theſe plants, in which the Dutch and German gardeners are very exact: the mixture which they generally prepare is of the following ſorts; of hazel loam, one third part; of the ſcouring of ditches or ponds a third part, and of very rotten dung a third part; theſe are mixed up at leaſt one, and often two years, before they make uſe of it, frequently turning it over, to incorporate their parts, and ſweeten it; but the compoſt in which I find theſe plants ſucceed beſt in England, is two-thirds of freſh gentle loam, and one-third of rotten neats dung; if theſe are mixed together one year before it is wanted, ſo as to have the benefit of a winter's froſt and ſummer's heat, obſerving to turn it over often, and never ſuffer weeds to grow upon it, this will be found equal to any other compoſt whatever.

As theſe plants ſucceed beſt when they are planted young, ſo before the plants appear there ſhould be a quantity of new dung thrown in a heap, proportionable to the number of lights intended, allowing about fifteen good wheelbarrows full to each light; this muſt be two or three times turned over, to prepare it (as is directed for Cucumbers) and in a fortnight it will be fit for uſe, at which time the trench muſt be dug to receive the dung, where the bed is intended; this muſt be made wider than the frames, and in length proportional to the number of frames intended. As to the depth, that muſt be according as the ſoil is dry or wet; but in a dry ground it ſhould not be leſs than a foot, or a foot and a half deep; for the lower theſe beds are made, the better they will ſucceed, where there is no danger of their ſuffering by wet. In the well laying and mixing of the dung, the ſame care muſt be taken as is directed for Cucumbers. When the bed is made, the frames ſhould be placed over it to keep out wet; but there ſhould be no earth laid upon it till after it has been three or four days made, and is found of a proper temperature of heat; for many times theſe beds will heat ſo violently when they are firſt made, as to burn the earth, if covered with it; and when this happens, it is much the beſt way to take this earth off again, for the plants will never thrive in it.

Planting and management of the beds.—As ſoon as the bed is found to be of a proper warmth, the earth ſhould be laid upon it, which at firſt need not be more than two inches thick, except in the middle of each light, where the plants are to be placed, where there muſt be a hill raiſed fifteen inches high or more, terminating in a flat cone; in two or three days after the earth is put on the bed, it will be of a proper temper to receive the plants; then in the evening you may tranſplant the plants, but always do it when there is little wind ſtirring: in taking up the plants, their roots ſhould be carefully raiſed with a trowel, ſo as to preſerve all their fibres; for if theſe are broken off, the plants do not ſoon recover this; or if they do, they are generally weaker, and ſeldom make ſo good Vines as thoſe which are more carefully removed; for theſe plants are more nice and tender in tranſplanting than thoſe of Cucumber, eſpecially the Cantaleupe Melon; which, if it is not planted out ſoon after the third (or what the gardeners call the rough) leaf is put out, they are long recovering their vigour; ſo that when it happens that the beds cannot be ready for them in time, it will be a good method to put each plant into a ſmall pot while they are young, and theſe may be plunged into the hot-bed where they were raiſed, or into the Cucumber-bed where there is room, ſo that they may be brought forward; and when the bed is ready, theſe may be turned out of the pots, with the whole ball of earth to their roots, whereby they will receive no check in removing: and this latter method is what I ſhould prefer to any other for the Cantaleupe, becauſe there ſhould never be more than one plant left to grow in each light; therefore in this method there will be no neceſſity of planting more, as there will be no danger of their ſucceeding; whereas in the common way, moſt people plant two or more plants in each light, for fear ſome ſhould miſcarry. When the plants are placed on the top of the hills, they ſhould be gently watered, which ſhould be repeated once or twice after till the plants have taken good root, after which they ſeldom require more; for when they receive too much wet, they often canker at the root, and when that happens they never produce good fruit. When the plants have eſtabliſhed themſelves well in the new beds, there ſhould be a greater quantity of earth laid on the bed, beginning round the hills where the plants grow, that their roots may have room to ſtrike out; and as the earth is put in from time to time, it muſt be trodden or preſſed down as cloſe as poſſible; and it ſhould be raiſed at leaſt a foot and a half thick upon the dung all over the bed, obſerving alſo to raiſe the frames, that the glaſſes may not be too near the plants, leſt the ſun ſhould ſcorch them.

When the plants have got four leaves, the top of the plants ſhould be pinched off with the finger and thumb, but not bruiſed or cut with a knife, becauſe in either of theſe caſes the wound will not ſo ſoon heal over: this pinching is to cauſe the plants to put out lateral branches, for theſe are what will produce the fruit; therefore, when there are two or more of theſe lateral ſhoots produced, they muſt alſo be pinched, to force out more; and this muſt be practiſed often, that there may be a ſupply of what the gardeners call runners, to cover the bed. The management of theſe beds muſt be nearly the ſame as is directed for Cucumbers, therefore I need not repeat it here; but ſhall only obſerve, that the Melons require a greater ſhare of air than Cucumbers, and very little water; and when it is given to them, it ſhould be at a diſtance from their ſtems.

If the plants have ſucceeded well, they will ſpread over the bed, and reach to the frames, in about five or ſix weeks, at which time the alleys between the beds ſhould be dug out; or where there is but one bed, there ſhould be a trench made on each ſide, of about four feet wide, as low as the bottom of the bed, and hot dung wheeled in, to raiſe a lining to the ſame height as the dung of the bed, which ſhould be trodden down cloſe, and afterward covered with the ſame earth as was laid upon the bed, to the thickneſs of a foot and a half or more, treading it down as cloſe as poſſible; this will add to the width of the bed, ſo much as to make it in the whole twelve feet broad, which is abſolutely neceſſary, for the roots of the plants will extend themſelves quite through it; and it is for want of this precaution, that it is common to ſee the Vines of Melons decay, before the fruit is well grown; for where there is no addition made to the width of the bed, the roots will have reached the ſides of the beds by the time that the fruit appears, and having no more room to extend themſelves, their extremities are dried by the ſun and air, which is ſoon diſcovered by the plants hanging their leaves in the heat of the day, and that is ſoon attended with a decay of many of thoſe leaves which are near the ſtem, and the plants from that time gradually languiſh, ſo that the fruit cannot be ſupplied with nouriſhment; but when ripe, will be found to have little fleſh, and that meally and ill flavoured; whereas thoſe plants which have ſufficient breadth for their roots to run, and the earth laid of a proper depth, and cloſely trod down, will remain in vigour until the froſt deſtroys them, ſo that I have had a ſecond crop of fruit on them, which have ſometimes ripened well; but all the firſt were excellent, and of a larger ſize than theſe ſorts uſually grow: the leaves of theſe plants were very large, and of a ſtrong green, ſo that they were in the utmoſt vigour; whereas in moſt places where the Cantaleupe Melons have been raiſed in England, the beds have been no wider than they were firſt made, and perhaps not more than three inches thickneſs of earth upon them, ſo that the plants have decayed many times without producing a ſingle fruit; and from thence people have imagined, that this ſort of Melon was too tender for this climate, when their ill ſucceſs was entirely owing to their not underſtanding their culture.

There is alſo another advantage attending this method of widening the beds, as above directed, which is that of adding a freſh warmth to the beds, by the hot dung, which is buried on each ſide, which will cauſe the dung in the bed to renew its heat; and as the plants will by this time ſhew their fruit, this additional heat will be of great ſervice in ſetting the fruit, eſpecially if the ſeaſon ſhould prove cold, as it often happens in this country in the month of may. When the beds are made up in the manner here directed, and the Vines have extended ſo far as to fill the frames, and want more room, the frames ſhould be raiſed up with bricks about three inches high, to admit the ſhoots of the Vines to run from under them; for if the plants are ſtrong, they will run ſix or ſeven feet each way from the ſtems; for which reaſon I caution every one to allow them room, and to put but one plant in each light; for when the Vines are crowded, the fruit ſeldom will ſet well, but will drop off when they are as large as an egg; therefore the frames which are deſigned for Melons ſhould not be made ſmall, but rather ſix feet wide; for the wider theſe are, the better will the plants thrive, and produce a greater plenty of fruit.

Pruning and management of the plants.—There is no part of gardening in which the practitioners of this art differ more than in the pruning and managing of theſe plants: nor are there any rules laid down in the ſeveral books in which the culture of Melons has been treated of, by which any perſon can be inſtructed; for there is ſuch inconſiſtency in all their directions, and what is worſe, the greateſt part of them are ſo abſurd, that whoever follows them can never hope to ſucceed; therefore I ſhall, in as few words as poſſible, give ſuch plain directions as I hope will be ſufficient to inſtruct any perſon who is the leaſt converſant in theſe things.

I have before adviſed the pinching off the ends of the plants as ſoon as they have a joint, in order to get lateral ſhoots, which are by the gardeners called runners; and when theſe ſhoots have two or three joints, to pinch off their tops to force out more runners, becauſe it is from theſe that the fruit is to be produced; but after a ſufficient number are put out, they ſhould not be ſtopped again, but wait for the appearance of the fruit, which will ſoon come out in plenty; at which time the Vines ſhould be carefully looked over three times a week, to obſerve the fruit, and make choice of one upon each runner, which is ſituated neareſt the ſtem, having the largeſt foot-ſtalk, and that appears to be the ſtrongeſt fruit, and then pinch off all the other fruit which may appear on the ſame runner; alſo pinch off the end of the runner at the third joint above the fruit, and if the runner is gently pinched at the next joint above the fruit, it will ſtop the ſap, and ſet the fruit. There is alſo another method practiſed by ſome gardeners to ſet this fruit, which is the taking off ſome of the male flowers, whoſe farina are juſt ripe and fit for the purpoſe, laying them over the female flowers, which are ſituated on the crown of the young fruit, and with their nails gently ſtrike the male flowers to ſhake the farina into the female flowers, whereby they are impregnated, and the fruit ſoon after will ſwell, and ſhew viſible ſigns of their being perfectly ſet; where the plants are under frames, and the wind excluded from them, which is neceſſary to convey the farina from the male to the female flowers, this practice may be very neceſſary. The taking off all the other fruit will prevent the nouriſhment being drawn away from the fruit intended to grow, which, if they were all left on the plant, could not be ſupplied with ſufficient nouriſhment; ſo that when they come to be as large as the end of a man's thumb, they frequently drop off, and ſcarce one of them ſets, which will be prevented by the method before directed: but there are ſome perſons, who are ſo covetous of having a number of fruit, as not to ſuffer any to be taken off, whereby they generally fail in their expectation. My allowing but one fruit to be left upon each runner is, becauſe if half theſe ſtand there will be full as many fruit as the plant can nouriſh; for if there are more than eight upon one plant, the fruit will be ſmall, and not ſo well nouriſhed: indeed I have ſometimes ſeen fifteen or twenty Melons upon one plant, but theſe have generally been of the ſmaller kinds, which do not require ſo much nouriſhment as the Cantaleupes, whoſe ſkins are of a thick ſubſtance; ſo that where a greater number are left of them than the plants can well ſupply, their fleſh will be remarkably thin.

As I before adviſed the ſtopping or pinching off the runners three joints above the fruit, ſo by this there will be freſh runners produced a little below the places where the others were pinched; therefore it is that I adviſe the careful looking over the Vines ſo often, to ſtop theſe new runners ſoon after they come out, as alſo to pull off the young fruit which will appear; and this muſt be repeated as often as is found neceſſary, which will be until thoſe intended to ſtand are grown ſo large as to draw all the nouriſhment which the plants can ſupply, for then the plants will begin to abate of their vigour. Theſe few directions, if properly made uſe of, is all the pruning which is neceſſary to be given them; but at the ſame time when this is practiſed, it may be neceſſary to give ſome water to the plants, but at a diſtance from their ſtems, which will be of ſervice to ſet the fruit, and cauſe it to ſwell, but this muſt be done with great caution.

The glaſſes of the hot-bed ſhould alſo be raiſed high, to admit a large ſhare of air to the plants, otherwiſe the fruit will not ſet; and if the ſeaſon ſhould prove very warm, the glaſſes may be frequently drawn off, eſpecially in an evening, to receive the dews, provided there is but little wind ſtirring; but the glaſſes ſhould not remain off the whole night, leſt the cold ſhould prove too great; but in warm weather, the glaſſes may be kept off from ten in the morning till evening.

When the plants have extended themſelves from under the frames, if the weather ſhould alter to cold, it will be neceſſary to cover their extremities every night with mats; for if theſe ſhoots are injured, it will retard the growth of the fruit, and often proves very injurious to the plants: and now what water is given to the plants, ſhould be in the alleys between the beds; for as the roots of the Vines will by this time have extended themſelves through the alleys, ſo when the ground there is well moiſtened, the plants will receive the benefit of it; and by this method, the ſtems of the plants will be preſerved dry, whereby they will continue ſound; but theſe waterings ſhould not be repeated oftener than once a week in very dry warm weather, and be ſure to give as much air as poſſible to the plants when the ſeaſon is warm.

Culture under hand or bell-glaſſes.—Having given full inſtructions for the management of thoſe Melons which are raiſed under frames, I ſhall next proceed to treat of thoſe which are raiſed under bell or hand-glaſſes. The plants for theſe muſt be raiſed in the ſame manner as has been already directed, and about the latter end of april, if the ſeaſon proves forward, will be a good time to make the beds; therefore a ſufficient quantity of hot dung ſhould be provided, in proportion to the intended number of glaſſes, allowing ſix or eight good wheelbarrows of dung to each glaſs. Where there is but one bed, which is propoſed to be extended in length, the trench ſhould be dug out four feet and a half wide, and the length according to the number of glaſſes, which ſhould not be placed nearer than four feet; for when the plants are too near each other, the Vines will intermix, and fill the bed ſo cloſely as to prevent the fruit from ſetting: in digging the trench, it ſhould be ſo ſituated as to allow for the widening of the bed three or four feet on each ſide; the depth muſt be according as the ſoil is dry or wet; but, as was before obſerved, if the ſoil is ſo dry as that there is no danger of the beds being hurt by the wet, the lower they are made in the ground the better: in the making of the beds, the ſame regard muſt be had to the well mixing and laying of the dung as was before directed; and after the dung is laid, there ſhould be a hill of earth raiſed, where each plant is to ſtand, one foot and a half high; the other part of the bed need not as yet be covered more than four inches thick, which will be ſufficient to keep the warmth of the dung from evaporating; then the glaſſes ſhould be placed over the hills, and ſet down cloſe, in order to warm the earth of the hills to receive the plants; and if the beds work kindly, they will be in a proper temperature to receive the plants in two or three days after making; then the plants ſhould be removed, in the ſame manner as was before directed; and if they are in pots, ſo that there will be no danger of their growing, there ſhould but one plant be put under each glaſs; and if they are not in pots, there ſhould be two, one of which may be afterward taken away, if they both grow. Theſe plants muſt be watered at firſt planting, to ſettle the earth to their roots, and ſhaded every day until they have taken new root; and if the nights prove cold, it will be proper to cover the glaſſes with mats, to preſerve the warmth of the bed.

Where there are ſeveral of the beds intended, they ſhould be placed at eight feet diſtance from each other, that there may be a proper ſpace left between them, to be afterward filled up, for the root of the Vines to have room for extending themſelves, for the reaſons before given.

When the plants have taken good root in the beds, their tops muſt be pinched off; and their pruning, &c. muſt, from time to time, be the ſame as for thoſe under the frames. In the day time, when the weather is warm, the glaſſes ſhould be raiſed on the oppoſite ſide to the wind, to admit freſh air to the plants; for where this is not obſerved, they will draw up weak and ſickly, therefore all poſſible care ſhould be taken to prevent this; for if the runners have not proper ſtrength, they can never ſupply the fruit with nouriſhment.

When the plants are grown ſo long as to reach the ſides of the glaſſes, if the weather proves favourable, the glaſſes muſt be ſet on three bricks, ſo as to raiſe them about two inches from the ſurface of the beds, to give room for the Vines to run out from under them; but when this is done, the beds ſhould be covered all over with earth to the depth of one foot and a half, and trod down as cloſe as poſſible; and if the nights ſhould prove cold, there ſhould be a covering of mats put over the beds, to prevent the cold from injuring the tender ſhoots of the Vines; but as the Vines of the Cantaleupe Melons are impatient of wet, it will be neceſſary to arch the beds over with hoops to ſupport the mats, that they may be ready for covering at all times when they require it; which is the only ſure method, to have theſe Melons ſucceed in England, where the weather is ſo very uncertain and variable; for I have had ſome beds of theſe Melons in as fine order under theſe glaſſes as could be deſired, which were totally deſtroyed by one day's heavy rain in June.

After the thickneſs of earth is laid upon the beds, if the weather ſhould prove cold, it will be adviſeable to dig trenches on each ſide of the beds, into which you ſhould lay a ſufficient quantity of hot dung, to make it of the ſame thickneſs with the bed, after the manner before directed for the frames; or if there is a ſufficient quantity of hot dung ready, the whole ſpace between the beds may be dug out and filled up with the dung, laying thereon the earth a foot and a half deep, treading it down cloſe; this new dung will add a freſh warmth to the beds, and cauſe the plants to ſhew fruit ſoon after.

The watering of theſe plants muſt be done with great caution, and not given to their ſtems; the pinching off the runners muſt alſo be duly attended to, as alſo the pulling off all ſuperfluous fruit, to encourage thoſe which are deſigned to remain: and in ſhort, every thing before directed for thoſe under frames, muſt likewiſe be obſerved for theſe; and the further care is, to cover them in all hard rains and cold nights, with mats, which, if performed with care, there will be little danger of their miſcarrying, and theſe Vines will remain vigorous until the cold in autumn deſtroys them.

Raiſing under paper frames.—There have been many perſons, who of late years have raiſed their Melons under oiled paper, and in many places they have ſucceeded well; but where this is practiſed, there muſt be great care taken not to keep theſe coverings too cloſe over them; for where that is done, the Vines will draw very weak, and rarely ſet their fruit in any plenty; therefore where theſe coverings are propoſed to be uſed, I ſhould adviſe the bringing up of the plants under hand or bell-glaſſes, in the manner before directed, until they are grown far enough to be let out from under the glaſſes; and then, inſtead of the covering with mats, to put over the oiled paper; and if this covering is prudently managed, it will be the beſt that can be uſed. The beſt ſort of paper for this purpoſe is that which is ſtrong, and not of too dark a colour; and it ſhould be done over with linſeed oil, which will dry ſoon. There ſhould be a proportionable number of ſheets of this paper paſted together, as will ſpread to the dimenſions of the frame to which it is faſtened; and if this is fixed to the frame before the oil is rubbed over it, ſo much the better; but this ſhould be done ſo long before they are uſed, as that the oil may be thoroughly dry, and the ſtench gone off, otherwiſe it will deſtroy the plants.

There are ſome perſons who make theſe frames of broad hoops, in imitation of the covers of waggons; but as theſe are cumberſome to move, and there are no conveniencies for admitting air to the plants, but by raiſing the whole frame on one ſide, I prefer thoſe made of pantile laths, framed like the ridge of a houſe; and each ſlope having hinges, may be raiſed at pleaſure to admit the air to the plants.

Management after the fruit is ſet.—The further management of the Melons, after their fruit is ſet, is to keep pulling off all the ſuperfluous fruit, and to pinch off all weak runners, which may draw away part of the nouriſhment from the fruit; as alſo to turn the fruit gently twice a week, that each ſide may have equal benefit of the ſun and air; for when they are ſuffered to lie with the ſame ſide conſtantly to the ground, that ſide will become of a pale or whitiſh colour, as if it were blanched, for want of theſe advantages. The plants will require a little water in very dry weather, but this ſhould be given them in the alleys at a diſtance from the ſtems of the plants, and not oftener than once in a week or ten days, at which time the ground ſhould be well ſoaked in the alleys. This will encourage the growth of the fruit, and cauſe the fleſh to be thick; but the great caution which is neceſſary to be obſerved, is not to over-water the plants, which is certain injury to them: alſo be ſure to give as much free air as poſſible, at all times, when the weather will permit, for this is abſolutely neceſſary to render the fruit good.

Time of cutting.—When the fruit is fully grown, they muſt be duly watched to cut them at a proper time; for if they are left a few hours too long upon the Vines, they will loſe much of their delicacy, therefore they ſhould be looked over at leaſt twice every day; and if thoſe fruit which are intended for the table, are cut early in the morning, before the ſun has warmed them, they will be much better flavoured; but if any ſhould require to be cut afterward, they ſhould be put into cold ſpring water, or ice, to cool them, before they are brought to the table: and thoſe cut in the morning, ſhould be kept in the cooleſt place till they are ſerved up to table. The ſign of this fruit's maturity is, that of its beginning to crack near the foot-ſtalk, and its beginning to ſmell, which never fail; for as theſe Cantaleupe Melons ſeldom change their colour until they are too ripe, that ſhould never be waited for. The directions here given for the management of the Cantaleupe Melons, will be found equally good for all the other ſorts, as I have fully experienced; for in the common method of managing them, where the earth is laid but three or four inches thick, the plants are very apt to decay before the fruit is ripe; for their roots ſoon reach the dung, and are extended to the ſides of the bed, where their tender fibres are expoſed to the air and ſun, which cauſe the leaves of the plants to hang down in the heat of the day, ſo it is neceſſary to ſhade them with mats, to prevent their decay; and this alſo occaſions the watering of the plants often to keep them alive, which is alſo prejudicial to their roots; whereas when the beds are made of a proper width, and earthed of a ſufficient thickneſs, the plants will bear the ſtrongeſt heat of the ſun in this climate, without ſhewing the leaſt want of moiſture, or their leaves drooping, and they will continue in health till the autumn cold deſtroys them.

In ſaving of the ſeeds I repeat here, that only ſuch ſhould be regarded which are taken from the firmeſt fruit, and thoſe which have the higheſt flavour; and if theſe are taken out with the pulp entire, without diſplacing the ſeeds, and ſuffered to remain in the pulp two or three days before it is waſhed out, the better; and then to preſerve only the heavy ſeeds, which ſink in water.

[*Additional directions for the culture and management of Melons.*

1. If you are obliged to uſe new ſeed, hang it up in a paper or phial in a dry room near the fire all winter, or in a window expoſed to the ſun, or carry it in your pocket three or four weeks. If your ſeed be too old, ſteep it two or three hours in milk lukewarm, immediately before you ſow it.

2. A ſmall family cannot have leſs than one three-light frame for the early crop, and three-hand or bell-glaſſes, or three holes under oiled paper, for the late crop; which will produce only from thirty to forty Melons. A middling family will require double this quantity. And a large family ſhould have four three-light frames, and twelve glaſſes or holes under oiled paper, to inſure a tolerable ſupply of fruit during the ſeaſon.

3. In the nurſery bed the ſeedling plants ſhould be gradually earthed up as they riſe in height. When the two or three firſt rough leaves are fully expanded, and another is forming in the centre, appearing like a bud, this latter ſhould be pinched off cloſe to the ſecond or third leaf, to procure lateral ſhoots or runners: and when theſe firſt runners appear, the plants are ready for tranſplanting into the fruiting hot-bed. This will be in five or ſix weeks from the time of ſowing.

4. Many perſons prefer making the hot-beds entirely on the ſurface, for the ſake of lining them more completely with hot dung, to renew the heat when wanted. The height of the bed ſhould be three feet and a half, or four feet, the back or north ſide being raiſed three or four inches higher. The

frames being put on to keep out the wet, and draw up the heat, the glaſſes ſhould be kept up behind, that the ſteam may paſs away; and the great heat will not be ſufficiently abated for moulding the bed till a week at leaſt, or perhaps ten or fifteen days, according to the ſubſtance of the bed.

5. A buſhel of mould is the proper quantity for forming the hill in which the young fruiting plant is to be ſet; the height may be about fifteen inches: ſo that the plant may at the ſame time be near the glaſs, to enjoy the full benefit of the ſun, and have a ſufficient depth of earth for the roots to ſpread in. Having ſpread a layer of earth three inches thick over the other parts of the bed to keep down the ſteam of the dung, cloſe the lights, and when the earth is warm put in the plants. This will be in a day or two. If then the mould appear to be too dry, give a little water towards the outſide, without wetting the plants much. Shut the lights to draw up the heat about the roots, but raiſe them again afterwards to let out the ſteam.

6. Freſh air ſhould be admitted at every opportunity in calm warm weather, by ſetting up the lights behind from half an inch to two, three and four inches high, according to the quantity of ſteam in the bed, and the temperature of the outward air. At firſt, this muſt ſometimes be done in the evening, when the ſteam is very abundant. Some perſons uſe a contrivance of leaden or tin bent pipes, communicating with the open air, and paſſing through the body of dung, to introduce warm air into the frames, when the weather will not admit of the lights being opened. At night the glaſſes muſt be covered with a ſingle or double mat, according to the ſeaſon, being careful that the mats do not hang over the ſides of the frame and bed, which by drawing up the ſteam and excluding the air too much, will cauſe the plants to become weak and yellow. Water occaſionally when the earth is dry: but all agree that Melons can hardly have too little water, that the Vines ſhould never be wetted at firſt, and that little or no water ſhould be given when the fruit is nearly full grown. If the earth be loamy, preſſed down cloſe, and not leſs than twelve or fifteen inches deep, the plants, after two or three waterings to ſettle their roots, will require very little more water afterwards: but if the earth be light, and of a leſs depth, occaſional waterings will be requiſite in warm weather; obſerving that the water be ſoft and not cold, and that it be not given while the fruit is ſetting, till it is of the ſize of a large walnut.

7. The firſt danger to the plants will be from over-heating. In this caſe, remove ſome of the earth from the lower part of the hill, and if it be burned, put ſome freſh earth in its place; and when the burning ſubſides, replace the removed mould on the hill.

This danger being over in a few days or a week, the heat muſt then be retained as much as poſſible, by laying dry long litter round the ſides of the bed. And when the heat declines conſiderably, it muſt be revived by a ſubſtantial lining of hot dung as above directed: at the ſame time laying on freſh earth to keep the rancid ſteam of the hot dung from injuring the plants. As the fibres of the plants advance, freſh warm mould muſt be added gradually round the hills, till it is within an inch of the ſame height with them.

8. When the vines have advanced to ſome length, diſpoſe them regularly, and ſpread ſome dry clean reeds over the beds thinly, for the vines to run upon; this is better than covering the whole bed cloſely with flat tiles, as is practiſed by ſome. As the fruit ſets, lay a piece of tile under each, and as it advances towards maturity, raiſe it on a brick to enjoy more of the ſun and air, and turn it every three days.

9. The ſize and flavour of the fruit will depend much upon keeping up what is called a bottom heat, which is done by occaſional linings of dung, ſo late as the end of april, and the beginning and middle of may. The plants ſhould be occaſionally ſhaded in very hot days, when there is danger of their leaves being ſcorched by the ſun. When the leaves preſs againſt the glaſſes, the frame may be raiſed at bottom three inches; and if they are much crowded, they may be thinned in proportion, ſo as to admit the fruit to the full benefit of the ſun and air. When the fruit is ſet and advanced, if the vines are over-crowded, ſmall runners and luxuriant ſhoots may be cut off quite cloſe, to encourage the free growth, and increaſe the ſize of the Melons. In june the vines filling the frames, may be confined by pruning, or may be ſuffered to run out on the top of the lining to produce ſome late fruit, by raiſing up the frame for that purpoſe.

10. The Melon will proſper in any rich pliable kitchen-garden earth, prepared ſome months in a heap; but it does beſt in a fine mellow loam, ſuch as Mr. Miller calls hazel loam, from the ſurface of a paſture or common, with one third of rotten neat's dung, or old hot-beds. Others prefer a ſtronger ſoil, compoſed of neat's dung, virgin earth, and yellow fat marl, in equal proportions. Others again recommend the earth and dung to be reduced to a proper degree of lightneſs by coal aſhes ſifted fine; and the compoſt to be frequently wetted with fat pot-liquor and ſoap-ſuds; then laid in a ridge to dry, and about Chriſtmas mixed with ſome quick lime in powder. Some direct the compoſt to be riddled very fine; whilſt others forbid it to be ſifted or ſcreened, and will have it only broken with the ſpade.

11. Some perſons are very nice about their water. Rain water is certainly to be preferred, and if hard water only can be had, it ſhould ſtand in the air ſome time in an open veſſel. It is a common practice to ſet bottles of water into the frames a day before it is to be uſed, to water the young plants, which require no great quantity. Some medicate the water with ſheep's-dung, or good rotten horſe-dung, and wood aſhes, and put a lump of ſal-ammoniac into the bottle when they water the ſeedling plants. But of ſuch niceties there is no end.

12. Cut the fruit in a morning, before the ſun ſhines hot upon it, with all its ſtalk to it, and lay it in a dry, cool, airy place, till it is wanted for table. If it is to be ſent to a diſtance, cut it two or three days before it is perfectly ripe.

13. Bark hot-beds are ſometimes uſed in the culture of Melons for the fruiting beds, and are eſteemed for this purpoſe as well as others, on account of their regular and durable heat.

The expenſe, indeed, of theſe is ſomewhat greater, but the trouble is leſs, and fruit may be produced to greater advantage, for no lining or very little will be neceſſary, nor is ſo much danger to be apprehended from ſteaming or over-heating as in dung hot-beds. Theſe bark-beds muſt be made either in a brick pit, or in a frame of ſtrong oak or barge anking.

14. Melons may be raiſed with ſucceſs from cuttings, and fruit may be obtained this way rather ſooner than by plants raiſed from ſeed.]

8. This, with ſome of the other ſorts, is rarely cultivated, except in botanic gardens, for the ſake of variety; the plants being tender, and the fruit very indifferent. This rambles very far, and therefore requires much room.

9. THE CUCUMBER.

Culture of early Cucumbers.—Thoſe perſons who are very deſirous to be early with their Cucumbers, generally ſow their ſeeds before Chriſtmas, but the generality of gardeners commonly put their ſeeds into the hot-bed about Chriſtmas. Where perſons have the conveniency of a ſtove for raiſing theſe plants, it is attended with leſs trouble than a common hot-bed, and is a much ſurer method, becauſe the plants will have a much greater ſhare of air, which will alſo be leſs mixed with damp or rancid vapours; for by the heat of the fires theſe will be diſſipated, and the temperature of the air is kept more equal than can be done with all poſſible care in a hot-bed, at a ſeaſon when we enjoy but little ſun; therefore where there is this convenience, the ſeeds ſhould be ſown in ſmall pots, filled with light dry earth, and plunged into the tan-bed, in the warmeſt part of the ſtove. The pots with earth ſhould be plunged three or four days before the ſeeds are ſown, that the earth may be properly warmed to receive them; the ſeed ſhould be at leaſt three or four years old, but if it is more, provided it will grow, it will be the better. If the ſeeds are good, the plants will begin to appear in about a week or nine days, at which time there muſt be as many halfpenny pots filled with dry light earth as there are plants deſigned for planting, always allowing for loſs; ſo that where twenty-four plants are wanting, there ſhould be thirty raiſed; theſe pots ſhould be plunged into the bark-bed, that the earth may be warmed to receive the plants, which ſhould be pricked into theſe pots as ſoon as the two firſt leaves are raiſed above ground; into each of theſe pots may be two plants pricked, but when they have taken root, and are ſafe, the worſt ſhould be drawn out, being careful not to diſturb the roots of thoſe which are left. In the management of theſe plants, there muſt be great care taken not to give them too much water; and it will be very proper to put the water into the ſtove ſome hours before it is uſed, that the cold may be taken off; but there muſt be caution uſed not to make it too warm, for that will deſtroy the plants; they muſt alſo be guarded from the moiſture which frequently drops from the glaſſes of the ſtove, which is very deſtructive to theſe plants while young. As theſe plants muſt not be kept too long in the ſtove leſt they become troubleſome to the other plants, there ſhould be a proper quantity of new dung prepared for making a hot-bed to receive them; this muſt be in proportion to the quantity of holes or plants intended: for a middling family ſix or nine lights of Cucumbers will be ſufficient, and for a large one double the quantity; but the beds where they are deſigned to remain need not be made ſo ſoon, but rather a ſmall bed of one light, in which the plants may be trained up till they have acquired a greater ſhare of ſtrength; and for this bed one good cart load of dung will be ſufficient. This ſhould be new, and not too full of ſtraw, nor ſhould it want a proper portion; it ſhould be well mixed together and thrown in a heap, mixing ſome ſea-coal aſhes with it; after it has lain in a heap a few days, and has fermented, it ſhould be carefully turned over and mixed, laying it up again in a heap; and if there is a great ſhare of ſtraw in it, there may be a neceſſity for turning it over a third time, after having laid a few days: this will rot the ſtraw and mix it thoroughly with the dung, ſo there will be leſs danger of its burning afterward when the bed is made, which ſhould be done when the dung is in proper order. The place where the hot-bed is made ſhould be well ſheltered by Reed hedges, and the ground ſhould be dry; then there ſhould be a trench made in the ground, of a proper length and breadth, and a foot deep at leaſt; into which the dung ſhould be wheeled and carefully ſtirred up and mixed, ſo that no part of it ſhould be left unſeparated, for where there is not this care taken, the bed will ſettle unequally; there ſhould alſo be great care taken to beat the dung down cloſe in every part of the bed alike. When the bed is made, the frame and glaſſes ſhould be put upon it to keep out the rain, but there ſhould be no earth laid upon the dung till two or three days after, that the ſteam of the dung may have time to evaporate. If there ſhould be any danger of the bed burning, it will be proper to lay ſome ſhort old dung, or ſome neats dung, over the top of the hot dung about two inches thick, which will keep down the heat, and prevent the earth from being burnt; after this there ſhould be a ſufficient number of three farthing pots placed upon the bed, filled with light dry earth, and all the interſtices between them filled up with any common earth. In two or three days the earth in theſe pots will be of a proper temperature of warmth to receive the plants, which ſhould be then turned out of the halfpenny pots, preſerving the ball of earth to their roots, and planted into the three farthing pots, filling up the pots with good earth; then a little water ſhould be given them to ſettle the earth about their roots, being careful not to give them too much wet; and as theſe will have ſuch large balls of earth to their roots, they will not feel their removal, therefore will not require ſhading from the ſun; but the glaſſes ſhould be raiſed up a little on the contrary ſide from the wind, to let the ſteam of the bed paſs off; and they ſhould alſo be frequently turned in the day-time, that the wet occaſioned by the ſteam of the dung may be dried, otherwiſe the moiſture will fall on the plants, which will be very injurious to them. If the bed ſhould heat too violently, ſo as to endanger ſcalding the roots of the plants, the pots may be raiſed ſo as to allow of a little hollow at their bottoms, which will effectually prevent injury thereby; and when the heat declines, the pots may be ſettled down again. The glaſſes of the hot-bed ſhould be well covered with mats every night, to keep the bed in a proper temperature of heat, and great care muſt be taken to admit freſh air every day to the plants; but this ſhould be done with caution, ſo as to guard againſt the cold winds which uſually blow at that ſeaſon; ſo that a mat or canvaſs ſhould be hung over the opening made by raiſing of the glaſſes, to prevent the cold air from ruſhing in too violently, and the glaſſes ſhould always be raiſed on that ſide which is contrary to the wind. The plants will alſo require to be frequently watered, but it muſt be cautiouſly given them at this ſeaſon, and the water ſhould not be cold, but either placed in a ſtove, or put into a warm heap of dung, to take off the chill from it before it is uſed.

If the weather ſhould prove bad, and the heat of the bed decline, there ſhould be ſome hot dung laid round the ſides of the bed to renew the heat, which muſt not be ſuffered to fail; for as the plants have been tenderly brought up, they muſt not ſuffer from cold, for that will ſoon deſtroy them.

In this bed the plants may remain about three weeks or a month, in which time, if they have been properly managed, they will have obtained ſufficient ſtrength to put out for good; therefore a proper quantity of dung ſhould have been mixed and turned ready for making the beds. The uſual quantity allowed at this ſeaſon, is one good cart load to each light: this ſhould be well mixed and turned over in the manner before directed; then a trench ſhould be dug in the ground the length and width of the intended bed, into which the dung ſhould be wheeled, and properly worked according to the above directions, and ſome old dung or neats dung ſpread over the top. The frames and glaſſes ſhould then be put on the bed, which ſhould be raiſed every day to let the ſteam of the dung paſs off, and in about three days the bed will be in a proper temperature of heat to receive the plants; at which time the dung ſhould be covered over with dry earth about four inches thick, and in the middle of the bed it ſhould be three or four inches thicker; this ſhould be laid upon the dung at leaſt twenty-four hours before the plants are removed into the bed, that the earth may be properly warmed; then the plants ſhould be carefully ſhaken out of the pots, preſerving all the earth to their roots, and placed on the top of the earth in the middle of the bed. Two, or at moſt three of theſe plants will be ſufficient for each light, and theſe ſhould be placed at about ſeven or eight inches aſunder, not all the roots together, as is too often practiſed. When the plants are thus ſituated in the bed, the earth which was laid ſo much thicker in the middle of the bed, ſhould be drawn up round the ball which remained to the roots of the plants, into which their roots will ſoon ſtrike; there ſhould always be a magazine of good earth laid under cover to keep it dry, for the earthing of theſe beds; for if it is taken up wet, it will chill the beds, and alſo occaſion great damps therein, therefore it is quite neceſſary to have a ſufficient quantity of earth prepared long before it is uſed. When the plants are thus ſettled, they muſt have proper air and water, according as they may require, being careful not to admit too much cold air, or give too much water; the glaſſes ſhould alſo be well covered with mats every night, to keep up the warmth of the bed, and ſome freſh earth ſhould be put into the bed at different times, which ſhould be laid at ſome diſtance from the roots of the plants till it is warmed, and then ſhould be drawn up round the heap of the earth in which the plants grow, to increaſe the depth; this ſhould be raiſed to the full height of the former ball, that the roots of the plants may more eaſily ſtrike into it: by this method of ſupplying the earth, the whole ſurface of the beds will be covered nine or ten inches with earth, which will be of great ſervice to the roots of the plants; for where the earth is very ſhallow, the leaves of the plants will always hang in the heat of the day, unleſs they are ſhaded, and the plants will require more water to keep them alive, than is proper to give them; therefore it will be found much the better way to allow a proper depth of earth to the beds: but the reaſon of not laying the quantity of earth on the bed when it is firſt made, is, that the dung ſhould not be too much chilled by it, or that the earth may not be burned, which might be endangered thereby, were the whole thickneſs to be laid on at once; beſides, by thus gradually applying the earth, it will be freſh, and much better for the roots of the plants, than that which has been long upon the bed, and has been too much moiſtened by the ſteam ariſing from the dung.

If the heat of the bed ſhould decline, there ſhould be ſome hot dung laid round the ſide of the bed to renew the heat; for if that ſhould fail at the time when the fruit appears, they will fall off and periſh, therefore this muſt be carefully regarded; and when the plants have put out ſide branches, which the gardeners call runners, they ſhould be properly placed, and pegged down with ſmall forked ſticks to prevent their riſing up to the glaſſes, and alſo from croſſing and entangling with each other; for when they are properly directed at firſt, there will be no neceſſity for twiſting and tumbling the plants afterwards, which is always hurtful to them.

When the earth of the bed is laid the full thickneſs, it will be neceſſary to raiſe the frames, otherwiſe the glaſſes will be too cloſe to the plants; but when this is done, there muſt be care taken to ſtop the earth very cloſe round the ſide of the frame, to prevent the cold air from entering under them. The watering the plants, and admitting freſh air to them, muſt be diligently attended to, otherwiſe the plants will be ſoon deſtroyed; for a little neglect either of admitting air, or letting in too much, or of over watering, or ſtarving the plants, will very ſoon deſtroy them paſt recovery.

When the fruit appears upon the plants, there will alſo appear many male flowers on different parts of the plant; theſe may at firſt ſight be diſtinguiſhed, for the female flowers have the young fruit ſituated under the flowers, but the male have none; but theſe have three ſtamens in their centre with their anthers, which are loaded with a golden powder. This is deſigned to impregnate the female flowers, and when the plants are fully expoſed to the open air, the ſoft breezes of wind convey this farina or male powder from the male to the female flowers; but in the frames where the air is frequently too much excluded at this ſeaſon, the fruit often drops off for want of it; and I have often obſerved, that bees that have crept into the frames when the glaſſes have been raiſed to admit the air, have ſupplied the want of thoſe gentle breezes of wind, by carrying the farina of the male flowers on their hind legs into the female flowers, where a ſufficient quantity of it has been left to impregnate them. Theſe inſects therefore have taught the gardeners a method to ſupply the want of free air, which is ſo neceſſary for the performance of this in the natural way. This is done by carefully gathering the male flowers at the time when this farina is fully formed, and carrying them to the female flowers, turning them down over them, and with the nail of one finger, gently ſtriking the outſide of the male, ſo as to cauſe the powder on the ſummits to ſcatter into the female flowers, and this is found to be ſufficient to impregnate them; ſo that by practiſing this method, the gardeners have now arrived at a much greater certainty than formerly, to procure an early crop of Cucumbers and Melons.

When the fruit of the Cucumbers are thus fairly ſet, if the bed is of a proper temperature of warmth, they will ſoon ſwell, and become fit for uſe; ſo all that is neceſſary to be obſerved, is to water the plants properly, which ſhould be done by ſprinkling the water all over the bed, for the roots of the plants will extend themſelves to the ſide of the bed; therefore thoſe who are inclined to continue theſe plants as long as poſſible in vigour, ſhould add a ſufficient thickneſs of dung and earth all round the ſides of the beds, ſo as to enlarge them to near double their firſt width; this will ſupply nouriſhment to the roots of the plants, whereby they may be continued fruitful great part of the ſummer; whereas, when this is not practiſed, the roots of the plants, when they have reached the ſide of the beds, are dried by the wind and ſun, ſo that the plants languiſh and decay long before their time.

Thoſe gardeners who are fond of producing early Cucumbers, generally leave two or three of their early fruit, which are ſituated upon the main ſtem of the plant near the root, for ſeed; which, when fully ripe, they carefully ſave to a proper age for ſowing, and by this method they find a great improvement is made of the ſeed; and this they always uſe for their early crops only, for the ſucceeding crops do not deſerve ſo much care and attention.

I have here only mentioned the method of raiſing the young Cucumber plants in ſtoves; for as theſe conveniencies are now pretty generally made in the curious kitchen-gardens in moſt parts of England, this method may be more univerſally practiſed; but in ſuch gardens where there are no ſtoves, the ſeeds ſhould be ſown upon a well prepared hot-bed: and here it will be the beſt way to ſow the ſeeds in ſmall halfpenny pots, becauſe theſe may be eaſily removed from one bed to another, if the heat ſhould decline; or, on the contrary, if the heat ſhould be too great, the pots may be raiſed up, which will prevent the ſeed or the young plants from being injured thereby. When the plants are come up as was before directed, there ſhould be a freſh hot-bed prepared, with a ſufficient number of halfpenny pots plunged therein ready to receive the plants, which muſt be planted into them in the ſame manner as was before directed, and the after-management of the plants muſt be nearly the ſame; but as the ſteam of the hot-bed frequently occaſions great damps, there muſt be great care to turn and wipe the glaſſes frequently, to prevent the condenſed moiſture falling on the plants, which is very deſtructive to them. There muſt alſo be great attention to the admitting freſh air at all proper times, as alſo to be careful in keeping the bed to a proper temperature of heat; for as there is a want of fire to warm the air, that muſt be ſupplied by the heat of dung: afterwards theſe plants muſt be ridged out in the ſame manner as before directed.

If the bed is of a good temper for heat, your plants will take root in leſs than twenty-four hours; after which time you muſt be careful to let in a little air at ſuch times when the weather will permit, as alſo to turn the glaſſes upſide down every day to dry; for the ſteam of the bed condenſing on the glaſſes, will fall down upon the plants, and be very injurious to them; therefore whenever the weather is ſo bad as not to permit the glaſſes to lie turned long, you ſhould at leaſt turn them once or twice a day, and wipe off the moiſture with a woollen cloth; but you muſt alſo be very careful how you let in too much cold air, which is equally deſtructive to the tender plants; therefore, to avoid this, it is a very good method to faſten before the upper ſide of the frame, where the air is ſuffered to enter the bed, a piece of coarſe cloth or mat, ſo that the air which enters may paſs through that, which will render it leſs injurious to your plants.

You muſt alſo be very cautious in giving water to the plants while young; and whenever this is done, it ſhould be ſparingly, and the water ſhould be placed either in a heap of dung, or in ſome other warm place, for ſome time before it is uſed, ſo as to be nearly of a temperature for warmth with the incloſed air of the hot-bed; and as the plants advance in height, you ſhould have a little dry ſifted earth always ready to earth up their ſhanks, which will greatly ſtrengthen them. You muſt alſo be very careful to keep up the heat of the bed, which, if you ſhould find decline, you muſt lay a little freſh litter round about the ſides of the bed, and alſo keep the glaſſes well covered in the nights or in bad weather: but if, on the other hand, your bed ſhould prove too hot, you ſhould thruſt a large ſtake into the ſide of the dung in two or three places, almoſt to the middle of the bed, which will make large holes, through which the greateſt part of the ſteam will paſs off without aſcending to the top of the bed; and when you find it has anſwered your purpoſe by ſlacking the heat of your bed, you muſt ſtop them up again with dung.

Theſe directions, if carefully attended to, will be ſufficient for raiſing the plants in the firſt bed: you muſt therefore, when you perceive the third, or rough leaf begin to appear, prepare another heap of freſh dung, which ſhould be mixed with aſhes, as was before directed; this ſhould be in quantity according to the number of holes you intend to make. The common allowance for ridging out the earlieſt plants is, one load to each light or hole, ſo that the bed will be near three feet thick in dung; but for ſuch as are not ridged out till march, two loads of dung will be ſufficient for three holes, for I could never obſerve any advantage in making theſe beds ſo thick with dung as ſome people do; their crops are ſeldom better, if ſo good, as thoſe which are of a moderate ſubſtance; nor are they forwarder, and the fruit is rarely ſo fair, nor do the Vines continue ſo long in health.

In making theſe beds, you muſt carefully mix the dung, ſhaking it well with the fork, ſo as not to leave any clods of dung unſeparated, as alſo to beat it down pretty cloſe, to prevent the ſteam from riſing too haſtily; you muſt alſo be careful to lay it very even, and to beat or preſs down the dung equally in every part of the bed, otherwiſe it will ſettle in holes, which will be very hurtful. When you finiſh laying the dung, you muſt make a hole exactly in the middle of each light, about a foot deep, and eight or nine inches over; theſe holes muſt be filled with light freſh earth, which ſhould be ſcreened to take out all large ſtones, clods, *&c.* laying it up in a hill; and in the middle of each thruſt in a ſtick about eighteen inches long, which ſhould ſtand as a mark to find the exact place where the hole is; then earth the bed all over about three inches thick, levelling it ſmooth, and afterwards ſet the frame upon it, covering it with glaſſes; but if there is any apprehenſion of the dung heating too violently, the earth ſhould not be laid upon the bed until the heat is ſomewhat abated, which will be in a few days, and then the earth may be laid upon the bed by degrees, covering it at firſt two inches thick; and a week or ten days after another inch in thickneſs may be laid on, but there ſhould be the whole thickneſs of earth laid upon the bed before the Vines begin to run; and if this thickneſs of earth is at laſt ſix or ſeven inches, the Vines will grow the ſtronger for its being ſo thick; for if the roots are obſerved, they will be found to ſpread and cover the whole bed as much as the Vines extend above; and when the earth is very ſhallow, or too light, the Vines will hang their leaves every day for want of a ſufficient depth of earth to ſupport their roots; ſo that if they are not conſtantly and well watered, they will not have ſtrength to laſt long, nor to produce fair fruit; and the giving them too much water is not ſo proper, nor will it anſwer near ſo well, as the giving a depth of earth upon the dung.

In four or five days time your bed will be in fit order to receive your plants, of which you may eaſily judge by pulling out one of the ſticks which was put in the middle of the holes, and feeling the lower part of it, which will ſatisfy you what condition your bed is in; then you muſt ſtir up the earth in the middle of the hole with your hand, breaking all clods, and removing all large ſtones, making the earth hollow in form of a baſon; into each of theſe holes you muſt plant two plants, in doing which, obſerve to make the holes for the plants a little ſlanting towards the middle of the baſon, eſpecially if your plants are long ſhanked; this is intended to place the roots of the plants as far as poſſible from the dung, to which if they approach too near, the lower part of their roots is ſubject to be burned off; then ſettle the earth gently to each plant, and, if the earth is dry, it will be proper to give them a little water (which ſhould be warmed to the temper of the bed, as was before directed;) and if the ſun ſhould appear in the middle of the day, they ſhould be ſhaded therefrom with mats until the plants have taken root, which will be in two or three days; after which, you muſt let them enjoy as much of the ſun as poſſible, obſerving to turn the lights in the day time to dry, as alſo to give a little air whenever the weather will permit.

You muſt alſo obſerve to keep the glaſſes covered every night, and in bad weather, but be very careful not to keep them covered too cloſe, eſpecially while the bed has a great ſteam in it, which will cauſe a damp to ſettle upon the plants, which, for want of air to keep the fluid in motion, will ſtagnate and rot them.

When your plants are grown to be four or five inches high, you muſt, with ſome ſlender forked ſticks, incline them toward the earth, each one a ſeparate way; but this muſt be done gently at firſt, leſt by forcing them too much, you ſhould ſtrain or break the tender veſſels of the plants, which would be very hurtful to them. In this manner you ſhould, from time to time, obſerve to peg down the runners as they are produced, laying each in exact order, ſo as not to interfere or croſs each other; nor ſhould you ever after remove them from their places, or handle them too roughly, whereby the leaves may be broken or diſplaced, which is alſo equally injurious to them; but whenever you have occaſion to weed the bed between the plants, do it with great care, holding the leaves aſide with one hand, while with the other you pull out the weeds.

In about a month after they are ridged out, you may expect to ſee the beginnings of fruit, which very often are preceded by male flowers, which many people are ſo ignorant as to pull off, calling them falſe bloſſoms; but this I am fully convinced, by many experiments, is wrong; for theſe flowers are of abſolute ſervice to promote the welfare of the fruit, which when theſe male flowers are entirely taken off, does very often fall away, and come to nothing: nor ſhould the Vines be pruned, as is too often the practice of unſkilful people, eſpecially when they are too luxuriant, which often happens when the ſeeds were freſh, or of the laſt year's ſaving, and the plants in good heart. If this ſhould happen to be the caſe, it would be very proper to pull up one of the plants, before they have run ſo far as to entangle with the other; for it often happens, that one or two plants are better than four or five, when they are vigorous; for when the frame is too much crouded with Vine, the fruit is ſeldom good, nor in ſuch plenty, as when there is a more moderate quantity of ſhoots; for the air being hereby excluded from the fruit, they often decay, and fall off very young.

You muſt alſo be very careful to cover the glaſſes every night when your fruit begins to appear, as alſo to lay a little freſh litter, or mowing of graſs round the ſides of the bed, to add a freſh heat thereto; for if the heat of the bed be ſpent, and the nights prove cold, the fruit will fall away and come to nothing; and when the ſun is extreme hot in the middle of the day, you muſt cover the glaſſes with mats to ſhade the Vines; for although they delight in heat, yet the direct rays of the ſun, when it has great force, are very injurious, by either ſcorching thoſe leaves which are near the glaſſes, or by cauſing too great a perſpiration, whereby the extreme part of the ſhoots and the large leaves are left deſtitute of nouriſhment, and the fruit will be at a ſtand, and often turn yellow before it arrives at half its growth; this is too often the caſe, when the beds have not a ſufficient depth of earth over the dung.

At this time, when your Vines are ſpread ſo as to cover the hot-bed, it will be of great ſervice when you water them, to ſprinkle them all over gently ſo as not to hurt the leaves; but obſerve to do this not at a time when the ſun is very hot, for hereby I have known a whole bed of Cucumbers ſpoiled; for the water remaining upon the ſurface of the leaves in drops, collects the rays of the ſun to a focus, and ſo ſcorches the leaves, that in one day's time they have, from a bright green, become of the colour of brown paper. The watering of the beds all over will be of great ſervice, by giving nouriſhment to thoſe roots, which by this time will have extended themſelves all over the bed; and if the warmth of the bed ſhould now decline, it will be of great ſervice to add a lining of freſh dung round the ſides of the beds, to give a new heat to them; for as the nights are often cold at this ſeaſon, where the beds have not a kindly warmth left in them, the fruit will frequently drop off the Vines, when grown to the ſize of a little finger, and if upon this lining of dung there is a thickneſs of ſtrong earth laid for the roots of the plants to run into, it will greatly ſtrengthen them, and continue the plants in vigour a much longer time; for the roots of theſe plants extend to a great diſtance when they have room, which they cannot have in a bed not more than five feet wide; ſo that when they have no greater extent for their roots, the plants will not continue in vigour above five or ſix weeks, which, if they have depth and extent of earth, will continue three months in bearing; ſo that where there are ſeveral beds made near each other, it will be the beſt way to fill up the bottom of the alleys between them with warm dung, and cover that with a proper thickneſs of earth, ſo as to raiſe them to the level of the beds. Theſe directions, with diligent obſervation, will be ſufficient for the management of this crop of Cucumbers; and Vines thus treated will continue to ſupply you with fruit till the beginning of july, by which time the ſecond crop will come to bear; the ſowing and managing of which is what I ſhall next proceed to.

Culture of Cucumbers under hand or bell-glaſſes.—About the middle of march, or a little later, according to the earlineſs of the ſeaſon, you muſt put in your ſeeds, either under a bell-glaſs, or in the upper ſide of your early hot-bed; and when the plants are come up, they ſhould be pricked upon another moderate hot-bed, which ſhould be covered with bell or hand-glaſſes, placed as cloſe as poſſible to each other; the plants ſhould alſo be pricked at about two inches diſtance from each other, obſerving to water and ſhade them until they have taken new root, which will be in a very ſhort time. This is to be underſtood of ſuch places where a great quantity of plants are required, which is conſtantly the caſe in the kitchen-gardens near London; but where it is only for the ſupply of a family, there may be plants enough raiſed on the upper ſide of the beds where the firſt crop is growing; or if the Vines ſhould have extended themſelves ſo far as to cover the whole bed, whereby there will not be room to prick the plants, a ſingle light will contain ſuch a number of plants, while young, to plant out in ridges, as will ſupply the largeſt family with Cucumbers during the latter ſeaſon. You muſt alſo cover the glaſſes with mats every night, or in very bad weather; but in the day time, when the weather is hot, you muſt raiſe the glaſſes on the oppoſite ſide from the wind, to give air to the plants, which will greatly ſtrengthen them; you muſt alſo water them as you find they require it, but this muſt be done ſparingly while the plants are young.

The middle of april the plants will be ſtrong enough to ridge out, you muſt therefore be provided with a heap of new dung, in proportion to the quantity of holes you intend to plant, allowing one load to ſix holes. When your dung is fit for uſe, you muſt dig a trench about two feet four inches wide, and in length juſt as you pleaſe, or the place will allow; and if the ſoil be dry, it ſhould be ten inches deep, but if wet, very little in the ground, levelling the earth in the bottom; then put in your dung, obſerving to ſtir and mix every part of it as was directed for the firſt hot-beds, laying it cloſe and even.

When this is done, you muſt make holes about eight inches over, and ſix inches deep, juſt in the middle of the ridge, and three feet and a half diſtance from each other; and if there be more than one ridge, the diſtance of thoſe ought to be eight feet and a half from each other; then fill the holes with good light earth, putting a ſtick into the middle of each for a mark, and afterwards cover the ridge over with earth about four inches thick, laying the earth the ſame thickneſs round the ſides. When the earth is levelled ſmooth, you muſt ſet the glaſſes on upon the holes, leaving them cloſe down about twenty-four hours, in which time the earth in the holes will be warmed ſufficiently to receive the plants; then with your hand ſtir up the earth in the holes making it hollow in form of a baſon; into each of which you ſhould plant three or four plants, obſerving to water and ſhade them until they have taken root; after which time you muſt be careful to give them a little air by raiſing the glaſſes on the oppoſite ſide to the wind, in proportion to the heat of the weather, as alſo to water them as you ſhall ſee they require it; but you muſt only raiſe the glaſſes in the middle of the day, until the plants fill the glaſſes, at which time you ſhould raiſe the glaſſes with a forked ſtick on the ſouth ſide, in height proportionable to the growth of the plants, that they may not be ſcorched by the ſun; this alſo will harden and prepare the plants to endure the open air, but you ſhould not expoſe them too ſoon thereto; for it often happens, that there are morning froſts in may, which are many times deſtructive to theſe plants when expoſed thereto; it is therefore the ſureſt method to preſerve them under the glaſſes, as long as they can be kept in without prejudice to the plants; and if the glaſſes are raiſed with two bricks on the backſide, and the forked ſtick on the other ſide, they may be kept in a great while without danger.

Towards the latter end of may, when the weather appears ſettled and warm, you ſhould turn your plants down gently out of the glaſſes; but do not perform this in a very dry, hot, ſunny day, but rather when there is a cloudy ſky, and an appearance of rain; you muſt in doing this raiſe the glaſſes either upon bricks or forked ſticks, whereby they may ſtand ſecure at about four or five inches high from the ground, that the plants may lie under them without bruiſing; nor ſhould you take the glaſſes quite away till the latter end of june, or the beginning of july, for theſe will preſerve the moiſture much longer to their roots than if they were quite expoſed to the open air; about three weeks after you have turned the plants out of the glaſſes, they will have made a conſiderable progreſs, eſpecially if the weather has been favourable, at which time you ſhould dig up the ſpaces of ground between the ridges, laying it very even; then lay out the runners of the Vines in exact order, and be careful in this work not to diſturb the Vines too much, nor to bruiſe or break the leaves; this digging of the ground will looſen it, and thereby render it eaſy for the roots of the plants to ſtrike into it, as alſo render the ſurface of the earth more agreeable to the Vines that run upon it. After this there will be no farther care needful, but only to keep them clear from weeds, and to water them as often as they ſhall require, which they will ſoon ſhew, by the hanging of their greater leaves. The ridges, thus managed, will continue to produce large quantities of fruit from june until the latter end of auguſt, after which time the coldneſs of the ſeaſon renders them unwholeſome, eſpecially if the autumn prove wet.

From theſe ridges people commonly preſerve their Cucumbers for ſeed, by making choice of two or three of the faireſt fruit upon each hole, never leaving above one upon a plant, and that ſituated near the root of it; for if you leave more, they will weaken the plant ſo much, that your other fruit will be ſmall, and fewer in number: but thoſe perſons who value themſelves upon producing Cucumbers very early, commonly leave three or four Cucumbers of the firſt produce of their earlieſt crop, when the fruit is fair; and the ſeeds of theſe early fruit, are generally preferred to any other for the firſt crop. Theſe ſhould remain upon the Vines until the middle or end of auguſt, that the ſeeds may be perfectly ripe; and when you gather them from the Vines, it will be proper to ſet the fruit in a row upright againſt a hedge or wall, where they may remain until the outer cover begins to decay; at which time you ſhould cut them open, and ſcrape out the ſeeds, together with the pulp, into a tub, which ſhould be afterwards covered with a board, to prevent filth from getting amongſt the pulp. In this tub it ſhould be ſuffered to remain eight or ten days, obſerving to ſtir it well with a long ſtick to the bottom every day, in order to rot the pulp, that it may be eaſily ſeparated from the ſeeds; then pour ſome water into the tub, ſtirring it well about, which will raiſe the ſcum to the top, but the ſeeds will ſettle to the bottom; ſo that by two or three times pouring in water, and afterwards ſtraining it off from the ſeeds, they will be perfectly cleared from the pulp; then you ſhould ſpread the ſeeds upon a mat, which ſhould be expoſed to the open air three or four days until they are perfectly dry, when they may be put up in bags, and hung up in a dry place where vermin cannot come to them, where they will keep good for ſeveral years, but are generally preferred when three or four years old, as being apt to produce leſs vigorous, but more fruitful plants.

Culture of Cucumbers in the open ground.—The ſeaſon for ſowing theſe is towards the latter end of may, when the weather is ſettled. The ground where theſe are commonly ſown, is between Cauliflowers, in the wide rows, between which are allowed four feet and a half ſpace when the Cauliflowers were planted. In theſe rows you ſhould dig up ſquare holes at about three feet and a half diſtance from each other, breaking the earth well with a ſpade, and afterwards ſmoothing and hollowing it in the form of a baſon with your hand; then put eight or nine ſeeds into the middle of each hole, covering them over with earth about half an inch thick; and if it ſhould be very dry weather, it will be proper to water the holes gently in a day or two after the ſeeds are ſown, in order to facilitate their vegetation.

In five or ſix days, if the weather be good, your plants will begin to thruſt their heads above ground; at which time you ſhould be very careful to keep off the ſparrows, which are very fond of the young tender ſeed-leaves of theſe plants; and if they are not prevented, will deſtroy your whole crop: but as it is not above a week that the plants are in danger, it will be no great trouble to look after them during that time; for when the plants are come up, and have expanded their ſeed-leaves, the ſparrows will not meddle with them.

You muſt alſo be careful to water them gently, as you find the drought of the ſeaſon may require; and when you perceive the third or rough leaf of the plants begin to appear, you muſt pull out all the weakeſt plants, leaving only three or four of the moſt promiſing and beſt ſituated in each hole, ſtirring the earth round about them with a ſmall hoe to deſtroy the weeds, and raiſe the earth about the ſhanks of the plants, putting a little earth between them, preſſing it gently down with your hand, that the plants may be thereby ſeparated from each other to a greater diſtance; then give them a little water (if the weather be dry) to ſettle the earth about them, which you muſt afterwards repeat as often as you ſhall find it neceſſary, ſtill being careful to keep the ground clear from weeds.

When your Cauliflowers are quite drawn off the ground from between the Cucumbers, you muſt hoe and clean the ground, drawing the earth up round each hole in form of a baſon, the better to contain the water when it is given them; you muſt alſo lay out the plants in exact order as they are to run and extend, ſo that they may not interfere with each other; then lay a little earth between the plants left, preſſing it down gently with your hand, the better to ſpread them each way, giving them a little water to ſettle the earth about them, repeating it as often as the ſeaſon ſhall require, and obſerving to keep the ground clean from weeds. The plants thus managed, will begin to produce fruit toward the end of july, when you may either gather them young for pickling, or ſuffer them to grow for large fruit.

The quantity of holes neceſſary for a family, is about fifty or ſixty; for if you have fewer, they will not produce enough at one gathering to make it worth the trouble and expence of pickling, without keeping them too long in the houſe, for you cannot expect to gather more than two hundred at each time from fifty holes; but this may be done twice a week during the whole ſeaſon, which commonly laſts five weeks; ſo that from fifty holes you may reaſonably expect to gather about two thouſand in the ſeaſon, which, if they are taken ſmall, will not be too many for a private family. And if ſo many are not wanted, they may be left to grow to a proper ſize for eating.

[*Additional directions for the Culture of Early Cucumbers.*

Moſt gardeners valuing themſelves upon having early Cucumbers, I have compreſſed and arranged the foregoing directions; and have added ſeveral others which there are either touched too curſorily or entirely omitted.

1. In the culture of early Cucumbers, that is ſuch as are in perfection during the months of march and april, where there is not a conveniency of ſtoves for raiſing the ſeedling plants, it is proper to have three hot-beds: the firſt ſmall with a ſingle-light frame, for a ſeed-bed, in which the plants are to remain only a few days: the ſecond, a larger ſingle-light, or a two-light frame, for a nurſery-bed, in which the plants are to continue pricked out into pots, till they have formed one joint, and the two firſt rough leaves are from two to three inches broad, which will be in three weeks or a month: the third, a two-light or three-light frame, or frames, in proportion to the quantity that is wanted, for the fruiting hot-bed, into which the plants are finally to be turned out of the pots, with good balls of earth about their roots. If your firſt frame be large enough, or a great number of plants be not wanting; the ſeeds may be raiſed, and the plants pricked out, and brought forward for the fruiting-bed in this, without the ſecond, by means of occaſional linings of dung: and if you have a ſtove, the firſt bed may be diſpenſed with.

The principal circumſtances to be attended to in this ſtage of the buſineſs are, to make the hot-beds on the ſurface, or rather above the ſurface, if your ground be wet; and not to dig a trench for them, as is often practiſed: in order that the bottom of the bed may not be chilled by ſtanding water, and that the whole of it may receive the full benefit of the linings of dung. To make the ſeedling bed two feet and a half high; and the ſecond three feet and a half, or if the dung be long four feet high. As ſoon as the bed is made, to ſet on the frame; keeping the glaſs down for a day or two to draw up the heat, and then letting out the ſteam by ſetting up the glaſs behind. In ſix, eight or ten days, when the heat begins to abate, to earth the bed five or ſix inches thick, and whilſt the earth is warm to ſow the ſeed in drills, or in ſmall pots; raiſing the light an inch or two behind in the day, and covering it at night with a mat. The beſt ſorts for early crops are, the early ſhort or long prickly Cucumber; (n. 2, 3.) the ſeed ſhould be ſaved from the earlieſt fruit, and ſhould be three or four years old. When the ſeedling plants are come up, and the ſeed-leaves are about half an inch in breadth, prick them out in ſmall pots, filled within an inch of the top with your compoſt earth, and ſet in the frame a day to warm; ſet four plants in each pot, covering them almoſt to the leaves, and watering them gently from bottles ſet a few hours in the frame to take off the cold. Continue to raiſe the lights every day, and ſometimes in the night during the great heat and ſteaming of the bed; in cold weather letting a mat hang looſely over the aperture. When the heat is moderate, the glaſſes ſhould be raiſed only from nine or ten in the morning to three or four in the afternoon, according to the ſeaſon; ſhutting them cloſe before ſun-ſet; and covering them with one, two or three mats, in proportion to the ſeaſon and the warmth of the bed; obſerving not to let the mats hang over the ſides of the bed, and taking them off about eight in the morning. Some perſons put a layer of hay between the mats in ſevere weather. Water the plants moderately once in three, four, five, or ſix days, according to the dryneſs of the earth in the pots, the heat of the bed, or the ſtate of the weather, between eleven and two o'clock; preferring ſun-ſhine for this purpoſe, and having the water ſoft and warm from 65° to 85° of the thermometer, or feeling neither hot nor cold when taken into the mouth. Earth up the young plants in the pots gradually with mould warmed in the frame, till the pots are full. Keep up the heat in the bed as regular as you can from 70° to 80°, by firſt laying dry ſtraw, fern, *&c.* round the ſides, in about a week: and in a fortnight or three weeks by giving the back and front a lining of hot dung eighteen inches wide at bottom contracting gradually to the top, where it ſhould be covered with earth two inches deep to keep down the ſteam: and in ten days or a fortnight after, lining the ſides, if the heat ſhould decline: guarding on theſe occaſions againſt burning, by raiſing the pots, ſetting up the glaſſes, *&c.* Some perſons for this purpoſe pour water on the dung; but if too much be poured in, it chills the bed, and if too little, it increaſes the burning.

One of the moſt important operations in this ſtage of the buſineſs is the pruning or ſtopping the young plants, for which directions have been given before under Melon. This is done to promote lateral ſhoots, which are the fruitful ones, and is particularly uſeful in this caſe, where the deſirable point is to procure fruit as early as poſſible. The end of the runner ſhould be taken off almoſt cloſe to the baſe of the ſecond leaf; and the operation is beſt performed when the end of the ſhoot is not bigger than a large pin's head.

2. The plants being thus prepared, in three weeks or a month, when the two or three firſt leaves are between two and three inches broad, they are fit to be finally tranſplanted into the fruiting beds, which the gardeners call *ridging out.* The beds muſt be got ready for this a week or ten days at leaſt before, and where there are ſeveral frames, near a fortnight, in order to have them of a proper temperature for receiving the mould and plants. The height of the beds ſhould be four feet, or three feet and a half at leaſt. As ſoon as they are finiſhed, the frames ſhould be ſet on, and the lights raiſed to give vent to the ſteam as the heat riſes. A long ſtick or two ſhould alſo be thruſt into the bed to judge of its temperature; and it muſt not be moulded till you can bear your finger on the ſticks for ſome time together. You muſt be careful however not to ſtay too long, for a briſk heat is required to bring the young plants forward at firſt.

Make a hillock of mould in the middle of each light ten or twelve inches high, which will require near a buſhel of earth; cover the reſt of the bed three inches thick with the ſame mould; and if you are fearful of the bed's burning, under each hill ſpread a layer of cow-dung, not too wet, eighteen inches or two feet in width, and an inch and half in thickneſs. Having finiſhed this, cloſe the glaſſes, and the next day the bed will be fit for the reception of the plants.

Early in the morning let the pots containing the plants to be ridged out be watered, that the earth may adhere firmly to their roots. One pot being deſtined for each hill, ſhake the plants out, diſturbing them as little as poſſible; and having made a ſufficient hole in the middle of the hillock, place the plants with the ball of earth about them in it, drawing the mould cloſe round and about an inch over them; if the mould be dry, give them a little water that is not cold, and ſhut the glaſſes cloſe. If the leaves flag much, ſhade the lights three or four days with a thin mat in the middle of the day.

Air muſt now be admitted daily by raiſing the lights behind, from half an inch to two or three inches high, according to the weather and the ſtate of the bed; hanging a mat looſely over the aperture when the weather is ſevere. Wet foggy weather however is more to be feared than froſt with ſunſhine. At this early ſeaſon, namely the beginning of february, it is ſometimes dangerous to admit air very freely, and yet the lights cannot be kept cloſe on account of the noxious ſteam: in this caſe the introduction of warm air by means of pipes opening into the frames and communicating with the open air through the bed, might be of conſiderable ſervice, and has been practiſed with great ſucceſs. The heat of the beds may alſo be regulated by thermometers, eſpecially where the perſon who manages them has not had long experience in the conduct of hot-beds. It is of great importance to have them kept nearly in the ſame temperature; and Cucumbers at this early ſeaſon require almoſt the ſame heat with the Pine-ſtove.

Mats muſt be put over the glaſſes at ſun-ſet, or ſooner if the weather be cloudy; and muſt be taken off in the morning, ſoon after ſun-riſe, or ſomewhat later in cold cloudy weather. A ſingle mat will be ſufficient at firſt, but as the heat of the beds declines, eſpecially if the weather be ſevere, two or three mats may be laid on, with hay between them if there ſhould be occaſion; remembering not to let them hang much over the ſides of the frame.

During the firſt fortnight examine carefully the ſtate of the hot-bed every day, leſt the heat ſhould become too violent and burn the young plants; the moſt certain indications of this are, the ſickly hue of the plants themſelves, and a whitiſh mouldy appearance at the bottom of the hillocks. This muſt be taken away before it reaches the roots of the plants, and a quantity of freſh earth put in its place. If the heat continues too violent, more of the burnt mould muſt be removed, plenty of air muſt be given to the plants if poſſible, and holes muſt be made in the ſides of the bed, by large ſtakes thruſt into the dung in different places. Some perſons pour water into the dung, to aſſwage the burning heat of the bed.

As ſoon as this danger is over, earth or mould the whole beds at different times to the depth of eight or ten inches; laying the mould for a day or two againſt the ſides and ends of the frames, to acquire a due degree of warmth.

Water moderately once in a week or ten days, or if the weather be warm, twice in that time; and as the ſeaſon advances, ſtill oftener. The beſt time is between ten and two o'clock. Let the chill be taken off the water; give it between the Vines, except in very fine weather, when it may be ſprinkled moderately all over the leaves; but if the ſun ſhould ſhine hot, throw a mat over the glaſſes for an hour or two. Whenever you water, ſhut down the lights for half an hour or an hour after.

Train the plants by pruning or ſtopping. In ten days or a fortnight after the firſt ſtopping, the plants will put forth two or three lateral ſhoots or runners; when theſe are advanced two or three joints in length without ſhowing fruit, ſtop each runner at the third joint, to promote their putting out fruitful ſhoots. As the runners advance train them regularly at equal diſtances, pegging them down occaſionally.

When the plants ſhow fruit, which may be expected in three or four weeks, if it have not appeared ſooner from the firſt or ſecond joint, be particularly attentive to keep up a regular heat in the beds; having previouſly laid dry litter or fern round them, then give them proper linings of dung. As ſoon as the heat is conſiderably abated, line the back of the bed directly a foot and half wide; in a week after line the front; and in ten or twelve days after that, ſhake up the firſt lining, adding a little freſh dung to it, and doing the ſame by the ſecond lining: always laying two or three inches of earth on the top of the dung, which ſhould be ſix inches higher than the bed, to allow for ſettling.

In ſetting the fruit, the male bloſſom ſhould be applied to the female on the day it opens, or the day after. It is the cuſtom with ſome to whelm the former over the latter, and to leave it there; but it is better to apply the anthers to the middle of the ſtigmas when they are in a proper ſtate to diſcharge the pollen, and then to throw the male bloſſom away, unleſs males are ſcarce, which ſometimes happens early in the year, and then one may be uſed to impregnate two or three females. Obſerve not to wet the flowers at this period, for that prevents the impregnation of the fruit.

It now remains only to cut off the weak, long-jointed, barren ſhoots, and to thin out the weakeſt and moſt ſtraggling runners, ſo as to be able to train the main vine and principal bearing ſide-runners in a regular manner: to clear away worn-out runners and decayed leaves, and to thin the cluſters of male bloſſoms where they are too large, and to pick them off as they decay: as the ſeaſon advances to ſhade the glaſſes with a ſingle mat occaſionally on ſcorching days; to give them more air by ſetting up the glaſſes higher in front as well as behind; to water them from one to four times a week, according to the heat of the weather; and when the plants are grown ſo large as to preſs againſt the lights, and ſo crowded as to ſhade the fruit too much, to cut out ſome of the leaves, to raiſe the frame three or four inches, and finally, in the middle of june, if the weather be ſettled, to raiſe the frames ſo high, that the Vines may be trained under them, along the ſides of the bed, covering them with mats at night for the firſt week; and thus leaving them till ſome time in july, when the frames may be taken off, and the plants will want no more protection, except in heavy rains, and at night when the weather is not quite propitious.

In this early frame culture of Cucumbers it is neceſſary to remember not to depend wholly upon the firſt ſowing, but to continue to ſow a little ſeed occaſionally, pricking the plants out ſo as to have them of two or three different growths, to ſupply the place of ſuch plants as do not thrive, or may be cut off by the ſeverity of the ſeaſon, burning, ſteaming, *&c.* And if they are not wanting for theſe purpoſes, they will be ready for the ſecond frame-crop. Two crops cultivated in this manner, will furniſh a ſucceſſion of fruit till thoſe which are under hand and bell-glaſſes come in, and theſe will be ſucceeded by thoſe in the open ground; by which means there will be a conſtant ſupply of fruit from february or march to the middle or end of ſeptember.

Early Cucumbers are in general much eſteemed in private families, and are a valuable article for the market-gardeners, for in march they often fetch thirty ſhillings a dozen; and in april from ten to fifteen ſhillings a dozen is a common price. After this time the price falls every week till auguſt, when thoſe in the natural ground come in, a dozen of which will ſometimes ſcarcely fetch a penny. The quantity of theſe ſold for eating and pickling is prodigious; in the ſummer of 1794, above ten thouſand buſhels were diſpoſed of in one week from the village of Sandy in Bedfordſhire; the gardeners of which ſupply the towns and villages fifty miles round with that and the other produce of their gardens.

The culture under hand-glaſſes and in the open ground being leſs difficult, and having been before ſufficiently diſcuſſed, is not inſiſted upon here.

Such perſons as are not contented with having Cucumbers from february or march to ſeptember, may have them at Chriſtmas or ſoon after by ſowing in october, and treating them in the manner above directed. Thoſe in the open ground may be continued through october and part of november, by placing frames over ſome of the beſt holes, and protecting them with lights during the night and in wet weather. The ſucceſſion may alſo be continued by ſowing the middle of july, and treating them in the ſame manner; or by ſowing the end of july, and tranſplanting into a ſlender hot-bed towards the end of auguſt. Or by ſowing in a ſlight hot-bed at the end of auguſt, and tranſplanting into another about the middle of ſeptember.

By theſe means may a ſucceſſion of Cucumbers be kept up during the latter autumnal and winter months, from the time that thoſe in the open ground go off, till the return of ſuch as are raiſed by the early frame culture in march. But theſe crops cannot be expected to ſucceed like the others, nor in general will they produce any thing more than a few fruit rather for curioſity than uſe.

Cucumbers may alſo be produced in hot-houſes or pine-ſtoves at any time in the winter or very early in the ſpring, with leſs trouble than in hot-beds, but not with the ſame certainty of a crop. For this purpoſe the ſeeds may be ſown in october, and from that time every fortnight during winter, in ſmall pots of rich earth plunged in the bark-pit, and at two or three days old pricked out into other pots, which muſt be alſo plunged into the bark-bed. Having treated the plants like thoſe for ridging out in the early frame-culture, when they are ready to put out runners, tranſplant them into large pots, or rather into boxes three feet long, a foot wide at top, nine inches at bottom, and ten inches deep. Plunge them half way in the bark-bed; or ſet them on the top of the flues; elevating them ten or twelve inches; or place them by means of brackets twelve or fifteen inches below the top glaſſes, a little behind the back walk of the ſtove; putting laths for the vines to run upon, as they advance in length.

Cuttings of Cucumbers taken off five or ſix inches long from healthy plants in the ſummer crops, at the end of ſeptember or the beginning of october, planted in pots of rich mould, plunged into the bark-bed and ſhaded till they have ſtruck, will produce fruit before Chriſtmas. By this method, or by laying, plants may be kept on from year to year.

After all that can be ſaid, in many points much will depend upon the experience, attention and ſagacity of the gardener himſelf.

Two centuries ſince (1597), in the infant ſtate of gardening in this country, Gerarde gives directions for making a hot-bed, whereon Cucumbers, *&c.* may be raiſed. It was to be made in the middle of april or ſomewhat ſooner of ſtable dung, an ell in breadth and depth; it was to be covered with hoops and poles, for glaſſes were not then known; and at night mats, old painted cloth, or ſtraw were to be thrown over it: the bed was to be covered with rich earth finely ſifted half a foot thick: in this the ſeeds were to be ſown; and the covering being put on, was to remain ſeven or eight days without being taken off: the plants being then come up were to be watered in the middle of the day with water that had ſtood in the houſe or in the ſun; the covering was to be put on every night and taken off every day: and when the plants had four or ſix leaves, and the danger of cold nights was paſt, they were to be replanted very curiouſly with the earth ſticking to them as near as may be, unto the moſt fruitful place, and where the ſun hath moſt force in the garden; covering them with dock leaves or wiſps of ſtraw, propped up with forked ſticks, to keep them from the cold of the night and the heat of the ſun. *Herball, p.* 764.

Parkinſon alſo, in 1629, gives directions for making a hot-bed of dung in the ſame manner for Melons; and mentions the covering them with bell-glaſſes.

The firſt account I find of raiſing Cucumbers in autumn to bring fruit about Chriſtmas, is by Mr. Thomas Fowler, gardener to Sir Nathanael Gould, at Stoke Newington. He preſented the king with a brace of well-grown Cucumbers on New Year's day 1721. The ſeeds were ſown on the 25th of ſeptember. *Bradley's huſbandry and gardening, vol.* 2. 61 *&* 246. *&* *v.* 3. 75.

This ſubject, ſo largely treated, of raiſing Cucumbers on hot-beds of dung, ſeems as little capable of ornament as any [*]; and yet Cowper in the third book of his Taſk [†], at the ſame time that he has deſcribed the proceſs with great accuracy, has ſcattered over it ſome of the ſweeteſt flowers of poeſy.

> " Grudge not, ye rich, (ſince luxury muſt have
> " His dainties, and the world's more num'rous half
> " Lives by contriving delicates for you)
> " Grudge not the coſt. Ye little know the cares,
> " The vigilance, the labor, and the ſkill,
> " That day and night are exercis'd, and hang
> " Upon the ticklifh balance of ſuſpenſe,
> " That ye may garniſh your profuſe regales
> " With ſummer fruits brought forth by wintry ſuns.
> " Ten thouſand dangers lie in wait to thwart
> " The proceſs. Heat and cold, and wind and ſteam,
> " Moiſture and drought, mice, worms, and ſwarming flies,
> " Minute as duſt, and numberleſs, oft work
> " Dire diſappointment that admits no cure,
> " And which no care can obviate. It were long,
> " Too long, to tell th' expedients and the ſhifts
> " Which he that fights a ſeaſon ſo ſevere
> " Deviſes, while he guards his tender truſt,
> " And oft, at laſt, in vain. The learn'd and wiſe
> " Sarcaſtic would exclaim, and judge the ſong
> " Cold as its theme, and, like its theme, the fruit
> " Of too much labor, worthleſs when produc'd."

Cucumis. See *Anguria, Melothria, Momordica,* and *Sicyos.*]

CUCURBĪTA. (*A curvitate, according to Scaliger, the firſt ſyllable being doubled, as in* cacula, populus, *&c.*)

Lin. gen. n. 1091. *Reich.* 1192. *Schreb.* 1478. *Gærtn.* 88. *Tourn.* 36. *Juſſieu,* 396. Pepo. *Tourn.* 33. Melopepo. *Tourn.* 34.

Claſſ. 21. 10. Monoecia Syngeneſia.

Natural order of *Cucurbitaceæ.*

GENERIC CHARACTER.

* *Male flowers.*

Cal. *Perianth* one-leafed, bell-ſhaped, the margin terminated by five ſubulate teeth.

Cor. five-parted, growing to the calyx, bell-ſhaped; *diviſions* veiny-rugoſe.

Nectary a gland in the centre of the flower, concave, triangular.

Stam. *Filaments* three, converging, connected above, diſtinct below, growing to the calyx. *Anthers* creeping upwards and downwards, linear.

* *Female flowers.*

Cal. *Perianth* as in the male, ſuperior, deciduous.

Cor. as in the male.

Nectariferous glandule concave, ſpreading.

Stam. *Margin* ſurrounding, ending in three very ſhort cuſps.

Pist. *Germ* large, inferior. *Style* conic, three-cleft at the tip: (five-cleft, *G.*) *Stigma* ſingle, with a thick, convex margin, creeping upwards and downwards, three-cleft.

Per. *Pome* (Berry, *G.*) three-celled; (three to five, *Juſſ.* ſix cells, *Adanſ.*) cells, membranaceous, ſoft, diſtinct. (two-parted, *G.*)

Seeds very many, compreſſed, ſwollen on the margin, obtuſe, placed in double order.

Obs. The Cucurbita of Tourn. *has ſeeds emarginate at the tip.*

Pepo of Tourn. *has ſeeds ſurrounded with an entire, tumid margin.*

ESSENTIAL CHARACTER.

Cal. five-toothed. *Cor.* five-cleft.

Male. Filaments three.

Female. Piſt. five-cleft. Seeds of the pome with a ſwelling margin.

SPECIES.

1. Cucurbita lagenaria. *Bottle Gourd,* or *long Gourd.*
Lin. ſpec. 1434. *Reich.* 4. 202. *mat. med.* 209. *hort. cliff.* 451. *upſ.* 291. *Haſſelqu. itin.* 488. *edit. engl.* 255. *Brown. jam.* 354. 2, 3. *Blackw. t.* 522. *a. b.* *Sabb. hort.* 1. *t.* 69. *Gærtn. fruct.* 2. 50. *Lour. cochinch.* 592.
C. oblonga, fl. albo, fol. molli. *Bauh. pin.* 313. *Bauh. hiſt.* 2. 214, 15, 16. *Raii hiſt.* 638, 1, 2, 3.
C. lagenaria. *Mor. hiſt.* 2. 23. *ſ.* 1. *t.* 5. *f.* 1, 2, 3. *Rumph. amb.* 5. *t.* 144. *Ger.* 777. 1, 2. & 779. 1. *emac.* 923. & 924. 1. *Park. theat.* 769. 1, 3.
β. C. lignoſa. *Mill. dict. n.* 5. *Park.* 773. 4. *Raii hiſt.* 644.
Leaves ſomewhat angular tomentoſe biglandular at the baſe underneath; fruits woody.

[2. Cucurbita hiſpida.
Lin. ſyſt. 868. *Thunb. jap.* 322.
Leaves angular, ſtem and petioles hiſpid.

3. Cucurbita ovifera. *Egg Gourd.*
Lin. ſyſt. 868. *mant.* 126. *Reich.* 4. 203.
Leaves lobed; fruits obovate; tendrils in ſevens digitated.]

4. Cucurbita Pepo. *Pompion* or *Pumpkin Gourd.*
Lin. ſpec. 1435. *Reich.* 4. 203. *hort. cliff.* 452. *upſ.* 291. *Mor.* 1. 5. 4, 5. *Gærtn. fruct.* 2. 49. *Lour. cochinch.* 593. *Rumph. amb.* 5. *t.* 143.
C. major rotunda fl. luteo, fol. aſpero. *Bauh. pin.* 312. *Bauh. hiſt.* 2. 218, 19.
C. indica rotunda. *Dalech. hiſt.* 616.
Pepo vulgaris. *Raii hiſt.* 639.—maximus rotundus. *Ger.* 773. 2. *emac.* 919. 2.
β. Pepo oblongus. *Bauh. pin.* 311. *Ger.* 773. 1, *emac.* 919. 1. *Mor.* 1. 5. 6. *Dod. pempt.* 665.
Leaves lobed; fruits gloſſy.

5. Cucurbita verrucoſa. *Warted Gourd.*
Lin. ſpec. 1435. *Reich.* 4. 203. *Bauh. hiſt.* 2. 222. *Thunb. jap.* 323.
Leaves lobed; fruits knobby-warted.

6. Cucurbita Melopepo. *Squaſh Gourd.*
Lin. ſpec. 1435. *Reich.* 4. 203. *Lour. cochinch.* 593. *Rumph. amb.* 5. *t.* 145.
Melopepo clypeiformis. *Bauh. pin.* 312.
Pepo maximus clypeatus. *Ger.* 774. 4. *emac.* 920. 4.
Leaves lobed; ſtem erect, fruits flatted knobby.

7. Cucurbita Citrullus. *Water Melon.*
Lin. ſpec. 1435. *Reich.* 4. 204. *hort. cliff.* 452. *upſ.* 3. *mat. med.* 209. *Haſſelqu. itin.* 488. *edit. engl.* 255. *Lour. cochinch.* 594.
Anguria. *Mill. dict. Mor.* 1. 6. 2.—indica, *Rumph. amb.* 5. *t.* 146. *f.* 1.
A. Citrullus. *Bauh. pin.* 312. *Blackw. t.* 157. *Raii hiſt.* 643. 1, 2. *Park. theat.* 771. *f.* 772. *n.* 1.
Citrullus fol. colocynthidis ſecto, ſemine nigro. *Bauh. hiſt.* 2. 235.
Citr. officinarum. *Ger.* 767. 1, 2. *emac.* 913. 1, 2.
Leaves many-parted.

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[*] Ornari res ipſa negat, contenta docere.

[†] P. 115 to 119.

DESCRIPTIONS, *&c.*

[The plants of this genus are very nearly allied to thoſe of *Cucumis*, and are diſtinguiſhed from it chiefly by the ſwelling rim of the ſeed. Like them they are annual, with trailing herbaceous ſtems, furniſhed with tendrils for climbing. Leaves heart-ſhaped, except in *Citrullus*, which has them jagged-palmate. Peduncles ſhort, with one or two flowers. Calyx ſpreading and whitiſh in the firſt ſpecies, yellow in *Citrullus*; bell-ſhaped and yellow in *Melopepo* and *Pepo*, dilated at the baſe with a reflex border in the firſt, narrowed at the baſe with an upright border in the ſecond. Fruit fleſhy (in *Citrullus* juicy), moſtly eatable; in *Melopepo* ſpheroidal, in *Pepo* oblong or various, in *C. lagenaria* long, ſmooth, ſubcylindric, or elſe contracted in the middle[a].

1. Stems thick, long, climbing, with tendrils, branched,] extending near twenty feet in length, covered with a fine ſoft hairy down. [Leaves cordate, roundiſh, repand, toothletted, petioled, alternate, biglandular underneath, ſoft, aſh-coloured, large.] Flowers large, white, on long peduncles, [ſolitary, lateral. Corolla ſpreading, wrinkled, with acuminate diviſions. Fruit ſhaped like a bottle, with a large roundiſh belly and a neck, very ſmooth[b]], when ripe of a pale yellow colour, ſome near ſix feet long, and eighteen inches 'round; the rind becoming hard, and being dried, contains water. [Seeds quadrangular-oblong, cut off and emarginate at top, three-cornered and beaked at bottom, edge keeled with a double raiſed line, ſmoothiſh, of a pale bay colour[c].

The Arabians call the bottle Gourd *Charrah*. The poor people eat it boiled, with vinegar; or fill the ſhell with rice and meat, and thus making a kind of pudding of it. It grows in all parts of Egypt, and in Arabia, wherever the mountains are covered with rich ſoil[d].

In Jamaica the ſhells are generally uſed for water-cups, and frequently ſerve for bottles among the negroes and poorer ſort of white people in the country. A decoction of the leaves is recommended much in purging clyſters; and the pulp of the fruit is often employed in reſolutive poultices: it is bitter and purgative; and may be uſed inſtead of Coloquintida[e].

β. The large Gourd is cultivated on account of the woody ſhell of the fruit, which will frequently contain between twenty and thirty quarts. Where aloes is manufactured in any quantity, it is commonly preſerved in theſe ſhells; but in Jamaica they are uſed only to hold water and ſmall grain[f].]

The ſhells are of different forms, ſome ſhaped like a pear, others like a bottle, others again like an orange.

[Native of both Indies. Cultivated 1597[g].

2. Stem furrowed, climbing, covered with aſh-coloured hairs. Leaves petioled, having five angles, or ſublobed, with ſtraight angles, nerved, villoſe on both ſides. Petioles round, hiſpid, a finger's length. Flowers axillary, very cloſely ſet with ferruginous hairs; the lower a finger's length, the upper ſhorter. Tendrils ſimple, bifid or trifid. Calyx and peduncle very cloſely hirſute, with ferruginous hairs. Native of Japan, where it flowers in ſeptember[h].

3. The herb and flowers are very like the Pompion, but this is not ſo rough. The leaves are not many-cleft, neither is the fruit bitter. The tendrils are ſtraight, and end in ſmaller ſpiral tendrils, uſually ſeven in number. Fruit ſmooth and even, the ſize and form of an hen's egg, with the rind ſo hard as ſcarcely to be cut with a knife, painted with ten milk-white longitudinal lines, as if it were a hybridous production of *Bryonia lacinioſa*.

Native of Perſia, about Aſtracan[i].

4. Stems thick, angular, extremely hiſpid, branched, climbing by means of bifid tendrils,] or ſpreading to the diſtance of forty feet, ſo that a ſingle plant, if properly encouraged, and all the ſide branches permitted to remain, will overſpread twenty rods of ground. [Leaves cordate, large, roundiſh-angular, toothed, wrinkled, hairy on both ſides, on long, alternate, thick, flexuoſe, hirſute petioles. Flowers yellow, lateral, ſolitary, on peduncles reſembling the petioles, but ſhorter. Teeth of the calyx large, gaſhed, waved, reflex[k]. Fruit roundiſh, ovate-globular or oblong-ovate; pale green on the outſide, and commonly hiſpid, with briſtly hairs; within having a ſpongy inſipid white pulp or fleſh; divided in the middle into three primary cells, each of which is double, and theſe are ſubdivided into the proper cells of the ſeeds, which are very numerous, horizontal, elliptic, of a compreſſed lens ſhape, ſmooth, whitiſh, encircled with a rounded tumid margin, and within that with a raiſed line: it has four coats, the outmoſt very thin and tranſparent; the next leathery, brittle and white; the third ſomewhat fleſhy and green, and the inmoſt membranaceous and cobwebbed: albumen none: embryo elliptic, white; ſeed-leaves fleſhy, ſlightly convex on the outſide, flat within, veiny-wrinkled[l].]

The fruit varies in form and ſize; two hundred and ſixty of them, on an average the ſize of half a peck, have been produced from a ſingle plant in New England. In Europe the Pompion, which we have corrupted to Pumpkin, is frequently planted by the country people on their dunghills, and ſuffered to trail at length over the graſs of an orchard. When the fruit is ripe, they cut a hole on one ſide, and having taken out the ſeeds, they fill the void with ſliced apples, adding a little ſugar and ſpice, and bake it; but it is eſteemed hard of digeſtion. [In the Eaſtern countries, it is reckoned the moſt wholeſome of the Cucurbitas, and is even given to the ſick, as being cooling and diuretic. Its natural place of growth is not known.

It flowers from june to auguſt; and was cultivated here before 1570, as appears from Lobel[m].

Formerly Pompions were called in Engliſh Melons, or corruptly Millions; and the true Melons, Muſk-Melons.

5. The plant, flower and ſeeds of this are the ſame as in the Pompion; but the fruit is ſmaller, with a harder rind; that is almoſt woody[n]. Loureiro is of opinion that it is no more than a variety of the next ſpecies.]

The warted Gourd is very common in moſt parts of America, where it is cultivated as a culinary fruit. It varies in form and ſize, being round, flat, ſhaped like a bottle, or oblong; the rind is white when the fruit is ripe, and covered with large protuberances or warts. It is commonly gathered when half grown, and boiled by the inhabitants of America to eat as ſauce with their meat. In England it is cultivated only as a curioſity, a variety of better eſculent plants being in ſeaſon here, when theſe are fit for uſe.

[Cultivated in 1731, by Mr. Miller[o].

6. Stem roundiſh, hairy, procumbent or climbing, with trifid tendrils; branches many, long. Leaves lobed-angular, ſerrate, hairy, alternate, on long petioles. Flowers yellow, on lateral, one-flowered peduncles: ſegments of the calyx linear-ſpatulate, ſpreading: anthers linear, diſtinct, erect. Fruit large, reddiſh-yellow or yellowiſh-white within and without, commonly roundiſh, often flatted at top and bottom, always toruloſe, ſometimes ovate, ſeldom warted.

This, ſays Linneus, has tendrils on the ſtem, though it be neither climbing nor procumbent. In this, however, he is miſtaken, for Loureiro informs us, that in India it is always ſcandent, when a ſupport is at hand, but when there is none, it is procumbent[p].]

Mr. Miller alſo remarks, that it often grows with a ſtrong buſhy erect ſtalk, without putting out runners from the ſide like the other ſorts, but that after it has been cultivated a few years in the ſame garden, the plants will become trailing: and that ſeeds out of the ſame fruit have produced erect plants bearing the ſame fruit with the parent, in one garden; and in another, trailing plants, with larger fruit, of a different ſhape. It is common in North America, where it is cultivated for the ſame purpoſes as the preceding. [Alſo in the Eaſt-Indies, China, &c. The fruit is of great uſe in long voyages, for it may be kept ſeveral months freſh and ſweet[q].

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[a] Juſſieu. [b] Loureiro. [c] Gærtner. [d] Haſſelquiſt. [e] Browne. [f] Ibid. [g] Hort. kew. from Ger. [h] Thunberg. [i] Linn. mant.

[k] Loureiro. [l] Gærtner. [m] Hort. kew. [n] Linn. ſpec. [o] Hort. kew. [p] Loureiro.

Cultivated in 1597[r].

7. Stem round, ſtriated, long, branched, hairy, procumbent, diffuſed, with lateral bifid tendrils. Flowers yellow, on ſhort, ſolitary, lateral peduncles. Fruit large, ſmooth, round or oblong, a foot and half in length, within watery, ſweet, very red or pale. Seeds black or rufous[s].] The fruit varies much in form and colour. It is cultivated in the warm countries of Europe, alſo in Aſia, Africa and America, where it is greatly eſteemed for its wholeſome cooling quality. In England it is not much regarded.

[Native of the ſouth of Europe, and cultivated before 1597 by Gerarde[t].

It ſerves the Egyptians for meat, drink and phyſic. It is eaten in abundance during the ſeaſon, which is from the beginning of may until the overflowing of the Nile, that is, to the end of july, or beginning of auguſt. It is the only medicine the common people uſe in ardent fevers. For this purpoſe they have a variety that is ſofter and more juicy than the common ſort: when this is very ripe, or almoſt putrid, they collect the juice, and mix it with roſe water and a little ſugar. This fruit ſhould be eaten by Europeans with great caution; when taken in the heat of the day, whilſt the body is warm, colics and other bad conſequences often enſue; and it is well known that perſons are much troubled with worms, at the time this fruit is in ſeaſon[u].

Gerarde calls the Water-Melon *Citruls*, *Cucumber Citruls*, and *Pome Citruls*. Parkinſon, the *Citrull* or *Turkie Million*.

Three other ſpecies of Cucurbita are mentioned to grow in the Society iſles, which Forſter has named—pruriens, aſpera & multiflora. *Flor. auſtr. n.* 554, 555, 556.]

PROPAGATION AND CULTURE.

1. to 6. Theſe may be propagated by ſowing their ſeeds in april, on a hot-bed; and when the plants come up, they ſhould be tranſplanted on another moderate bed, where they ſhould be brought up hardily, and have a great deal of air to ſtrengthen them; and when they have got four or five leaves, they ſhould be tranſplanted into holes made upon an old dunghill, or ſome ſuch place, allowing them a great deal of room to run, for ſome of the ſorts will ſpread to a great diſtance.

The firſt ſort requires to be treated more tenderly than the others, in order to procure ripe fruit; the ſeeds therefore ſhould be ſown upon a moderate hot-bed in april, and the plants afterward planted each into a penny pot, and plunged into a very moderate hot-bed to bring them forward; but they muſt not be tenderly treated, for if they have not a large ſhare of free air admitted to them every day, they will draw up weak. When the plants are grown too large to be continued in the pots, there ſhould be holes dug where they are deſigned to grow, and three or four barrows full of hot dung put into each; theſe ſhould be covered with earth, into which the plants muſt be planted, and covered with hand-glaſſes till they run out.

There are ſome people who ſet theſe plants by the ſides of arbours, over which they train the vines; ſo that in a ſhort time they will cover the whole arbour, and afford a ſtrong ſhade, and upon ſome of theſe arbours I have ſeen the longeſt fruit. There are others who plant them near walls, pales, or hedges, to which they faſten the Vines, and train them to a great height: the Orange-ſhaped Gourd is the ſort which is moſt commonly ſo planted for the ornament of its fruit, which has a pretty effect, eſpecially when ſeen at ſome diſtance. All the ſorts require a large ſupply of water in dry weather.

7. Firſt provide ſome ſeeds, which ſhould be three or four years old; for new ſeeds are apt to produce vigorous plants, which are ſeldom ſo fruitful as thoſe of a moderate ſtrength. The beſt ſorts to cultivate in England, are thoſe with ſmall round fruit, which come from Aſtracan, thoſe with very large fruit ſeldom ripen well in this climate. Prepare a heap of new dung the beginning of february, which ſhould be thrown in a heap for about twelve days to heat, turning it over twice, mixing it well; then make a hot-bed in which theſe ſeeds, as alſo Cucumber-ſeeds and Muſk Melons may be ſown. The dung ſhould be well wrought in making the bed, and muſt be beaten down pretty cloſe with a dung-fork, that the heat may not be too violent, but of longer continuance. When the dung is thus laid, cover it about four inches thick with good light earth, and having ſpread it very even, put the frame and glaſs over it, leaving it to warm four or five days before you put the ſeeds into it, obſerving, if the ſteam riſes pretty much, to raiſe up the glaſs to let it paſs off: then, if you find your bed in proper temper, you may ſow your ſeeds therein in drills, covering them over with earth about half an inch. After this, if you find your bed very warm, you muſt give air in the day-time by raiſing the glaſſes; but if the bed is cool, you muſt cover it well with mats every night, as alſo in bad weather. In four or five days after, you muſt prepare another hot-bed to receive theſe plants, which will be fit to tranſplant in ten days, or a fortnight at moſt, after the ſeeds are ſown; this bed need not be very large, for a few of theſe plants will fill a large quantity of frames, when they are planted out for good, and while the plants are young, there may be a great quantity kept in one light; ſo that thoſe perſons who raiſe early Cucumbers and Muſk Melons, may alſo raiſe theſe plants in the ſame bed; for two or three lights will be ſufficient to raiſe plants of all three kinds, to ſupply the largeſt families, until they are planted out for good. In the management of theſe plants while young, there is little difference from the directions given for raiſing Muſk Melons, therefore I need not repeat it here. The chief thing to be obſerved, is, to let them have a large ſhare of air whenever the weather will permit, otherwiſe the plants will draw up weak, and be good for little. As theſe plants will require two or three hot-beds to bring the fruit to perfection, it will be the better way to put the plants into baſkets, when they have gotten four leaves, as is directed for raiſing early Cucumbers; but you ſhould not plant more than two plants in each baſket, for if one of them lives it will be ſufficient; therefore when both the plants ſucceed, you ſhould draw out the weakeſt and moſt unpromiſing, before they begin to put out their ſide ſhoots, otherwiſe they will entangle and render it difficult to be performed, without greatly injuring the remaining plant.

The baſkets in which theſe plants are to be planted, need not be more than a foot diameter; ſo that one light will contain eight of them, which will be ſufficient for twenty-four-lights, when they are planted out for good; for where the plants are vigorous, one ſingle plant will ſpread ſo far as to fill three lights; and if they have not room, they ſeldom ſet their fruit well.

Theſe baſkets may remain in the nurſery-beds until the plants have ſpread, and put out many runners; for when the heat of this bed declines, it is ſoon revived by adding a proper lining of warm dung to the ſides of the bed quite round; ſo that when they are taken out of this bed, and placed in the ridges where they are to remain, the heat of the beds will laſt ſo long as to ſet their fruit, which is of great conſequence; for when the plants are ridged out very young, the beds are generally made of great thickneſs in dung, in order to continue their heat; ſo that for ſome time after they are made, they are ſo extreme hot, as to endanger the ſcalding of the plants; and by the time the fruit begins to appear, there is little heat left in the beds, which often occaſions the fruit to drop off, and come to nothing.

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[q] Loureiro.

[r] Hort. kew.

[s] Loureiro.

[t] Hort. kew.

[u] Haſſelquiſt.

After theſe plants are placed in the beds where they are to remain, carefully lead the ſhoots as they are produced, ſo as to fill each part of the frame, but not to croud each other; and be careful to keep them clear from weeds, as alſo to admit freſh air whenever the weather will permit; they muſt alſo be frequently watered, but do not give it them in great quantities. In ſhort, there is little difference to be obſerved in the management of theſe from that of Muſk Melons, but only to give them more room, and to keep the beds to a good temperature of heat, and when the fruit appears, to admit air freely to the plants, in order to ſet their fruit; but when the nights are cold, the glaſſes muſt be covered with mats to keep the beds warm, without which this fruit will ſeldom come to good in this country.

[Cucurbita. See *Tricoſanthes.*

Cucurbitifera. See *Cratæva, Creſcentia.*

Cudupariti. See *Goſſypium.*

Cudweed. See *Athanaſia, Filago, Gnaphalium.*

Cujavus. See *Pſidium.*]

Cujete. See *Creſcentia.*

[Culilaban. See *Laurus.*

Cumin. See *Cuminum.*

Cumini. See *Myrtus.*]

Cuminoides. See *Lagoecia.*

CUMĪNUM. (παρὰ το κύτειν, *prægnans eſſe, from its fertility.*)

Lin. gen. n. 351. *Reich.* 381. *Schreb.* 483. *Gærtn.* 23. Juſſ. 21. * *Tournef.*

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Umbellatæ* or *Umbelliferæ.*

GENERIC CHARACTER.

Cal. *Umbel univerſal* and partial, often four-parted.

Involucre univerſal of as many leaves, which are very long, perfectly entire, but in ſome-three-cleft.

Partial ſimilar.

Perianth proper ſcarce manifeſt. *Florets* all fertile.

Cor. *univerſal* uniform.

Proper of five petals, inflex-emarginate, ſomewhat unequal.

Stam. *Filaments* five, ſimple. *Anthers* ſimple.

Pist. *Germ* ovate, larger than the flower, inferior. *Styles* two, very ſmall. *Stigmas* ſimple.

Per. none, fruit ovate, ſtriated.

Seeds two, ovate, ſtriated on one ſide and convex, on the other flat.

ESSENTIAL CHARACTER.

Involucres four-cleft. *Umbellules* four. *Fruit* ovate, ſtriated.

SPECIES.

1. Cuminum Cyminum. *Cumin.*

Lin. ſpec. 365. *Reich.* 698. *mat. med.* 82. *Gouan illuſtr.* 18. *Riv. pent. t.* 40. *Gærtn. fruct.* 107. *Plenck, ic. t.* 192. *Woodv. med. bot.* 520. *t.* 191. *Rivin. pent. t.* 40.

C. ſemine longiore. *Bauh. pin.* 146. *Mor. hiſt.* 271. *ſ.* 9. *t.* 2. *row* 1.

C. ſativum. *Cam. epit.* 518. *Bauh. hiſt.* 3. 22. *Ger.* 907. *emac.* 1066. *Raii hiſt.* 433.

C. vulgare. *Park. theat.* 887.

DESCRIPTION, &c.

[Root annual, round, ſcarcely branched. Stem a palm in height;] Miller ſays, it ſeldom riſes more than nine or ten inches high in the warm countries where it is cultivated, and that he has never ſeen it grow more than three or four inches high in England. [It is ſmooth, ſtriated, branched from the bottom, flexuoſe, and divaricately panicled. Leaves ſubbiternate, the lateral leaflets being binate or bifid, and the end one trifid; all the ſegments unequal, filiform, and an inch long: the uppermoſt leaves are only ternate, the middle leaflet longer than the two others.] According to Miller, the leaves are divided into long narrow ſegments like thoſe of Fennel, but much ſmaller; they are of a deep green, and generally turn back at the end. [Peduncles oppoſite to the leaves, ſpreading the length of the internodes. Rays of the umbel from four to ſix, nearly equal, ſpreading, the third of an inch in length. Univerſal involucres of two or three ſubulate, unequal leaflets, the length of the umbellets, ſometimes trifid. Three or four flowers, ſeldom five, in each umbellet. Pedicels unequal, about the ſame length with the fruits. Involucels often as many as the flowers, leaflets unequal, briſtle-ſhaped and acuminate, the length of the umbellets. Corollas purpliſh or pale bluſh-colour, rayed. Fruit oblong, thicker in the middle[a]; the ſame ſize with that of fennel; and aromatic; terminated by the erect toothlets of the calyx, and the two ſhort reflex ſtyles; ſtriated, ſomewhat hiſpid, pale. Seeds convex on one ſide, on which are nine ſtreaks, and minute briſtles ſcattered over it; the other ſide is flat[b].

Native of Egypt. It flowers in june and july. Cultivated in 1594, by Sir Hugh Plat[c]. Gerarde ſays, he has proved the ſeeds in his garden, where they have brought forth ripe ſeed much fairer and greater than any that cometh from beyond the ſeas. He ſowed it in the midſt of may, it ſprung up in ſix days, and the ſeed was ripe in the end of july. It is ſingular, therefore, that the Cumin ſhould never produce ſeeds with Mr. Miller.

It is cultivated in the ſouth of Europe, and all Leſſer Aſia.] In the iſland of Malta, where it is much propagated for ſale, it is called *Cumino aigro,* hot Cumin, to diſtinguiſh it from Aniſe, which they call *Cumino dolce,* or ſweet Cumin.

PROPAGATION AND CULTURE.

If the ſeeds of this plant are ſown in ſmall pots filled with light kitchen-garden earth, and plunged into a very moderate hot-bed to bring up the plants, and theſe after having been gradually inured to the open air, turned out of the pots, and planted in a warm border of good earth, preſerving the balls of earth to their roots, and afterwards kept clean from weeds; the plants will flower pretty well, and by thus bringing them forward in the ſpring, they may perfect their ſeeds in very warm ſeaſons.

[Cuminum. See *Hypecoum, Lagoecia, Pimpinella.*

CUNĪLA. (*The name of a plant in Pliny,* Κονιλη, Nicand. *Suppoſed to be ſo called from the flowers growing in a head, reſembling a Cone or Strobile.*)

Lin. gen. n. 35. *Reich.* 38. *Schreb.* 46. *Juſſieu* 111. *Hedyoſmos D. Royen. Mich. act. N. C.* 1748. *app.* 211.

Claſſ. 2. 1. Diandria Monogynia.

Nat. order of *Verticillatæ,* or *Labiatæ.*

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, cylindric, permanent, ten-ſtreaked; mouth ſomewhat lipped, five-toothed, permanent.

Cor. one-petalled, ringent. *Upper lip* erect, flat, emarginate. *Lower lip* three-parted; *diviſions* rounded, middle one emarginate.

Stam. *Filaments* two, filiform, and two rudiments of filaments. *Anthers* roundiſh, twin.

Pist. *Germ* four-parted. *Style* filiform, length of the ſtamens. *Stigma* two-cleft, ſharp.

Per. none. *Calyx* with its throat cloſed with ſhaggy hairs.

Seeds four, oval, minute.

ESSENTIAL CHARACTER.

Cor. ringent; upper lip erect, flat. *Filaments* two, barren. *Seeds* four.

SPECIES.

1. Cunila mariana. *Mint-leaved Cunila.*

Lin. ſpec. 30. *Reich.* 57. *Gron. virg.* 64. (Thymus.) *Pluk. mant. t.* 344. *f.* 1.] *Mor. hiſt.* 413. *ſ.* 11. *t.* 19. *f.* 7. (Calamintha).

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[a] Gouan.

[b] Gærtner.

[c] Hort. kew.

Satureia origanoides. *Lin. ſpec. edit.* 1. 568. *Mill. dict. n.* 5.
Leaves ovate ſerrate; corymbs terminating dichotomous.

[2. Cunila pulegioides. *Pennyroyal-leaved Cunila.*
Lin. ſpec. 30. *ſyſt.* 67.
Meliſſa pulegioides. *Lin. ſpec. edit.* 1. 593. *Gron. virg.* 167. *Kalm. itin.* 2. 314. *engl. edit.* 1. 194.
Leaves oblong two-toothed; flowers in whorls.

3. Cunila thymoides. *Thyme-leaved Cunila.*
Lin. ſpec. 31. *Reich.* 57. *Mor.* 404. *f.* 6. (Acinos).
Thymus pulegioides. *Lin. ſpec. edit.* 1. 592.
Leaves oval, very entire; flowers in whorls, ſtem four-cornered.

4. Cunila capitata.
Lin. ſyſt. 67. *ſuppl.* 87.
Leaves ovate; flowers terminating; umbel roundiſh.

DESCRIPTIONS, *&c.*

1. Perennial. Native of North America. It flowers from july to ſeptember, and was cultivated in 1760, by Mr. James Gordon[d].]

There are two varieties of this; one has narrower leaves and larger heads, and the leaves have very little ſcent; whereas thoſe of the common ſort ſmell ſo like Pennyroyal as not to be diſtinguiſhed from it.

[2. Annual. A ſpan high, and brachiate. Leaves lanceolate-ovate, roughiſh, with one or two teeth; the upper ones narrower. Whorls of flowers the whole length of the plant. Bractes two on each ſide, larger than the flowers, beſides other minute ones. Calyx rough; the upper lip three-cleft and acuminate; the lower ſetaceous. Corolla white, with a violet-coloured throat; the upper lip ſcarcely emarginate[e]. It has a ſtrong ſcent, and an infuſion of it is uſed in North America, by perſons who have taken cold, or have pains in their limbs[f].

Native of North America, in dry places; flowering with us in auguſt. Introduced 1777, by Monſ. Thouin[g].

3. Annual. It has the air of the foregoing. Stem erect, a ſpan in height; with a few, ſimple, ſhort branches. Leaves obtuſe, ſmooth, ſtriated underneath. Whorls of flowers the whole length of the ſtem. Native of the country about Montpellier[h].

4. Stem a palm in height. Leaves ſomewhat oblong, naked. Calyxes ſmooth and even, ſtreaked. Corollas purple. Anthers black. Native of Siberia[i].

PROPAGATION AND CULTURE.

Theſe plants are all hardy, and may be propagated from ſeeds, which they ſometimes produce here. The firſt ſort may alſo be increaſed by planting cuttings in the ſpring, in the ſame manner as is practiſed for Mint; they will take root freely, and if they are planted in a moiſt ſoil will thrive exceedingly.

CUNNINGHAMIA. (

Lin. gen. Schreb. n. 1720. Malanea *Aubl. t.* 41. *Juſſ.* 203. Antirrhea *Commers? Juſſ.* 204.
Claſſ. 4. 1. Tetrandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, four-toothed, very ſmall, permanent.
Cor. one-petalled: *tube* ſhort: border four-cleft, acute. *Nectary*, a rim ſurrounding the baſe of the ſtyle.
Stam. *Filaments* four, the ſame length with the border of the corolla, inſerted into the throat. *Anthers* roundiſh.
Pist. *Germ* roundiſh, inferior. *Style* filiform, bifid. *Stigmas* obtuſe.
Per. *Berry* ovate, crowned, one-celled.
Seed ſingle, ovate, two-celled; with oblong kernels.

ESSENTIAL CHARACTER.

Cal. very ſmall, four-toothed. *Cor.* four-cleft, with a ſhort tube. *Berry* crowned, with a two-celled, two-ſeeded nut.

SPECIES.

1. Cunninghamia ſarmentoſa.

DESCRIPTION, *&c.*

This, which is the only ſpecies known, is a ſort of ramping ſhrub, with a ſtem about ſix feet high, and four or five inches in diameter. The bark is reddiſh, wrinkled, and cloven: the wood is whitiſh: as the ſhrub grows, it puſhes out towards right and left long twiggy branches, which apply themſelves to the trunks of large trees, and inſenſibly climb to their tops, where they ſpread themſelves by puſhing forth a conſiderable number of long twiggy branches, many of which hang pendant to within ſix or eight feet of the ground. Theſe branches are knotty, covered with a reddiſh down, and bear at each knot a pair of oppoſite leaves, diſpoſed croſſwiſe: they are entire, wrinkled, oval, green above, beneath reddiſh and downy. The border of theſe leaves is often a little rolled inwards: the nerves are prominent: the footſtalk ſhort. At the baſe of the leaves on each ſide is a large weak ſtipule, which is downy, and ſoon falls off: the largeſt leaves are about four inches and a half long, and about three broad. The flowers, which are ſmall, grow in ſpikes, proceeding from the boſoms of the leaves towards the extremities of the twigs: their colour is blueiſh; the calyx reddiſh. This ſhrub is found on trees which grow near the crique de Galibis.

CUNONIA. (*From Joh. Chriſt. Cuno of Amſterdam; who deſcribed his own garden in Dutch verſe* 1750.)
Lin. gen. n. 556. *Reich.* 605. *Schreb.* 761. *Juſſ.* 310. Ooſterdykia. *Burm. afr. t.* 96.
Claſſ. 10. 2. Decandria Digynia.
Nat. order of *Saxifragæ.* Juſſieu.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved, very ſmall: *leaflets* ovate, concave, acute.
Cor. *Petals* five, obovate, ſpreading, ſeſſile.
Stam. *Filaments* ten, ſubulate, the length of the corolla. *Anthers* roundiſh, twin.
Pist. *Germ* conic. *Styles* two, ſubulate, longer than the corolla. *Stigmas* obtuſe.
Per. *Capſule* oblong, acuminate, two-celled.
Seeds very many, roundiſh.

ESSENTIAL CHARACTER.

Cor. five-petalled. *Cal.* five-leaved. *Capſ.* two-celled, acuminate, many-ſeeded. *Styles* longer than the flower.

SPECIES.

1. Cunonia capenſis.
Lin. ſpec. 569. *ſyſt.* 410. *Reich.* 2. 305. *Burm. afr.* 259. *t.* 96. *Pluk. alm. t.* 191. *f.* 4.

DESCRIPTION, *&c.*

A ſhrub. Leaves oppoſite, pinnate, with an odd leaflet, ſeſſile, and not longer than the reſt; leaflets often ſeven, lanceolate, ſmooth, ſerrate. Glands ſpatule-form, axillary, petioled. Racemes terminating, in pairs, ſimple, with many one-flowered ſcattered pedicels ſpringing from one point. Native of the Cape of Good Hope[a].

Cunonia. See *Antholyza.*

Cupameni. See *Acalypha.*

CUPANIA. (*So named from Franceſco Cupani of Sicily, a Franciſcan monk: author of* Plantæ Siculæ, 1692; *and* Hortus Catholicus, 1696.)
Lin. gen. n. 279. *Reich.* 1182. *Schreb.* 645. *Plum.* 19. *Juſſ.* 249. *Gærtn. t.* 177. *Swartz obſ.* 364. *prodr.* 61. Trigonis. *Jacqu. amer.* 102. Molinæa *Commers. Juſſ.* 248.
Claſſ. 8. 1. Octandria Monogynia: or Polygamia Monoecia.
Nat. order of *Tribilatæ.* *Sapindi* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved, inferior: *leaflets* oblong, erect, (ovate, acuminate, concave. *Sw.*)
Cor. *Petals* five, cowled at top, upright, (clawed, ciliate. *Sw.*) (*Nectary*, a fleſhy ring ſurrounding the germ and ſtamens. *Sw.*)
Stam. *Filaments* eight, capillary, longer than the calyx, erect, (from the baſe of the corolla, broader at

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[d] Hort. kew.
[e] Linn. ſpec.
[f] Kalm.
[g] Hort. kew.
[h] Linn. ſpec.
[i] Linn. ſuppl.
[a] Linn. ſpec.

bottom, villoſe, the ſame length with the petals. *Sw.*) *Anthers* incumbent, (oblong. *Sw.*)

Pist. *Germ* ovate, (roundiſh, three-cornered. *Sw.*) *Style* ſhort, trifid (at the tip, ſubulate, the length of the ſtamens. *Sw.*) *Stigmas* blunt, (ſmall, almoſt upright. *Sw.*)

Per. *Capſule* coriaceous, turbinate-ovate, three-lobed, (obtuſely three-cornered, large. *Sw.*) three-celled, three-valved.

Seed ſolitary, (two in each cell. *Plum.*) roundiſh, (ſpherical or oblong. *Sw.*): with a bell-ſhaped, crenate *aril* embracing the ſeed like a calyx; (coloured, faſtened to the ſeed above the middle. *Sw.*)

Obs. *Many of the flowers are abortive.*

ESSENTIAL CHARACTER.

Cal. five-leaved. *Pet.* five, cowled at the top. *Style* trifid. *Capſ.* three-celled. *Seeds* ſolitary, arilled.

SPECIES.

1. Cupania tomentoſa.
Swartz prodr. 61.
Trigonis tomentoſa. *Jacqu. amer.* 102. 1.
Leaves pinnate obovate retuſe, ferruginous-tomentoſe underneath.

2. Cupania glabra.
Swartz prodr. 61. *Brown. jam.* 178. *Plum. gen.* 45. *ic.* 110.
C. americana. *Lin. ſpec.* 290. *ſyſt.* 864. *Reich.* 4. 190. *Gærtn. fruct.* 2. 469.
Leaves pinnate ovate obtuſe crenate ſmooth.

3. Cupania ſaponarioides.
Swartz prodr. 62.
Leaves pinnate oblong entire, rugged underneath.

DESCRIPTIONS, &c.

1. Jacquin deſcribes his Trigonis as a ſmall upright tree, twelve feet in height. The younger branches and ribs of the leaves are ſlightly tomentoſe. Leaves alternate, half a foot long: leaflets uſually three pairs, without an odd one, oblong, attenuated at the baſe, emarginate, ſerrate, ſmooth on the upper, tomentoſe on the lower ſurface, alternate, the outer ones largeſt, and frequently half a foot in length longer than the rib. Racemes ſimple, erect, axillary, ſeven inches long; the pedicels ſhort. Flowers ſmall, numerous, with yellowiſh petals, in the ſhape of an iſoſceles triangle inverted, whence the name Trigonis. Native of Hiſpaniola in woods.

2. This ſhrubby tree is common in the lower hills of Jamaica, where it is called Loblolly-tree. It riſes to the height of twelve or fourteen feet. The leaves are large, and the wood ſoft and uſeleſs [b].

Capſule of a duſky ferruginous colour, opening into three parts at the tip, ſcarcely to half its length, and quite entire at bottom: the ſutures of the valves towards the top have a narrow groove, but the ſides have a deep one, to which the partitions correſpond within. Seeds ſolitary, brown: aril incomplete, ſpongy-membranaceous, of a dirty white colour, funnel-ſhaped; with a ſolid beak, but the cup involving the ſeed half way, and ending in a repand toothleſs margin [c]. The preceding ſpecies has a ſilky white fruit, and two ſeeds in each cell, according to Gærtner; who doubts, however, whether theſe be really diſtinct.

3. Native of the Weſt-Indies [d].

Cuphea. See *Lythrum.*

Cupi. See *Rondeletia.*

Cupresso-pinulus. See *Brunia.*]

CUPRESSUS. (Cupreſſus *of Pliny.* Cypariſſus *of Virgil.* Κυπαριττος *of Theophraſtus.* Κυπαρισσος *of Dioſcorides from* κυω *pario, and* παρισος *æqualis, from the regularity of its branches.*—Κυει παρισους η Κυπαρισσος κλαδους. *Euſtathius.*)

Lin. gen. n. 1079. *Reich.* 1177. *Schreb.* 1458. *Gærtn. t.* 91. *Tourn.* 358. *Juſſ.* 413.

Claſſ. 21. 9. Monoecia Monadelphia.

Nat. order of *Coniferæ.*

GENERIC CHARACTER.

* Male flowers diſpoſed in an ovate ament.

Cal. *Ament common* ovate, compoſed of ſcattered flowers; conſiſting of
Single-flowered *ſcales*, roundiſh, acuminate on their fore-part, peltate, oppoſite, about twenty in number.

Cor. none.

Stam. *Filaments* none: the office of them is borne by the calycine ſcale, to which on the lower part grow four *anthers.*

* *Female* flowers heaped into a roundiſh cone on the ſame plant.

Cal. *Strobile common* roundiſh, compoſed of from eight to ten florets, conſiſting of
Single-flowered *ſcales,* which are oppoſite, ovate, convex beneath, gaping.

Cor. none.

Pist. *Germ* ſcarcely evident. Numerous points appear within each calycine ſcale; are they germs without ſtyles, each with a ſimple ſtigma? ſubtruncate, concave at the tip.

Per. none. *Strobile*-globoſe, ſhut, gaping with orbiculate ſcales, which are angular and peltate beneath.

Seeds ſeveral, oblong, angular, ſubulate, ſmall.

ESSENTIAL CHARACTER.

Male. *Cal.* Scale of an ament. *Cor.* none. *Anthers* four, ſeſſile, without filaments.

Fem. *Cal.* of a ſtrobile: ſcale one-flowered. *Cor.* none. *Styles?* concave dots. *Nut* angular.

SPECIES.

1. Cupreſſus ſempervirens. *Evergreen Cypreſs.*
Lin. ſpec. 1422. *Reich.* 4. 179. *mat. med.* 206. *hort. cliff.* 449. *upſ.* 288. *Gouan. monſp.* 495. *Scop. carn. n.* 1199. *Gærtn. fruct.* 2. 64. *Lour. cochinch.* 580. *Pallas roſs.* 2. 11. *t.* 53.
Cupreſſus. *Bauh. pin.* 488. *Cam. epit.* 52. *Raii hiſt.* 1406. *Ger.* 1185. *emac.* 1367. *Beſl. eyſt. æſtiv. frut. t.* 1. *f.* 1. *Blackw. herb. t.* 127.
α. C. ſempervirens. *Mill. dict. n.* 1.
C. ſtricta. *Upright Cypreſs tree. Ait. hort. kew.* 372. 1. α.
β. C. horizontalis. *Spreading Cypreſs tree. Mill. dict. n.* 2. *Hort. kew.* 1. β.
Leaves imbricate, fronds quadrangular.

2. Cupreſſus diſticha. *Deciduous Cypreſs tree.*
Lin. ſpec. 1422. *Reich.* 4. 180. *hort. cliff.* 499. *upſ.* 289. *Gron. virg.* 153.
C. americana. *Cateſb. car.* 1. *t.* 11. *Park. theat.* 1477. 2.
C. virginiana. *Raii hiſt.* 1408.—fol. acaciæ deciduis. *Comm. hort.* 1. 113. *t.* 59. *Pluk. alm. t.* 85. *f.* 6.
α. C. patens. *Common deciduous Cypreſs. Ait. hort. kew.* 372. 2. α.
β. C. nutans. *Long-leaved deciduous Cypreſs. Ait. hort. kew.* 2. β.
Leaves diſtich, ſpreading.

3. Cupreſſus thyoides. *White Cedar,* or *Arbor vitæ-leaved Cypreſs.*
Lin. ſpec. 1422. *Reich.* 4. 180. *Kalm. itin.* 2. 175. & 3. 114. *edit. engl.* 2. 174. *Lour. cochinch.* 580.
C. nana marina, fructu cæruleo parvo. *Pluk. mant. t.* 345. *f.* 1.
Leaves imbricate, fronds ancipital.

4. Cupreſſus juniperoides. *African* or *Cape Cypreſs.*
Lin. ſpec. 1422. *Reich.* 4. 180.
C. africana. *Mill. dict. n.* 6.
Leaves oppoſite decuſſated ſubulate patulous.

5. Cupreſſus pendula. *Portugal Cypreſs.*
L'Herit. ſtirp. nov. 15. *t.* 8. *Ait. hort. kew.* 3. 373. an *Thunb. jap.* 265? *Lin. ſyſt.* 861?
C. luſitanica. *Mill. dict. n.* 3.—patula, fr. minore. *Tourn. inſt.* 587. *Duham. arb. n.* 2.
Leaves imbricate glanduloſe, fronds quadrangular glaucous, branches hanging down.

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[b] Browne. [c] Gærtner. [d] Swartz.

[6. Cupreſſus japonica. *Japan Cypreſs.*
Lin. ſyſt. 861. *Thunb. jap.* 265. *Lin. ſuppl.* 421. *Gærtn. fruct.* 2. 64.
Leaves in four rows, ſickled compreſſed furrowed decurrent.

7. Cupreſſus columnaris.
Forſt. flor. auſtr. n. 351.
Leaves imbricate ſubulate furrowed; ſtrobiles cylindric elongated.

DESCRIPTIONS, *&c.*

1. Stem upright, with many round branches, either growing upright (α), or ſpreading abroad (β); ſtrigoſe and toothed with the rudiments of leaves. Fronds dichotomous, ſubquadrangular; leaflets alternately oppoſite, decurrent, ſubcarinate, the older ones diſtant and mucronate, the younger cloſely imbricate. Fruit globular or ſomewhat ovate, on the ſides, or at the ends of the branches, when unripe dark green. It is a cone or ſtrobile, called by Varro *galbulus*, and is compoſed of large, angular, peltate, corky ſcales, ſlightly convex on the outſide, ſtreaked in rays, and mucronate in the centre, becoming woody, and ſeparating when ripe, on the inſide ending in a thick angular peduncle, to the extremity of which four little nuts adhere, which are bony, obovate, compreſſed, or irregularly angular, covered with a thin membranaceous ſkin of a dun colour, and produced into a very narrow rim ſurrounding the nut; it is one-celled, valveleſs, and is eaſily cut with a knife. Seed linear-oblong, ſubcolumnar, bay-coloured [a].

Native of the Levant, Candia, Rhodes, Malta, &c.; Carinthia; Apulia, where Dr. Symonds informs us it is very frequent, and that he ſaw trees thirty feet high on monte Gargano; in ſome parts of the Ruſſian empire; in China, and probably in many provinces of Aſia.

We learn from Turner that it was cultivated here in Sion garden, in 1551 [b]. Gerarde alſo mentions its growing at Sion, Greenwich, and at Hampſtead in the garden of Maſter Waide, one of the Clerks of her Majeſty's Privy Council.

It is ſaid that there are ſtill growing in the garden of the Palace of Generaliſe at Grenada, ſeveral ſuperb and lofty Cypreſſes, which were large trees in the reign of Andeli, the laſt Mooriſh King, three centuries ago. Theſe trees are ſtill called *Los Cypreſſes de la Regna Sultana*, from the Princeſs having been falſely accuſed of committing adultery under them with *Abencerrage* [c]. The Cypreſs will live to a great age, if what Pliny ſays [d] be true, that there were in his time at Rome trees more ancient than the city itſelf. Modern Rome boaſts ſome very fine Cypreſſes by the palaces and in the gardens of ſome of the villas, though not of ſuch high antiquity; and no tree blends ſo well as this with ſtone buildings.

Mr. Miller diſtinguiſhes ſpecifically the upright from the ſpreading Cypreſs. According to his account,] the firſt of theſe trees is very common in moſt of the old gardens in England, but at preſent is not ſo much in requeſt as formerly, though it is not without its advantages; nor ſhould it be entirely rejected, although many perſons are of that opinion; for it ſerves to add to the beauty of wilderneſſes, or clumps of Evergreens; and where they are properly diſpoſed, they have their beauties. It was formerly planted in borders of pleaſure-gardens, and kept ſhorn into a pyramidal or conic form; and ſome people, believing them ſubject to be killed if they cut them, tied them up with cords into a pyramidal figure, which form they are naturally diſpoſed to grow in; but this winding them about, prevented the air from entering the inward parts of the branches, ſo that the leaves decayed, and became unſightly, and greatly retarded their growth. And thoſe which are ſheared, if the operation is not performed in the ſpring, or early in the ſummer, are very ſubject to be injured by ſharp winds and cutting froſts in winter. Wherefore, upon the whole, I think it much better to ſuffer them to grow wild as they are naturally diſpoſed, planting them only amongſt other Evergreen Trees, where, by the darkneſs of their green leaves, together with their waving heads, they will greatly add to the variety.

The ſecond is by far the largeſt growing tree; and is the moſt common timber in ſome parts of the Levant. This, if planted upon a warm, ſandy, gravelly ſoil, will proſper wonderfully; and though the plants of this ſort are not ſo finely ſhaped as thoſe of the firſt, yet they greatly recompenſe for that defect by their vigorous growth and ſtrength, in reſiſting all weathers. This tree is very proper to intermix with Evergreens of a ſecond ſize next to Pines and Firs, to form clumps; in which claſs it will keep pace with the trees of the ſame line, and be very handſome. Beſides, the wood of this tree is very valuable, when grown to a ſize fit for planks, which I am convinced it will do in as ſhort a ſpace as Oaks; therefore, why ſhould not this be cultivated for that purpoſe, ſince there are many places in England where the ſoil is of a ſandy or gravelly nature, and ſeldom produces any thing worth cultivating? Now, in ſuch places theſe trees will thrive wonderfully, and greatly add to the pleaſure of the owner, while growing, and afterwards render as much profit to his ſucceſſors, as perhaps the beſt plantation of Oaks; eſpecially ſhould the timber prove as good here as in the iſlands of the Archipelago, which I ſee no reaſon to doubt of; we find it was ſo gainful a commodity to the iſland of Candia, that the plantations were called *dos filiæ*, the felling of one of them being reckoned a daughter's portion.

[The march and april winds, ſays Mr. Evelyn, in 1663 and 1665, accompanied with cruel froſts and cold blaſts for more than two months, did not, amongſt near a thouſand Cypreſſes growing in my garden, kill above three or four, which had been cut the latter end of october. As for the froſt of thoſe winters, than which, I believe, there was never known a more cruel and deadly piercing one ſince England had a name, it did not touch a Cypreſs of mine, till it joined forces with that deſtructive wind.

Notwithſtanding the above recommendation of Miller, and the account of its hardineſs by Evelyn, the Cypreſs has never been planted in any quantity among us, evidently becauſe it cannot reſiſt the attacks of our winter froſts and ſpring blaſts.]

The timber of this tree is ſaid to reſiſt the worm, moth, and all putrefaction, and is ſaid to laſt many hundred years. The doors of St. Peter's church at Rome were framed of this material, which laſted from Conſtantine to Pope Eugenius IVth's time, which was eleven hundred years, and were then found and entire, when the Pope changed them for gates of braſs. The coffins were made of this material, in which Thucydides tells us the Athenians uſed to bury their heroes; and the mummy cheſts, brought with thoſe condited bodies out of Egypt, are many of them of this wood.

This tree is recommended for the improvement of the air, and a ſpecific for the lungs, as ſending forth great quantities of aromatic and balſamic ſcents; wherefore many of the antient phyſicians of the Eaſtern countries uſed to ſend their patients, who were troubled with weak lungs, to the iſland of Candia, which at that time abounded with theſe trees. [However that may be, the Cypreſs is valuable on account of its wood, which is of a duſky or browniſh red colour, has a ſweet ſmell, and on account of its hardneſs is fit for a variety of purpoſes. It is fit, ſays Evelyn, for cheſts and other domeſtic furniture; harps and other muſical inſtruments, being a ſonorous wood; for ſtakes to vines, pales, rails and planks, of which there were at Venice above four feet in breadth. In Crete and Malta it is uſed in building.

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[a] Pallas, Gærtner.
[b] Hort. kew.
[c] Townſ. travels.
[d] B. 16. ch. 44.

The Cypreſs among the ancients was ſacred to Pluto and Proſerpine, and was uſed at funerals, eſpecially of perſons of faſhion:

> "Et non plebeios luctus teſtata cupreſſus." *Lucan.*

It was placed in front of the houſe, or in the veſtibule, that no perſon who was to perform any ſacred rites might enter a place polluted with a dead body: and the reaſon aſſigned for its uſe on this melancholy occaſion was, that the Cypreſs when once cut down never ſprings up again. It would be an improper emblem, therefore, in a Chriſtian country. The uſe of evergreens at funerals is yet not uncommon among us; but they are ſuppoſed to be ſignificant of immortality, at the ſame time that their balſamic ſcent guards the attendants againſt the ill ſmells and infection that may be apprehended from a putrid body.

On account of its durability Plato would have the laws and ſacred rites inſcribed on Cypreſs tablets: and Pliny relates (16. 40.) that the ſtatue of Jupiter in the Capitol, made of this wood in the year of Rome 661, was found in his time.]

2. The ſecond ſort is a native of America, where it grows in watery places, and riſes to a prodigious height, and is of a wonderful bulk. I have been informed that there are trees of this kind in America which are upwards of ſeventy feet high, and ſeveral fathoms in circumference, which trees grow conſtantly in the water; therefore they may probably be of ſingular advantage to plant in ſuch ſwampy or wet ſoils where few other trees will grow, eſpecially of the reſinous kind. That they are very hardy in reſpect to cold, is evident from ſome few trees of this kind which were formerly planted in England; particularly one in the gardens of John Tradeſcant, at South Lambeth, near Vauxhall, which is upwards of thirty feet high, and of a conſiderable bulk; though in a common yard, where no care is taken of it, but, on the contrary, many hooks are driven into the trunk to faſten cords thereto for drying cloaths, yet the tree is in great health and vigour, but has not produced any fruit, which may be occaſioned for want of moiſture: for we often ſee many aquatic plants growing upon a drier ſoil, but are ſeldom ſo productive of either flowers or fruit as thoſe which grow in the water.

[John Tradeſcant, ſenr. introduced this tree from Virginia, before the year 1640[e]. His tree at South Lambeth has long been deſtroyed, together with all the other trees and plants in his curious garden there.]

Another large tree of this ſort in the gardens of the late Sir Abraham Janſſen, Bart. at Wimbledon in Surry, produced great quantities of cones for ſome years, which in favourable ſeaſons came to maturity, and the ſeeds were as good as thoſe which have been brought from America. This tree was tranſplanted when it was very large, which ſtinted its growth; and this may have occaſioned its fruitfulneſs, for it made very little progreſs in its growth after it was removed. [This tree in ſummer reſembles an evergreen; the leaves have a pleaſing effect, appearing like ſome ſorts of Acacia[f].

3. This grows to a conſiderable ſize in North America, of which it is a native. With us it ſeldom riſes much higher than fifteen feet; when raiſed from cuttings it has rather the appearance of a ſhrub, and is not above nine or ten feet high. Loureiro informs us, that in China and Cochinchina, where it alſo grows naturally, it is only about eight feet in height. The branches are numerous, and ſtand two ways; the tree naturally forms itſelf into a regular head: the leaves are evergreen, flat, ſharp, very ſhort, imbricated, and reſemble thoſe of the *Arbor Vitæ*; they are ſmall, and of a browner green than the Common Cypreſs.] The fruit is blue, and no larger than the berry of the Juniper, from which it is not eaſily diſtinguiſhed at a little diſtance; but it is a perfect cone or ſtrobile, having ſeveral nuts like that of the common Cypreſs.

[It is abundant in the ſwamps of New Jerſey, and ſome parts of Pennſylvania and New York; but not to the north of Goſhen, lat. 41° 25′. The number, however, has been greatly reduced, and as this tree requires to be of eighty years growth from the ſeed before it can be uſed for timber, poſterity will probably find the want of this uſeful tree in America. It is uſed for fencing, and even for poſts, but it does not laſt in the ground ſo well as the red Cedar (Juniperus virginiana); it makes good canoes; hoops and other cooper's ware. Many houſes are built of it; but it is in the higheſt eſteem for ſhingles; and for that purpoſe great quantities are ſent to the town of New York. It is alſo exported to the Weſt-Indies both for ſhingles and pipe ſtaves[g].]

This tree, planted in a ſtrong moiſt ſoil, may become profitable for timber, and growing in a climate much colder than England, there is no hazard of its ſucceeding in the open air here. However this may be, being an evergreen of regular growth, and thriving in cold ſituations and a moiſt ſoil not adapted to trees of this family, it is a great ornament to large plantations. [It was introduced among us in 1736, by Peter Collinſon, Eſq.[h].]

4. The young plants raiſed here from ſeeds have looſe ſpreading branches, cloſely beſet with narrow ſtraight leaves, alternately oppoſite, near an inch long, of a light green colour, and continuing in verdure all the year. The cones are black when ripe. Mr. Miller had the ſeeds from the Cape of Good Hope, where it grows naturally, before 1756; in which year he had two plants growing in the full ground, which were killed that winter.

5. [This is a ſmall tree, with a glaucous appearance. The leaves are glanduloſe, but the glands are leſs apparent than in *C. thyoides*. The flowers are like thoſe of the firſt ſpecies; and are diſtinct from thoſe of the third, which has the ſcales of the ament pedicelled, and not peltate, as in this; two anthers (not four) under each ſcale; and two ſtigmas to each germ; whereas in this the ſtigmas are ſimple[i].]

It grows to be a large timber tree in Portugal, but in England it is not above fifteen feet high; the branches extend horizontally to a great diſtance every way, quite from the ground; they grow without much order, and the tree has a very different appearance from all the other ſorts.

[Thunberg deſcribes C. pendula of Japan to be a tree of a man's height or more, erect and ſmooth. The branches alternate, lax, leafleſs, dividing into many branchlets, which are dichotomous, filiform, long, ſpreading, lax, pendulous, covered with decuſſated, imbricate, ovate, acute leaves, ſpreading a little at the end, and very ſhort. He adds that this handſome, ſingular tree is eaſily diſtinguiſhed from all the evergreens of this order, by its abundance of very long, dichotomous, pendent branchlets.]

It is at preſent pretty rare in the Engliſh gardens, though there have been many plants raiſed here; but this ſort is not quite ſo hardy, I fear, as the common Cypreſs, for the plants are frequently killed, or greatly injured in ſevere winters; and in the hard froſt in 1740, there was a large tree of this kind entirely killed in the gardens of his Grace the Duke of Richmond, at Goodwood in Suſſex, which had been growing there ſeveral years; and in the year 1762, many large trees were killed. There are great plenty of theſe trees growing at a place called Buſaco, near Coimbra in Portugal, where this tree is called the Cedar of Buſaco; and there it grows to be a timber tree, ſo that from thence the ſeeds may be eaſily procured.

This tree grows naturally at Goa, whence it was firſt brought to Portugal, where it has ſucceeded, and been propagated; formerly there were ſome trees of this ſort growing in the Biſhop of London's garden at Fulham, where it paſſed under the title of Cedar of Goa, by which name it was ſent thence to the Leyden garden.

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[e] Hort. kew.

[f] Hunter in Evelyn.

[g] Kalm.

[h] Hort. kew.

[i] L'Heritier.

[It appears from Mr. Ray's letters (171) that this was cultivated here in 1683[k].

6. A very lofty ſtraight tree, with a trunk the thickneſs of the human thigh or more. Leaves in three or four rows, decurrent by the keel, ſubulate, bent at the end like a ſickle, marked with four furrows, ſpreading, ſmooth. Male ſpikes terminating, very many, ovate, obtuſe, ſmooth. Female ſtrobiles globular, few, ſolitary, on the lower branchlets. Scales peltate; the pelta covered at the back with a lanceolate ſcale, having ſix ſubulate teeth on the inner edge.—The wood is very ſoft, and is much uſed for cabinets and other furniture, that are varniſhed, or japanned, as we call it[l].

7. Native of New Caledonia and Norfolk iſland[m].]

PROPAGATION AND CULTURE.

Theſe trees are all propagated from ſeeds, which ſhould be ſown early in the ſpring on a bed of warm, dry, ſandy earth, which muſt be levelled very ſmooth; then ſow the ſeeds thereon pretty thick, ſifting the ſame light earth over them half an inch thick. If the weather ſhould prove very warm and dry, it will be proper to ſhade the bed from the ſun in the day-time, and water the bed, which muſt be done very carefully, obſerving not to waſh the ſeeds out of the ground. In about two months time, if your ſeeds are good, the young plants will appear above ground, which muſt be conſtantly kept clean from weeds, and in very dry weather ſhould be often refreſhed with water; but this ſhould be done with great caution, leſt you beat theſe tender rooted plants out of the ground. If the ſeeds are ſown upon a moderate hot-bed, and the beds covered with mats, they will come up much ſooner, and with greater certainty, than when they are ſown in the cold ground.

In this bed the young plants may remain two years, by which time they will have ſtrength enough to be tranſplanted into a nurſery; but while the plants are young, they are tender, and ſhould be covered in ſevere froſt with mats.

The beſt ſeaſon for removing them is in the beginning of april, when the drying eaſterly winds of march are over, and, if poſſible, chooſe a cloudy day, when it is inclinable to rain; and in taking them out of the ſeed-bed, preſerve the roots as entire as poſſible, and, if you can, a ball of earth to each plant. The ſoil in which theſe trees ſhould be planted, as I before ſaid, ſhould be, for the two firſt ſorts, a warm ſand or gravel, which, when you have prepared, by carefully digging and cleanſing from all noxious weeds, you muſt lay level. Then draw the lines where the trees are to be planted at three feet aſunder, and plant the trees at eighteen inches diſtance in the rows, obſerving to cloſe the earth well to their roots, as alſo to lay a little mulch upon the ſurface of the ground about their ſtems; and water them well to ſettle the earth to their roots, which ſhould be repeated twice a week, until the plants have taken freſh root.

Theſe plants may remain in the nurſery three or four years, according to the progreſs they make, or till your ground is ready where they are to be planted: but if you intend to let them remain longer, you ſhould take up every other tree in the rows, and tranſplant out; for otherwiſe their roots will be matted together, ſo that it will render it difficult to tranſplant them, as alſo endanger the future growth of the trees. The plants ſhould by no means be let ſtand too long in the nurſery before they are tranſplanted out for good, becauſe the roots do not mat together ſo cloſely as thoſe of many other ſorts of evergreen trees, whereby they may be taken up with good balls of earth to their roots; but the roots of the Cypreſs being apt to extend out in length, it is one of the moſt difficult trees to remove when grown large; therefore moſt curious perſons chooſe to put the young plants into ſmall pots, when they firſt take them out of the ſeed-bed, and ſo train them up in pots two or three years, until they are fit to plant out where they are to ſtand for good, and, by this management, they are ſecure of all the plants; for theſe may be ſhaken out of the pots at any time of the year without danger, and planted with their whole ball of earth, which is likewiſe a great advantage. When they are planted out for good, if they are deſigned for timber, they ſhould be planted about twelve or fourteen feet diſtance every way, and be very careful in removing thoſe in the full ground, not to ſhake the earth from their roots; to prevent which, you ſhould open the ground about each tree, cutting off all long roots, then working under the ball of earth, cut the downright roots off; and after having pared off all the earth from the upper part of the ball, as alſo reduced the bulk of it, ſo that its weight may not be too great for the fibres to ſupport, they may be carried upon a hand-barrow by two perſons to the place where they are to be planted; but if they are to be carried to a diſtant place, they ſhould either be put into baſkets, or their roots cloſely matted up. When they are planted, you muſt ſettle the earth cloſe to their roots as before, laying a little mulch upon the ſurface of the ground about their ſtems, to prevent the ſun and wind from entering the earth to dry their fibres; and water them well, to ſettle the ground to their roots, which muſt alſo be repeated, if the weather proves dry, until they have taken root, after which time they will require little more care than to keep them clear from weeds.

The upright Cypreſs (1 α) which is the moſt common ſort in England, ſeldom produces good ſeeds in this country; it is therefore the beſt way to have the cones brought over entire from the ſouth of France and Italy, where they ripen perfectly well, and take the ſeeds out juſt before you ſow them, for they will keep much better in the cones than if they are taken out. The method to get the ſeeds out is to expoſe the cones to a gentle heat, which will cauſe them to open, and eaſily emit their ſeeds.

[Dr. Hunter recommends the ground in which the ſeeds are to be ſown to be well worked, turned over, and mellowed by froſt; and if the ſoil be not naturally ſandy, to work in ſome drift ſand all over the bed ſix inches deep: to ſow the ſeeds moderately thin, becauſe if they are ſown too thick, the roots get matted together, ſo that the plants cannot be removed out of the ſeed-bed into the nurſery without great danger. The beginning of march is the beſt time for this work.

Mr. Boutcher ſays, that if in the beginning of winter ſome ſaw-duſt is ſifted over them, it will much contribute to their preſervation in caſe of ſevere weather.

The ſpring following after ſowing, the plants, if well managed, will be ſix or ſeven inches high, and ſhould be removed and planted in rows eighteen inches aſunder, and eight or nine inches plant from plant: here they ſhould remain no more than one year, when they ought to be upwards of a foot high. The ſecond ſpring plant them in the common nurſery, in rows three feet aſunder, and eighteen inches in the row. Having ſtood in this nurſery two years, they may be removed to the place where they are to remain.

As it is no uncommon thing for a hard winter to deſtroy whole beds of theſe plants, it is neceſſary, ſays Mr. Boutcher, to provide againſt ſuch a misfortune, by ſowing ſome ſeeds in pots; which muſt be placed in a ſheltered ſituation, ſo as to receive the morning ſun till ten or eleven o'clock; keep them moderately watered, and in october remove the pots under a frame. The ſucceeding ſpring ſhake them out of theſe pots, and plant them in others of fourteen or ſixteen inches diameter, each of which will contain from ſixteen to twenty plants: place them in the ſhade till in a free-growing ſtate, and in winter remove them under a frame.]

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[k] Hort. kew.

[l] Thunberg.

[m] Forſter.

1 β. Mr. Miller affirms that the Spreading Cypreſs is rare in England, and that what has paſſed under this title here is only a variety of the common ſort, the branches of which grow much looſer; but that the true ſpreading Cypreſs extends its branches horizontally from the firſt year, and continues to extend them to a great length as the tree advances. He affirms that it is certainly a diſtinct ſpecies, grows to a much larger ſize, and that there are ſome of conſiderable ſtature in Italy.

2. The cones of the Virginian or deciduous Cypreſs may eaſily be procured from Virginia or Carolina. The ſeeds will riſe as eaſily as thoſe of the preceding ſort, and the tree is as hardy. It was formerly kept in pots, and houſed in winter; but with this management it did not ſuceeed ſo well as ſince it has been planted in the full ground; and I have obſerved it to thrive beſt where it has had a moiſt ſoil. Cateſby ſays, that this tree grows in places where the water commonly covers the ſurface of the ground three or four feet, ſo that it may be a very great improvement to our boggy ſoils. This tree, caſting its leaves in winter, does not ſo well ſuit with plantations of evergreens at that ſeaſon; but in ſummer it has much the appearance of an evergreen. It may alſo be propagated by cuttings, which ſhould be planted in a bed of moiſt earth in the ſpring, before they begin to ſhoot.

3. This ſort is propagated by ſeeds ſown in the ſpring in boxes or tubs filled with light freſh earth, and placed where they may enjoy the morning ſun till eleven or twelve o'clock. In dry weather they ſhould be duly watered, and conſtantly kept clear from weeds. In this ſituation they may remain till michaelmas, when they ſhould be removed to a warmer place; for the plants ſeldom appear till the following ſpring, ſo that it will be proper to place the boxes or tubs near a ſouth fence during the winter ſeaſon; leſt by being too much ſhaded, the wet ſhould rot the ſeeds. In the ſpring following, if theſe tubs or boxes are placed on a moderate hot-bed, it will bring up the plants very ſoon, and greatly forward their growth; but as the ſpring advances, they ſhould be inured to bear the open air by degrees; and in may they muſt be taken out of the hot-bed, and placed in a ſheltered ſituation, where they may enjoy the morning ſun, being careful to keep them clear from weeds, as alſo to water them duly in dry weather. The following winter it will be proper to remove the tubs near a ſouth wall or pale; for the plants being very young, are ſometimes tenderer than they will be afterward. Toward the end of march, or the beginning of april, juſt before the plants begin to ſhoot, they ſhould be carefully taken up out of the boxes; and having prepared a bed or two (according to the quantity of plants raiſed) of freſh earth in a ſheltered ſituation, the plants ſhould be planted therein in rows about eighteen inches aſunder, and about a foot diſtance plant from plant in the rows. This work ſhould be done in cloudy weather, when there is rain; for in dry weather, when eaſterly winds commonly blow at this ſeaſon, it will be very dangerous to tranſplant theſe plants; ſo that it had better be deferred a fortnight longer, till there is an alteration of the weather, than hazard the plants. When the plants are planted, they ſhould be watered to ſettle the earth to their roots; and then the ſurface of the ground ſhould be covered with mulch, to prevent the ſun and wind from penetrating to the roots of the plants; for nothing is more injurious to theſe plants, than to have their fibres dried when they are tranſplanted; therefore the plants ſhould not be taken out of the tubs till you are ready to place them in the ground, for they will not bear to lie out of the ground any time without great danger.

[In America it will not ſucceed in a dry ſoil: in a ſwampy ſoil, the branches, cut in the ſpring, will ſtrike root, and ſucceed very well.]

4. The Cape Cypreſs is too tender to thrive in the open air in England when young; but when the plants have obtained more ſtrength, it is very probable they may do well in warm ſituations. Young plants placed under a frame which had no glaſs, but only wooden ſhutters, were not injured by the cold, though the earth of the pots was frequently frozen hard. [The practice now is, to keep them in pots, and houſe them in winter till they are a yard in height. When they are committed to the open air, they muſt have a dry warm ſoil, and a well-ſheltered ſituation: nothing, however, can enſure them but the dry ſtove.]

5. This ſort may be propagated from ſeeds in the ſame manner as the common Cypreſs, and the plants ſhould be treated in the ſame manner as has been directed for them, with this difference only, that it will be proper to cover theſe plants during the two firſt winters after they are come up, eſpecially if the froſt ſhould be ſevere, which might deſtroy them, if they are expoſed to it while they are young. This ſort may alſo be propagated by cuttings, which, if planted in autumn, and ſcreened in winter, will take root; but it is generally two years before they will be rooted enough to tranſplant, nor will the plants ſo raiſed thrive ſo faſt as the ſeedlings; therefore, when the ſeeds can be obtained, that is the beſt method to propagate this tree.

[Cupressus. See *Thuja*.

CURATELLA.

Lin. gen. n. 679. *Reich.* 733. *Schreb.* 921. *Loefl. it.* 260. *Juſſ.* 282.

Claſſ. 13. 2. Polyandria Digynia.

Nat. order of *Magnoliæ?* Juſſieu.

GENERIC CHARACTER.

Cal. *Perianth* five-leaved, rounded: *leaflets* roundiſh, concave: the fifth interior extremely like the petals.

Cor. *Petals* three or four, roundiſh, concave, very like the calyx.

Stam. *Filaments* very many, filiform, ſhorter than the corolla. *Anthers* roundiſh.

Pist. *Germ* two-parted, roundiſh. *Styles* two, filiform, erect, length of the ſtamens. *Stigmas* headed.

Per. *Capſule* two-celled, two-parted: lobes roundiſh, one-celled.

Seeds in pairs, oblong, ſhining.

ESSENTIAL CHARACTER.

Cal. five-leaved. *Pet.* four. *Styles* two. *Capſ.* two-parted: with two ſeeds in a cell.

SPECIES.

1. Curatella americana.

Lin. ſpec. 748. *Reich.* 2. 610. *Loefl. itin.* 260.

DESCRIPTION, *&c.*

Stature of *Coccoloba*. Leaves alternate, ſubſeſſile, oblong[a], large, very rough. Flowers in racemes, from the axils of the leaves which have already fallen, the diviſions of the raceme having two bractes. Calyx four or five-parted, and permanent. Petals four or five. Germs two, hirſute. Capſules two, joined at the baſe, very ſmall, ſpherical, hirſute, ſplitting late into two valves[b].

Native of South America.

Curcas. See *Iatropha*.

CURCULIGO. (*From* Curculio, *one of the coleopterous inſects; the ſeed having a proceſs reſembling the roſtrum or beak of that animal.*)

Plant. coromand. 15. *t.* 13. *Gærtn. t.* 16.

Claſſ. 23. 1. Polygamia Monoecia.

GENERIC CHARACTER.

* *Hermaphrodite flowers few, below.*

Cal. none.

Cor. *Petals* ſix, oblong, ſpreading, withering.

Stam. *Filaments* ſix, very ſhort. *Anthers* linear, erect.

Pist. *Germ* ſeſſile, lanceolate. *Style* very ſhort. *Stigma* large, tapering, with a three-cleft apex.

Per. *Capſule,* when a germ, three-celled, with the rudiments of ſix or eight ſeeds in each cell: when ripe appearing one-celled.

Seeds one to four, ſhining, black, beaked.

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[a] Linn. ſpec.

[b] Juſſieu.

* *Male flowers ſeveral*, above.
Corolla and *Stamens* as above: *Piſtil* wanting.

ESSENTIAL CHARACTER.

Cal. none. *Cor.* ſix-petalled. *Filam.* ſix. *Piſt.* one. *Capſule.* *Seeds* beaked.

SPECIES.

1. Curculigo orchioides.
Plant. coromand. 14. *t.* 13. *Gærtn. fruct.* 1. 63.

DESCRIPTION, *&c.*

Root tuberous, with many fleſhy vermicular fibres. Leaves numerous, all radical, petioled, ſword-form, nerved, ſlender, with a very few ſoft white hairs on them when young, from ſix to eighteen inches long, half or three quarters of an inch broad: petiole channelled, below ſheath-form, embracing thoſe within. Raceme ſolitary, axillary, two-ranked, its apex juſt appearing above the earth. Peduncle compreſſed, clubbed, about an inch long. Bractes below remote, above nearer, ſpathe-like, pointed, decreaſing in length towards the top, ſo that their apexes are nearly horizontal, like a corymb, one-flowered. Flowers pretty large, yellow: the one or two lowermoſt hermaphrodite; above all male. Peduncle ſo long as to elevate the flower above the earth above one inch, hairy, three-ſided. When the ſeeds are ripe, their number is only from one to four, and they ſeem as if in a tranſparent, fleſhy, one-celled capſule, and are ſeparated by a ſpongy fleſhy ſubſtance.

Native of ſhady uncultivated places about Samulcotah, but by no means common. It is the Nallatady of the Telingas[a].

Gærtner remarks, that this plant differs from all others in the ſingular ſtructure of the ſtyle and capſule, and the roundiſh horny proceſs from the outer and upper part of the ſeed, thickening upwards, and ſlightly incurved, ſo as to reſemble the beak of a Curculio, whence he gave it the name.

CURCŪMA. (*From the Arabic name* Curcum, *or* Hercum.)
Lin. gen. *n.* 6. *Reich.* 6. *Schreb.* 8. *Muſ. Cliff.* § *II.* 4. *Juſſ.* 64.
Claſſ. 1. 1. Monandria Monogynia.
Nat. order of *Scitamineæ.*—*Cannæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* ſuperior, obſcure.

COR. Tube of the *Petal* narrow. *Border* three-parted: *diviſions* lanceolate, ſpreading, gaping more on one ſinus.
Nectary one-leafed, ovate-acuminate, larger than the diviſions of the petal, inſerted into the more open ſinus.

STAM. *Filaments* five, of which four are erect, linear, barren: one (the fifth) within the nectary, linear, petal-form, with a two-cleft tip: *Anther* adnate.

PIST. *Germ* roundiſh, inferior. *Style* length of the ſtamens. *Stigma* ſimple, hooked.

PER. *Capſule* roundiſh, three-celled, three-valved.

SEEDS very many.

ESSENTIAL CHARACTER.

Stamens four barren, a fifth fertile.
Cor. four-parted. *Nect.* three-lobed. *Filament* flat. *Loureiro.*

SPECIES.

1. Curcuma rotunda. *Round-rooted Turmerick.*
Lin. ſpec. 3. *Reich.* 5. *fl. zeyl.* *n.* 6. *Lour. cochinch.* 9. *Rumph. amb.* 5. *t.* 67. *Rheed. mal.* 11. *t.* 10. *Burm. zeyl.* 84.
Leaves lanceolate-ovate: lateral nerves very few.
2. Curcuma longa. *Long-rooted Turmerick.*
Lin. ſpec. 3. *Reich.* 5. *mat. med.* 35. *fl. zeyl.* 7. *Retz. obſ.* 3. *n.* 19. *Lour. cochinch.* 8. *Blackw. t.* 396. *Herm. lugdb. t.* 209. *Burm. zeyl.* 83. *Rheed. mal.* 2. *t.* 11. *Rumph. amb. t.* 64. *Woodv. med. bot.* 359. *t.* 132. *Raii hiſt.* 1204. & 1906. *Ger. emac.* 33. & 1631. *Park. theat.* 1583.
Amomum Curcuma. *Jacqu. hort.* 3. *t.* 4.
Leaves lanceolate: lateral nerves very numerous.

[3. Curcuma pallida.
Lour. cochinch. 9.
C. agreſtis. *Rumph. amb.* 5. *p.* 164.
Bulbs knotted, ſcape long, bracted.

DESCRIPTIONS, *&c.*

1. Root perennial, with a large ovate bulb, frequently as big as a gooſe's egg, covered with a thin rufeſcent pellicle, that has parallel, rooting rings, within ſolid, fleſhy, reddiſh yellow, of a bitteriſh taſte, and ſlightly aromatic ſmell.

It creeps under ground by means of little bulbs of the ſame ovate form, growing by the ſide of the maternal bulb. Stem none. Leaves annual, three feet high, upright, broad-lanceolate, bluntiſh, ſmooth, bright green, grooved, with a few oblique lines; petioles ſhort, dilated at the baſe, embracing the inner ones, and reſembling a thick ſtem[b].] From the middle of theſe ariſes the flower-ſtalk, ſupporting a looſe ſpike of flowers of a pale yellowiſh colour, incloſed in ſeveral ſpathes or ſheaths which drop off.

Native of the Eaſt-Indies, the mountains of [China, Cochinchina, &c.

Cultivated by Mr. Miller before 1759.

2. Root perennial, creeping, fleſhy, palmate, with columnar branches, and parallel rooting rings, the ſkin thin and pale, the fleſh ſaffron-coloured, with a bitteriſh taſte, and a ſmell of ſalve. Stem none. Leaves broad-lanceolate, large, quite entire, ſmooth, annual, pale green, grooved, with oblique, ſlender, frequent lines: petioles long, upright, dilated at the baſe, mutually ſupporting and embracing each other. Scape external, ſlender, nearly erect, almoſt naked, approximating to the bundle of leaves. Spike thick, ſubovate, three inches long. Flowers ſeſſile, white, with a yellow nectary, ſolitary, and incloſed within the ſcales of the ſpike. *Calyx* ſuperior, bifid; clefts oblong-ovate, erect, hid within the ſcales of the ſpike. *Corolla* one-petalled, funnel-ſhaped; tube ſlender, equal to the calyx, widening above; border four-parted, the ſegments nearly equal in length, the two lateral ones blunt, waved, and plaited, the upper one acute and bent in, the lower broader, bifid, with the ſegments rounded. Nectary large, bent in, three-lobed, with the middle lobe emarginate, faſtened at bottom to the outer ſegment of the corolla. *Filament* broad and flat, ſhort, rounded at the top, placed on the upper ſegment of the corolla: anther ſomewhat cubical, bifid, with an awl-ſhaped proceſs on each ſide. *Germ* roundiſh: ſtyle capillary, equal to the ſtamen, incloſed within the notch of the anther: ſtigma concave. *Capſule* roundiſh, ſmooth and even, three-celled, three-valved. *Seeds* round, few.—It has no barren filaments[c].

The fructification is thus deſcribed by Retzius. A ſingle ſpike comes forth from the laſt ſheaths of the leaves; it is peduncled, erect, club-ſhaped, ſquarroſe, ſcarcely a foot in length, ſhorter than the leaves, covered with imbricate, ovate, concave bractes; below the middle connected by the back, recurved, ſpreading, acute, margined, veiny-ſtreaked, whitiſh green; at the end the bractes are barren, narrower, wavy-flexuoſe, and of a paler colour. There are commonly three flowers within each bracte, ſometimes more, involucred. The involucre is two-leaved. The calyx is one-leafed, tubular, a little inflated, obtuſe, toothletted, membranaceous, ſemipellucid, divided on one ſide to the middle, half the length of the tube of the corolla, which is erect, or a little bent in, round, ſmooth, ſtiffiſh, white, above the middle bell-ſhaped, ſomewhat compreſſed, keeled at the back; border double, each three-parted. Filament ſingle, erect, lanceolate-ovate, between the two dorſal ſegments growing to the dorſal border, flattiſh, ſomewhat convex in front, marked with a line behind, half the length of the approximating ſegments, ſtiffer than they, but of the ſame colour. Germ hairy: ſtyle between the nectaries, erect, white, ſmooth, in the groove of the anther: ſtigma club-ſhaped, obtuſe, concave, four-toothed, white. Nectaries two, within the tube, ſitting on the germ, erect, cylindric, half ſurrounding the ſtyle, hardly the length of the germ.

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[a] Plant. coromand.

[b] Loureiro.

[c] Ibid.

Native of the Eaſt Indies, China, Cochinchina, *&c.* It is cultivated by the Chineſe in their gardens, and very abundantly at Malacca. It very ſeldom produces ſeed.

Cultivated by Mr. Miller, before 1759.

Swartz joins this Curcuma with the genus Amomum.

It was much uſed formerly in cookery to give things a colour; it is ſtill uſed in the Eaſt for this purpoſe and for dyeing.

The root of this plant has had the reputation of being a powerful aperient and reſolvent. It has been commonly preſcribed in obſtructions of the liver, and other chronic complaints. The diſeaſe in which it has been thought to be moſt efficacious is the jaundice. It is however now very rarely employed in Europe. The general doſe in ſubſtance is from a ſcruple to a drachm. It tinges the urine of a deep yellow colour. In the Eaſt Turmeric is yet in high reputation. The firſt ſpecies is ſtronger, and ſeldom given there internally; externally applied as a cataplaſm, with the root of Crinum zeylanicum and the leaves of Artemiſia, it is eſteemed a ſovereign remedy in ſwellings of the abdomen ariſing from a ſuppreſſion of the menſes.

3. This is an annual plant, without any ſtem, upright, three feet high. Root perennial, horizontal, creeping, oblong, columnar, twiſted and knotty, within and without pale, fleſhy, with little ſmell or taſte. Leaves lanceolate, large, with ſeveral oblique ſlender grooves: petioles dilated at the baſe, embracing the inner ones. Scape external, eight inches long, clothed with ſhort bractes. Spike oblong, with ovate-lanceolate, looſe, reflex, reddiſh, one-flowered ſcales. Corolla yellowiſh white, four-parted, with a three-lobed nectary. Stamen one, fertile, without any barren ones. Capſule inferior, three-celled, three-valved, many-ſeeded.

Native of China about Canton, and Cochinchina.]

PROPAGATION AND CULTURE.

Theſe plants muſt be placed in the bark-ſtove. They are only propagated by parting their roots, in the ſpring, before they put out new leaves. Plant them in rich kitchen-garden earth, and keep the pots conſtantly plunged in the bark-bed. In ſummer, when the plants are in a growing ſtate, refreſh them frequently with water, but not in large quantities; and admit a large ſhare of air to them in warm weather. When the leaves are decayed they ſhould have very little wet, and ſhould be kept in a warm temperature. They uſually flower in auguſt; but ſtrong roots only produce flowers.

Currant. See *Ribes.*

[CURTISIA. (*From William Curtis, teacher of Botany in London; author of Flora Londinenſis, &c.*)

Ait. hort. kew. 3. 507. *Lin. gen. Schreb. n.* 1729. *p.* 792.

Claſſ. 4. 1. Tetrandria Monogynia.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, four-parted: *parts* ovate, acute.

Cor. *Petals* four, ovate, obtuſe, ſeſſile, longer than the calyx.

Stam. *Filaments* four, inſerted into the receptacle, ſubulate, ſhorter than the petals. *Anthers* ovate.

Pist. *Germ* ſuperior, ovate. *Style* ſubulate, the length of the ſtamens. *Stigma* four or five-cleft.

Per. *Drupe* ſubglobular, ſmooth.

Seed. *Nut* roundiſh, boney, four or five-celled. *Kernels* ſolitary, oblong.

ESSENTIAL CHARACTER.

Cal. four-parted. *Petals* four. *Drupe* ſuperior, roundiſh, ſucculent, with a four or five-celled nut.

SPECIES.

1. Curtiſia faginea. *Beech-leaved Curtiſia,* or *Haſſagay-tree.*

Ait. hort. kew. 1. 162. *Burm. afr.* 235. *t.* 82. (Sideroxylon.)

DESCRIPTION, &c.

This is one of the largeſt trees in the African woods, with very diminutive flowers. The Hottentots and Caffres make the ſhafts of their javelins or aſſagays from the wood of this tree. They always carry one or two of theſe with them, on their journies. They conſiſt of an iron ſpear hollowed out on each ſide about ſix inches long, with or without an iron ſhaft, which is ſometimes round and ſmooth, and ſometimes grooved. It is faſtened with thongs of leather to a ſlender round ſtick, five feet long, tapering towards the end, and made of this wood. With theſe lances, which they throw with great dexterity to the diſtance of a hundred paces, the Hottentots and Caffres defend themſelves, and kill buffaloes and other wild animals.

This tree is called in Dutch *Wite-elſe, Stinkhout,* and *Aſſagay-hout*[a]; in Engliſh *Haſſagay* or *Aſſagay-tree,* from its uſe among the natives of the Cape of Good Hope.

It was introduced here in 1775, by Mr. Francis Maſſon[b].

Cururu. See *Paullinia.*

Curutu-pala. See *Tabernæmontana.*

CUSCUTA. (*According to Linneus, a corruption from the Greek* Κασύτας, *or* Καδύτας; *which is from the Arabic Cheſſuth* or *Chaſuth.*)

Lin. gen. n. 170. *Reich.* 182. *Schreb.* 227. *Tourn.* 422. *Gærtn.* 62. *Juſſ.* 135.

Claſſ. 4. 2. Tetrandria Digynia.

Nat. order of *Convolvuli?* Juſſieu.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, cup-form, four-cleft, obtuſe, fleſhy at the baſe.

Cor. one-petalled, ovate, a little longer than the calyx: *mouth* four-cleft, obtuſe.

Nectary of four ſcales, which are linear, two-cleft, ſharp, and growing to the corolla at the baſe of the ſtamens.

Stam. *Filaments* four, ſubulate, length of the calyx. *Anthers* roundiſh.

Pist. *Germ* roundiſh. *Styles* two, erect, ſhort. *Stigmas* ſimple.

Per. fleſhy, roundiſh, two-celled, cut round, or opening horizontally.

Seeds in pairs.

Obs. *In ſome a fifth part is added to the parts of fructification.*

ESSENTIAL CHARACTER.

Cal. four-cleft. *Cor.* one-petalled. *Capſ.* two-celled.

SPECIES.

1. Cuſcuta europæa. *Common Dodder.*

Lin. ſpec. 180. *Reich.* 352. *mat. med.* 54. *fl. ſuec. n.* 144. *Gærtn. fruct.* 1. 297. *Hudſ. angl.* 104. *With.* 165. *Sowerby engl. bot. t.* 55. *Lightf.* 1090. *Relh. cantabr. n.* 194. *Hall. helv. n.* 654. *Scop. carn. n.* 176. *Pollich pal. n.* 170. *Leers herborn. n.* 123. *Allion. pedem. n.* 308. *Krock. ſileſ. n.* 250. *Villars dauph.* 2. 311. *Fl. dan. t.* 199. *Blackw. t.* 554. *Plenck, ic. t.* 70.

Cuſcuta. *Cam. epit.* 984. *Park. theat.* 10. 2. *Raii hiſt.* 1903.—major. *Bauh. pin.* 219. *Fuchſ.* 348. *Matth.* 1279. *Trag.* 810. *Dod.* 554. *Lob. obſ.* 233. 1. *Raii ſyn.* 281.

C. ſ. Caſſutha. *Ger.* 462. *emac.* 577.

Caſſitha. *Tabern.* 901.

Caſſutha ſ. Cuſcuta. *Bauh. hiſt.* 3. 266.

Flowers conglomerate ſeſſile; corolla pitcher-ſhaped with bluntiſh ſegments; number of parts generally four.

2. Cuſcuta epithymum. *Small Dodder.*

Lin. ſpec. 180. 1. β. *Reich.* 352. 1. β. *ſyſt.* 167. 2. *With.* 166. *Relh. cant. n.* 194. β. *Krock. ſileſ. n.* 250. β. *Loefl. itin.* 216. *Fl. dan. t.* 427. *Plenck, ic. t.* 71.

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[a] Thunberg's travels.

[b] Hort. kew.

Epithymum. *Camer. epit.* 983. *Col. ecphr.* 2. *c.* 23. *Park. theat.* 10. 1.—ſ. C. minor. *Bauh. pin.* 219. *Raii hiſt.* 1904.

Flowers conglomerate; corolla bell-ſhaped deeply cloven, with acuminate ſegments: number of parts conſtantly five.

3. Cuſcuta americana. *American Dodder.*

Lin. ſpec. 180. *ſyſt.* 167. *Reich.* 353. *Jacqu. amer.* 24. *pict.* 17. *Loefl. itin.* 216. *Gron. virg.* 18. *Sloan. jam.* 1. 201. *t.* 128. *f.* 4. *Raii hiſt.* 1904. 3. *Brown. jam.* 149. 1. *Swartz obſ.* 54.

Flowers peduncled.

4. Cuſcuta lupuliformis. *Hop Dodder.*

Krock. ſileſ. n. 251. *t.* 37. *Buxb. cent.* 1. 15. *t.* 23.

Flowers racemed, ſeſſile; number of parts four.

DESCRIPTIONS, *&c.*

Theſe are paraſitical plants, faſtening themſelves to, and drawing their nouriſhment from others. The ſeed does not ſplit into lobes, but opens and puts forth a little ſpiral body, which is the embryo; the ſtalk twines about ſome other plant, contrary to the ſun's apparent motion, or from right to left; ſending out from the inner ſurface a number of little veſicles, which attach themſelves to the bark of the plant: by degrees, the longitudinal veſſels of the ſtalk ſhoot from their extremities, and inſinuate themſelves ſo intimately with it, that it is eaſier to break than to diſengage them from it. They have no leaves, except here and there a very ſmall membranaceous ſcale, cloſe under a branch.—Linneus aſſerts that theſe plants deſert the ground entirely; and from the experiments made by Parkinſon and Ray it appears, that plants raiſed from ſeed ſoon die, when they have no plant to which they can attach themſelves. They adhere to the ground by the original root, and draw a part of their nutriment from thence, at firſt; but the original root withers away as ſoon as the young ſtem has fixed itſelf to any other plant.

1. Stem ſlender, filiform, ſmooth, four-cornered, reddiſh. A ſingle ſmall ovate acute ſcale under each ball of flowers; where alſo it frequently puts forth a branch: theſe balls or globular heads do not ſurround the ſtem, but proceed from the ſide where it divides into branches; and have eighteen flowers or more. Calyx and corolla uſually four-cleft, but ſometimes five-cleft: the former ſhaped like a ſpice clove, running down, as it were, into a kind of peduncle; the ſegments ovate, often rounded at the end. Corolla white, or with a tinge of purple. Scarcely any nectaries in the primary flowers, but in the later ones ſemibifid. Stamens four or five; anthers yellow. Stigma reddiſh. Capſule membranaceous, tranſparent, ſmall, immerſed almoſt half way in the fleſhy calyx, cut cloſe to the baſe, or below the middle, the partition riſing from the lower half. Seeds generally two in each cell, but ſometimes three or four[a]: they are almoſt globular, covered with very minute raiſed dots, and of a yellow bay colour. Gærtner obſerves, that the embryo is filiform, one-lobed, yellow, and that it makes three revolutions round the albumen.

Native of Europe, in hedges, *&c.* uſually on buſhes and the loftier plants, as Hops, Brambles, woody Nightſhade, Fern, Thiſtles, Hemp; alſo on Flax, Nettles, Clover, Graſs, *&c.* Flowering in july and auguſt.

2. This, which is ſuppoſed by many to be ours, has been thought by Linneus and others to be only a variety of the foregoing. It is certainly very like it, but differs in having all the parts ſmaller and more tender, the ſtems more ſlender. The calyx between cloven and divided, with the ſegments ovate, acuminate, unequal, not running down into a kind of peduncle. Corolla paler, deeper cut; the ſegments ſharper and ſmaller: the balls of flowers cloſer[b].

In cultivated fields, particularly among pulſe; alſo on heaths. I have obſerved it particularly on Beans, Nettles, and Heath. Others have remarked it on Furze, Flax; Thyme, wild Thyme, Lavender, and others of the Didynamia claſs; Spurge, Hops, Graſs, *&c.* It flowers from june to auguſt. Both are annual.—From its deſtructive quality of ſuffocating plants, it has the opprobrious names of *Hell-weed* and *Devil's-guts*. The other name is from the German *Dotter.*

Dr. Smith has no doubt but that the firſt ſpecies is our plant: and Monſ. Villars is decidedly of opinion that they differ only in ſize.

3. This is a very branching, leafleſs, twining, paraſitical plant; tender, ſhining, and yellowiſh. Common peduncles very ſhort. Flowers ſmall, without ſcent, aggregate, yellowiſh or greeniſh. Calyx withering. Seeds two, three, or only one arriving at maturity, the reſt being abortive. The calyx is five-cleft, the ſegments roundiſh, blunt, concave, ſhort, converging; that and the corolla both of the ſame colour. Petal cylindric, erect; tube the length of the calyx; border five-cleft, ſmall, ſpreading. Nectary of five fringed, converging ſcales, faſtened to the petal below the ſtamens. Filaments always five, upright, from the upper part of the tube, the length of the corolla: anthers oblong, erect. Styles little longer than the corolla: ſtigmas capitate. Capſule one-celled, opening in two parts horizontally. Seeds few, convex on one ſide, flattiſh on the other[c]: according to Swartz roundiſh, and four in each capſule.

Native of America, on ſhrubs and trees, and in hedges: according to Brown, creeping on the graſs and lower buſhes.—Sloane ſays the ſtems are very long and ſtrong, ſtretching themſelves over very large trees, and whole fields and paſtures.

4. This ſpecies alſo climbs trees. Stem round, branching, very thick like hop-binds; bark reddiſh green or brown purple, rough and ſtudded with purpliſh, ſtiff, riſing grains like Millet. Flowers on racemes coming out laterally, an inch or two in length, ſometimes branched; they are ſcattered, ſolitary, or only two or three together, not glomerate; ſeſſile, not peduncled. Corolla four-cleft, reddiſh white. Calyx covered with a fleſhy ſkin, green, or tinged with purple. Capſule large, covered with the ſame ſkin. Seeds wrinkled, rounded.

Native of Sileſia, flowering in july and auguſt. Annual[d].

Cuscuta. See *Baſella*, *Caſſyta*, and *Tillandſia.*

Cuspidia. See *Gorteria.*

CUSSONIA. (*In memory of Cuſſon, a celebrated botaniſt, who laboured to complete the claſs of umbellate plants. Lin. ſuppl.*)

Lin. ſuppl. 25. *n.* 1378. *Schreb.* 455. *Thunb. nov. act. upſ.* 3. 211. *nov. gen.* 10. *Juſſ.* 218.

Claſſ. 5. 2. Pentandria Digynia.

Nat. order of *Araliæ.* Juſſieu.

GENERIC CHARACTER.

Cal. *Umbel* none (but three or more peduncles, umbelled, collecting the flowers into a raceme or ſpike.) *Involucre* none (but ſcattered bractes at the baſe of the peduncles.)
Perianth one-leafed, truncate, obſcurely five-toothed, ſhorter than the corolla, permanent.

Cor. *Petals* five, oblong, acute.

Stam. *Filaments* five, very ſhort. *Anthers* ovate.

Pist. *Germ* inferior, turbinate. *Styles* two, filiform, patulous. *Stigmas* ſimple, obtuſe.

Per. twin, compreſſed, angular, crowned with the calyx and ſtyles, two-celled, two-valved.

Seeds ſolitary.

ESSENTIAL CHARACTER.

Pet. three-cornered. Margin of the receptacle dilated into a five-toothed calyx.

SPECIES.

1. Cuſſonia thyrſiflora.

Lin. ſyſt. 292. *ſuppl.* 182. *Thunb. act. upſ.* 3. *t.* 12.

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[a] Leers; Pollich, Krocker, Stokes in Withering.

[b] Stokes in Withering. Krocker.

[c] Jacquin.

[d] Krocker.

Leaves digitate, leaflets ſeſſile wedge-form truncate three-toothed; flowers racemed.

2. Cuſſonia ſpicata.
Lin. ſyſt. 292. *ſuppl.* 182. *Thunb. act. upſ.* 3. *t.* 13.
Leaves digitate, leaflets petioled ſpatulate; ligule three or five-palmate finely ſerrate; flowers in ſpikes.

DESCRIPTIONS, &c.

1. Stem fruteſcent; at bottom ſcabrous, unequal, ſimple, the thickneſs of a finger; very ſimple at top. Leaves at the top of the ſtem, approximating, alternate, petioled, digitated in fives. Leaflets unequal, ſcarcely emarginate, with three and ſometimes five remote, obtuſe, ſmall teeth; they have the conſiſtence of Menyanthes leaves. Petioles long. Stipules between the leaves. Racemes terminating, umbelled. Rays four, very ſimple, naked below, but with racemed flowers at the end, the raceme cylindric.—There is a variety of this with jointed leaflets, the loweſt joint dilated at the end into ſmaller lobes, whence the leaflets are as it were proliferous.

2. This and the foregoing are natives of the Cape of Good Hope[a].

Juſſieu regards this genus as ſcarcely diſtinct from *Panax.* If it is to be preſerved, the ſhrubby *Panaces* ſhould be referred to it; P. undulata of Aublet, *guian. t.* 360.; Unjala, *Rheede malab.* 7. *t.* 28; and perhaps Aralia umbellifera of Lamarck.

Custard-apple. See *Annona.*

Cyana. See *Gentiana.*]

CYANELLA. (*Dimin. from* κυανος, *blue.*)
Lin. gen n. 420. *Reich.* 453. *Schreb.* 568. Royen. *Gærtn.* 17. *Juſſ.* 53.
Claſſ. 6. 1. Hexandria Monogynia.
Nat. order of *Coronariæ.*—*Aſphodeli* Juſſieu.

GENERIC CHARACTER.

Cal. none.

Cor. *Petals* ſix, cohering by their claws, oblong, concave, patulous, the three inferior ones hanging forwards.

Stam. *Filaments* ſix, contiguous at the baſe, very ſhort, ſomewhat ſpreading: the lower one declined, and twice the length of the others. *Anthers* oblong, erect, gaping at the tip, with four obtuſe teeth.

Pist. *Germ* three-cornered, obtuſe. *Style* filiform, declinate. length of the loweſt ſtamen. *Stigma* ſomewhat ſharp.

Per. *Capſule* ſuperior, roundiſh, three-furrowed, three-celled, three-valved.

Seeds many, oblong.

ESSENTIAL CHARACTER.

Cor. ſix-petalled: the three lower petals hanging forwards. *Stamens* lower declined, longer than the reſt.

SPECIES.

[1. Cyanella lutea. *Yellow-flowered Cyanella.*
Lin. ſyſt. 329. *ſuppl.* 201.
Leaves enſiform; branches erect.]

2. Cyanella capenſis. *Purple-flowered Cyanella.*
Lin. ſpec. 443. *Reich.* 2. 60. *ſuppl.* 201. *Gærtn. fruct.* 68. *Jacqu. hort.* 3. *t.* 35.
Leaves waved; branches ſpreading very much.

[3. Cyanella alba. *White-flowered Cyanella.*
Lin. ſyſt. 329. *ſuppl.* 201.
Leaves linear-filiform.

DESCRIPTIONS, &c.

1. This agrees with the next ſpecies in having the filaments at the baſe in form of a pitcher, in having one anther larger than the reſt, and a ſimple ſtigma. It differs in having the root-leaves lanceolate not linear, the peduncles leſs divaricate, the petals larger and yellow. It was found at the Cape of Good Hope by Sparrmann[b]. And was introduced in 1788, by Mr. Francis Maſſon. It flowers in july[c].]

2. The root is ſhaped like that of the Spring Crocus; leaves long, narrow, with a groove on their upper ſide; the peduncle ariſes immediately from the root, ſupporting one flower of a fine blue colour, which appears in may, but the flowers are not ſucceeded by ſeeds in England.

[It has the ſtature of Scilla. Flowers irregular[d]. Capſule rounded-three-cornered, netted with obſcure nerves. Seeds erect, fixed in a double row to the central margin of the partitions; there are four in each cell, of a ſubovate form, narrowed downwards, variouſly angular, very dark brown[e].

Native of the Cape of Good Hope. Cultivated by Mr. Miller in 1768.

They eat the roots roaſted in Africa.

3. Found at the Cape by Thunberg[f].]

PROPAGATION AND CULTURE.

The roots ſhould be planted in pots filled with light earth, placed in winter in a frame, and treated in the ſame manner as is directed for Ixia.

Cyanoides. See *Centaurea.*

Cyanus. See *Centaurea, Chryſocoma, Protea, Pteronia,* and *Stæhelina.*

Cyathoides and Cyathus. See *Peziza.*

CYCAS. (*From Pliny.* Κυκας *of Theophraſtus; a ſort of Ethiopian Palm.*)
Lin. gen. n. 1222. *Reich.* 1285. *Schreb.* 1699. *Juſſ.* 16. *Conf. Jacqu. in act. helv.* 8. *p.* 59. *t.* 2.
Claſſ. 25. 1. Appendix Palmæ. — Dioecia Polyandria. *Thunb.*
Nat. order of *Palms. Filices* or *Ferns.* Juſſ.

GENERIC CHARACTER.

* *Male.*

Cal. *Spathe* none. *Spadix* none.
Ament ſtrobile-form, ovate, ſquarroſe, imbricated with ſcales.
Scales ſpathule-form, ſmooth, fleſhy, coloured, keeled beneath: with a reflected point, diſtant.

Cor. none.

Stam. *Filaments* none. *Anthers* none.
Pollen ſpread within the upper ſurface of the ſcales of the ament, ſeſſile, very plentiful, very crowded, ſomewhat globoſe, one-celled, burſting longitudinally on one ſide.

* *Female,* in a diſtinct individual.

Cal. Spathe none.
Spadix very ſimple, compreſſed-ancipital, long, ſharpened. *Perianth* none.

Cor. none.

Pist. *Germs* ſolitary, immerſed beyond the middle into the corners of the ſpadix, remote, roundiſh. *Style* cylindric, very ſhort. *Stigma* ſimple.

Per. *Drupe* oval, one-celled. *Rumph.*

Seed. *Nut* woody, one-celled. *Rumph.*

ESSENTIAL CHARACTER.

Male. *Ament* ſtrobile-form, with the ſcales covered every where beneath with pollen.

Fem. *Spadix* ſword-form. *Germ* immerſed into the corners of it, ſolitary. *Style* one. *Drupe* with a woody nut.

SPECIES.

1. Cycas circinalis. *Broad-leaved Cycas.*
Lin. ſpec. 1658. *Reich.* 4. 374. *mat. med.* 224. *hort. cliff.* 482. *fl. zeyl.* 393. *Rumph. amb.* 1. *t.* 22, 23. *Rheed. mal.* 3. *t.* 13—21. *Raii hiſt.* 1360.
Fronds pinnate; leaflets linear, flat.

2. Cycas revoluta. *Narrow-leaved Cycas.*
Lin. ſyſt. 926. *Thunb. jap.* 229. *Rumph. amb.* 1. 92. *t.* 24. *Kæmpf. amœn.* 897. *Lour. cochinch.* 632.
C. circinalis. *Mill. dict. Jacqu. in act. helv.* 8. 59. *t.* 2.
Fronds pinnate; leaflets linear; revolute about the edge.

DESCRIPTIONS, &c.

1. This plant was at firſt placed by Linneus among the Palms, with an obſervation, that the foliation reſembled that of the Ferns, to which tribe he afterwards removed it, obſerving that it had naked pollen, without any anther. Jacquin however, (Acta Helv. 8. p. 59. t. 2.) has ſhewn that

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[a] Linn. ſuppl.

[b] Ibid.

[c] Hort. Kew.

[d] Linn. ſpec.

[e] Gærtner.

[f] Linn. ſuppl.

it is a perfect dioecous plant, and has in part deſcribed and figured the parts of fructification: by which it appears after all to be a Palm.

Native of the Eaſt Indies, the Friendly Iſlands, and the New Hebrides in the South Seas. Introduced about 1763, by John Blackburne, Eſq.[a]

2. Trunk round, branched, a fathom or more in height, the thickneſs of the thigh, ferruginous and hirſute from the falling of the leaves. The ſtipe of the fronds has ſpines below. The leaflets are nearly oppoſite, linear, ſomewhat ſickle-ſhaped towards the inſide, ending in a ſimple ſpine, entire, with the edge rolled back, and an elevated line along the middle, ſmooth, two lines broad, from erect ſpreading, the loweſt and higheſt ſhorter than the others. The fruit is an ovate, flat, red drupe, an inch and half in length[b].

Whether the *Cycas inermis* of Loureiro be the ſame with the *C. revoluta* of Thunberg, I dare not determine. According to his deſcription, the trunk is five feet high, quite ſingle or undivided, the thickneſs of the human thigh, rugged and brown. Fronds five feet long, aſcending: the ſtipes roundiſh and without any ſpines: the leaflets linear-lanceolate, ſix inches long, ſmooth, duſky-green, flattiſh, oppoſite, ſeſſile. Male ament terminating, erect, ſolitary, oval-oblong, four inches in diameter, ſtrobile-form, duſky yellow, imbricate, almoſt cloſed: ſcales oblong-turbinate, thick, fungoſe, ſtaminiferous. No perianth, corolla, or filaments. Anthers more than a hundred in each ſcale, ſcattered, globular, as big as the ſeeds of Radiſh, opening at the tip. Female flower, with ſpadixes various, linear, reflex, few-flowered, ſubterminating, ſimple, terminated by a jagged bracte. Drupe an inch and half in diameter, ovate, a little compreſſed, ſmooth and even, rufous; incloſing a woody nut of the ſame form, in which is a ſingle kernel. It is never branched, nor monoecous.

It is not uſed for food in China or Cochinchina, but it is cultivated there for its beauty. In Tunquin they make a ſort of bread called *Sagu* from the pith of the trunk[c].

The fruit is eaten by the Japoneſe: but the pith of the trunk is moſt eſteemed for its highly nutritive quality: they affirm that a ſoldier can ſubſiſt upon a very ſmall piece of it, and therefore it is made a capital offence to export this tree[d].

Native alſo of China and Cochinchina, and introduced about 1758] by Richard Warner, Eſq. of Woodford in Eſſex, who received a plant from Captain Hutchinſon. His ſhip being attacked by the French, the head of the plant was ſhot off, but the ſtem being preſerved, produced ſeveral heads, which being taken off produced as many plants.

Dampier ſays that the Sago-trees are called by the natives of Mindanao, (one of the Philippine iſlands) *Libby-trees*; that they grow wild in great groves of five or ſix miles long, by the ſides of the rivers. Its body and ſhape is much like the Palmeto-tree, or the Cabbage-tree, but not ſo tall as the latter. The wood is full of white pith like that of Elder. They cut down the tree, ſplit it in the middle, and ſcrape out all the pith: which they beat luſtily with a wooden peſtle in a great mortar or trough, and then put it into a cloth or ſtrainer held over a trough; and pouring water in among it, they ſtir it about: ſo the water carries all the ſubſtance of the pith through the cloth into the trough, leaving behind a light ſort of huſk, which they throw away; that which runs into the trough ſettles to the bottom like mud; then they draw off the water, and make the ſubſtance into cakes, which being baked proves very good bread. The Mindanao people live three or four months of the year on this food. The native Indians of Ternate, Tidore, and all the Spice iſlands have plenty of theſe trees, and uſe them for food. The Sago which is tranſported into other parts of the Eaſt Indies, is dried in ſmall pieces like little ſeeds or comfits, and commonly eaten with milk of Almonds by thoſe that are troubled with the flux.]

PROPAGATION AND CULTURE.

Theſe trees require to be plunged in the bark-bed in the ſtove, which ſhould be kept up full to temperate heat in winter; but in ſummer ſhould be much hotter. They ſhould be frequently refreſhed with water during hot weather; but in autumn and winter it ſhould be given ſparingly.

CYCLĂMEN.

(Κυκλαμινος *of Dioſc. From* κυκλας, *circular, either on account of the round form of the leaves, or of the roots.*)

Engl. *Cyclamen*, or *Sow-bread.*
Fr. *Ciclame, Pain de pourceau.*

Lin. gen. n. 201. *Reich.* 214. *Schreb.* 262. *Tourn.* 68. *Juſſ.* 97.

Claſſ. 5. 1. Pentandria Monogynia.
Nat. order of *Preciæ.*—*Lyſimachiæ.* Juſſieu.

GENERIC CHARACTER.

Cal. *Perianth* half-five-cleft, roundiſh, permanent: *diviſions* ovate.

Cor. one-petalled. *Tube* ſomewhat globoſe, twice as large as the calyx, ſmall, nodding. *Border* bent upwards, five-parted, very large: *diviſions* lanceolate. *Neck* prominent.

Stam. *Filaments* five, very ſmall, in the tube of the corolla. *Anthers* ſtraight, ſharp, in the neck of the corolla, converging.

Pist. *Germ* roundiſh. *Style* filiform, ſtraight, longer than the ſtamens. *Stigma* ſharp.

Per. *Berry* globoſe, one-celled, gaping five ways at the top, covered with a capſular ſhell.

Seeds very many, ſomewhat ovate, cornered. *Recept.* ovate, free.

ESSENTIAL CHARACTER.

Cor. rotate, reflex, with a very ſhort tube, and prominent throat. *Berry* covered with a capſule.

SPECIES.

1. Cyclamen coum. *Round-leaved Cyclamen.*
Mill. dict. n. 6. *Ait. hort. kew.* 1. 195. *Curtis magaz. t.* 4. *Hall. helv. n.* 635. *Blackw. t.* 147.
C. orbiculato fol. *Ger.* 694. 1. *emac.* 843. 1.—inferne purpuraſcente. *Bauh. pin.* 308.
C. vulgare fol. rotundo. *Park. parad.* 198. *t.* 197. *f.* 9. *Raii hiſt.* 1205. 2.
Leaves orbicular, cordate, quite entire.

2. Cyclamen europæum. *Common Cyclamen.*
Lin. ſpec. 207. *Reich.* 1. 415. *mat. med.* 57. *hort. upſ.* 47. *cliff.* 49. *Jacqu. auſtr.* 5. *t.* 401. *Allion. pedem. n.* 324. *Krock. ſileſ. n.* 298. *Scop. carn. n.* 211. *Plenck, ic. t.* 85.
C. vernum fl. purpureo & albo. *Park. parad.* 195. *n.* 1, 2. *t.* 197. *f.* 1. *Ger. emac.* 843. 3.
Leaves orbicular cordate crenate.

3. Cyclamen perſicum. *Perſian Cyclamen.*
Mill. dict. n. 3. *Ait. hort. kew.* 1. 196. *Curtis magaz. t.* 44.
β. C. vernale. *Mill. dict. n.* 4. *fig. t.* 115.
Leaves oblong-ovate cordate crenate.

4. Cyclamen hederæfolium, *Ivy-leaved Cyclamen.*
Ait. hort. kew. 1. 196.
C. europæum. *Mill. dict. n.* 1.
C. hederæfol. *Bauh. pin.* 308. *Ger.* 694. 2. *emac.* 844. 2. *f.* 5. *Raii hiſt.* 1206.—autumnale. *Park. parad.* 196. *t.* 197. *f.* 5.——fol. hederæ. *theat.* 1364.
Leaves cordate angular toothletted.

[5. Cyclamen indicum.
Lin. ſpec. 207. *Reich.* 1. 415. *fl. zeyl. n.* 401.
Border of the corolla nodding.

DESCRIPTIONS, &c.

The flowers are borne ſingly on a naked ſtem, peduncle or ſcape, and are nodding. The root is roundiſh, ſolid and tuberous.

Linneus obſerves, that the ſeveral varieties connect the plants which have angular leaves with thoſe which have round ones ſo intimately, that limits are aſſigned to them with difficulty.

Mr. Curtis is of opinion, that Linneus, in having only two ſpecies, makes too few; and that Miller, on the contrary, in giving eight ſpecies, is perhaps too profuſe. I have followed the Kew catalogue.—Of the ſix ſpecies ſet down by Mr. Miller, for he has no more than ſix; the fourth I have put down as a variety of our third, though the leaves be entire. The ſecond appears not to be different from our firſt. Perhaps the fifth is a variety of the ſame ſpecies. I know not whether any one of Miller's ſpecies anſwers to the *europæum* of Linneus, figured by Jacquin.—Parkinſon has enumerated ten ſorts, ſeveral of which are mere varieties.]

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[a] Hort. kew.

[b] Thunberg.

[c] Loureiro.

[d] Thunberg.

Mr. Miller gives what he takes to be varieties, from many years obſervation and experience in ſowing the ſeeds. C. hederæ folio, *Bauh. pin.* which is the moſt common in England, produces two varieties, with purple, and white flowers. C. coum does not vary. C. perſicum, varies with a white flower and purple bottom, and a pale flower with a deeper coloured bottom; ſome plants alſo have rounder leaves than others. C. verno tempore florens, *Cluſ. hiſt.* 265. which is the leaſt common among us of any, he will have to be a diſtinct ſpecies. As alſo C. radice anemones, flore purpureo minore odorato, *Boerh. ind.*; which he ſays differs entirely in the form of the root, and the ſize of the leaves and flowers, from all the reſt.

1. This has plane orbicular leaves, with ſhort weak petioles, their under ſide is very red in the beginning of winter, but that colour goes off in the ſpring; their upper ſide is ſmooth, of a lucid green, and ſpread flat open; whereas the other ſorts are hollowed, and reflex at the baſe. The flowers are very bright purple, and appearing in the middle of winter when there are few other flowers, this plant is the more valuable.

C. purpuraſcens, n. 2. of Miller, may perhaps be a variety of this. The leaves are large, orbicular, and heart-ſhaped at their baſe, of a purple colour on their under ſide. The leaves and flowers come up from the root at the ſame time: the latter are of a purpliſh colour, and their bottoms of a deep red. It flowers late in autumn, and is rare in England. It requires protection in winter.

C. orbiculatum, n. 5. of Miller, may probably be another variety. It has a ſmall irregular root, not larger than a nutmeg: the leaves are orbicular and ſmall: the flowers ſmall, fleſh-coloured with purple bottoms. They appear in autumn, but rarely produce ſeeds in England.

[Native of the South of Europe. Cultivated 1731 [a].

2. Root tuberous, oblately ſpheroidal, white within, brown without. Hence proceeds, within the ground, a very ſhort ſtem, and from that the leaves and one-flowered peduncles or ſcapes. Leaves kidney-form roundiſh, very blunt, ſlightly crenulate, deep green and ſpotted above, beneath commonly red-purple, ſmooth, on very long round red petioles. Peduncles like the petioles, erect in the flower, ſpiral in the fruit. Flowers drooping, ſweet-ſcented, purple. Capſule coriaceous, purple, opening firſt at the top, and then entirely. Seeds large, rufous, kidney-form [b].

Native of Auſtria. Cultivated 1596, by Gerarde [c].]

3. Leaves ſtiff, on ſtrong fleſhy petioles, near ſix inches long, of a purple colour, as are alſo the veins of the leaves underneath; but the upper ſide is veined and marbled with white. The corolla is pure white with a bright purple bottom; but it varies in colour, and is ſometimes entirely white: this variety ſmells very ſweet. The petal of the Perſian Cyclamen is divided into nine ſegments to the bottom: theſe ſegments are twiſted and bent back like the others. It flowers in march and april, and the ſeeds ripen in auguſt.

[Cultivated 1731, by Mr. Miller [d].

By its name it ſhould be a native of Perſia; according to Mr. Curtis, it comes from the Eaſt Indies; and from the Kew catalogue we learn, that it was found by Dr. John Sibthorp in the iſland of Cyprus.

It flowers early in the ſpring, and is admirably adapted to decorate the parlour or ſtudy. It varies with fragrant flowers; and with the eye more or leſs red [e].]

β. The vernal Cyclamen of Miller, n. 4. has large, angular, heart-ſhaped leaves, entire about the edges; they are veined and marbled with white on the upper ſide, and ſtand upon pretty long petioles: the flowers are large, of a pale purple colour, with a bright red or purple bottom. They appear in march and april, and the ſeeds ripen in auguſt. It is commonly called Perſian Cyclamen.

4. Root large, orbicular, compreſſed. Leaves numerous on petioles ſix or ſeven inches long; the leaves are marked with black in the middle: the flowers appear before them on long fleſhy ſcapes, in auguſt or ſeptember. Soon after, the leaves come out, continue growing all the winter and ſpring till may, when they begin to decay; in june they are entirely dried up. After the flowers are fallen, the peduncles twiſt up like a ſcrew, incloſing the germ in the centre, and lie cloſe to the ground among the leaves, which ſerve as a protection to the ſeed, which ripens in june. There are two varieties of this; one with a white, and the other with a purpliſh flower.

Native of Italy. [Cultivated by Gerarde, in 1596 [f].

Ray found it in the neighbourhood of Rome abundantly, flowering in ſeptember.

5. Undoubtedly a ſpecies of Cyclamen, as the root, cordate crenate leaves, flowers and ſcapes abundantly prove. It differs only in having the diviſions of the corolla not reflected but hanging down; and the whole corolla being much larger than in the European ſpecies.—Native of the iſland of Ceylon [g].

PROPAGATION AND CULTURE.

All the ſorts are propagated by ſeeds which ſhould be ſown ſoon after they are ripe, in boxes or pots filled with light kitchen-garden earth, mixed with a little ſand, and covered about half an inch deep, placing them where they may have only the morning ſun till the beginning of ſeptember, when they may be removed to a warmer expoſure. Thoſe of the firſt, ſecond, and fourth ſorts may be plunged into the ground cloſe to a ſouth wall, a pale, or reed hedge, in october, where, if it ſhould be very ſevere froſt, it will be proper to cover them either with mats or peaſe-haulm, but in common winters they will not require any covering. The pots or tubs in which the Perſian ſort is ſown, ſhould then be placed under a common hot-bed frame, where they may be protected from froſt and hard rains, but in mild weather the glaſſes may be taken off every day to admit freſh air to them. The fourth ſort will come up about Chriſtmas, if the ſeeds were ſown in auguſt, and their leaves will continue green till may; and thoſe of the Perſian ſort will come up early in the ſpring, and continue green till june, when they will begin to decay; then they ſhould be removed to an eaſt aſpect, where they will have only the morning ſun, in which ſituation they may remain till the middle of auguſt; during which time they ſhould have very little water, for then the roots are in an inactive ſtate, when much wet will rot them. The pots and tubs in which they are ſown, muſt be conſtantly kept clean from weeds; for if the weeds are permitted to grow, their roots will cloſely entangle with thoſe of the Cyclamen, ſo that in pulling out the weeds, the other roots will be drawn out with them. In the beginning of october, there ſhould be ſome freſh earth ſpread over the tubs or pots, which ſhould be removed again into ſhelter, in the ſame manner as before; and the following ſummer they muſt be managed alſo in the ſame way till their leaves decay, when they ſhould be carefully taken up, and thoſe of the firſt, ſecond, and fourth ſorts placed in a warm border at three or four inches diſtance, but the other ſort muſt be planted in pots to be ſheltered in winter.

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[a] Hort. kew.
[b] Jacquin.
[c] Hort. kew.
[d] Ibid.
[e] Curtis.
[f] Hort. kew.
[g] Linn. zeyl.

The Perſian ſort is more impatient of cold and wet than the others; this muſt conſtantly be preſerved in pots filled with ſandy light earth, or a mixture of loam and lime rubbiſh, and houſed in winter, but ſhould be placed near the glaſſes, where the plants may enjoy as much free open air as poſſible, when the weather will permit; for if they are crowded under other plants, and are kept too cloſe, they are very ſubject to mould and rot; nor ſhould they have much water in winter, which is alſo very injurious to them, but whenever they want water, it ſhould be given them ſparingly. In ſummer theſe plants may be expoſed to the open air, when their green leaves will decay; at which time you ſhould remove them to a place, where they may have the morning ſun until eleven o'clock; but during the time that the roots are deſtitute of leaves, they ſhould have very little water given them, becauſe at that ſeaſon they are not capable of diſcharging the moiſture. This is alſo the proper ſeaſon to tranſplant the roots, or to freſh earth them; and as the autumn comes on, that the heat decreaſes, they may be removed into places more expoſed to the ſun, where they may remain until october before they need be houſed.

Toward Chriſtmas, if the roots are in good health, the firſt ſort will begin to flower, and continue producing freſh flowers till the middle of february, and theſe will be ſucceeded by the Perſian ſorts, which continue till may; but if you intend to have any ſeeds, you muſt let the pots be placed ſo as to receive a great ſhare of freſh air, for if their flowers are drawn up in the houſe, they ſeldom produce any ſeeds. Theſe ſeeds are ripe about july, when they ſhould be immediately ſown in pots or caſes of good light undunged earth, which ſhould be ſheltered in winter under a frame, and expoſed in ſummer in the ſame manner as is directed for the older roots, obſerving to remove them into pots at a wider diſtance when they are two years old, and ſo from time to time, as their roots increaſe in bulk, you muſt give them more room; and in about four or five years they will begin to flower, when each root ſhould have a ſeparate ſmall pot, and when it is grown large, a larger.

When the firſt ſort is planted in an open border, common hot-bed frames ſhould be placed over it in winter, to protect it from froſt. Thus managed, it will produce more and fairer flowers than when planted in a pot, and good ſeeds may be expected from it. Perſons who are curious in flowers ſhould have a border framed over, on purpoſe for theſe, the Guernſey and Belladonna Lilies, with other curious bulbous roots.

[CYCLAS. (Κυκλας, αδος, η. *orbiculata, rotunda, circular.* Κυκλαδες νησοι, *the iſlands called Cyclades, from their lying in a circle.—This plant has its name from the orbicular wing ſurrounding the pericarp.*)

Lin. gen. *Schreb. n.* 712. Apalatoa. *Aublet. t.* 147. Touchiroa. *Aubl.* 148. *Juſſ.* 365.

Claſſ. 10. 1. Decandria Monogynia.

Nat. order of *Lomentaceæ. Leguminoſæ* Juſſ.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed. *Tube* ſhort, turbinate: *border* four-parted, patulous; *ſegments* ovate-oblong, acute.

COR. none.

STAM. *Filaments* ten, capillary, inſerted into the neck of the calyx, and longer. *Anthers* ovate.

PIST. *Germ* ovate-oblong, villoſe, pedicelled. *Style* capillary, flexuoſe. *Stigma* obtuſe.

PER. Legume? roundiſh, depreſſed, wrinkled, ſurrounded by an orbicular, membranaceous, broad, waving wing, one-celled, not opening.

SEED ſingle, kidney-form.

ESSENTIAL CHARACTER.

Cal. four-parted, ſpreading, with a ſhort turbinate tube. *Cor.* none. *Filaments* inſerted into the neck of the calyx. *Style* flexuoſe. *Legume* roundiſh, winged, one-ſeeded.

SPECIES.

1. Cyclas ſpicata.
   Apalatoa ſpicata. *Aubl. guian.* 382. *t.* 147.
   Leaves pinnate.
2. Cyclas aromatica.
   Touchiroa aromatica. *Aubl. guian.* 384. *t.* 148.
   Leaves ovate.

DESCRIPTIONS, &c.

1. The trunk of this tree is from thirty to forty feet high, and a foot and half in diameter. The bark is gray and ſmooth; the wood whitiſh. It has ſeveral large boughs at top, ſpreading in all directions. Leaves alternate, unequally pinnate. Leaflets alternate, ſeven on each ſide, ovate-oblong, acuminate, ſmooth, quite entire, ſubſeſſile, firm, unequal, the largeſt four inches long, and an inch and half wide. Stipules in pairs at the baſe of the common petiole, deciduous. Flowers in long ſpikes, axillary and terminating, on ſhort pedicels. Bracte at the baſe of the peduncle, and of each pedicel.

Native of the great foreſts of Guiana, flowering there in november, and fruiting in january. The Caribee name is Apalatoua.

2. The trunk of this tree is from forty to fifty feet high and more, and about two feet in diameter. Bark gray: wood white and not compact. Branches very numerous ſpreading in every direction. Leaves alternate, large, ſtiff, ovate, acute, ſmooth, quite entire, on ſhort petioles, at the baſe of which are two deciduous ſtipules. Spikes axillary, covered with herbaceous flowers.

Native of the great foreſts of Guiana, in marſhy places. It flowers there in december, and bears fruit in may.

The Caribee name is Moutouchiraou.—The wood is light and a little aromatic.

CYDONIA. See *Oratæva* and *Pyrus.*

CYLISTA. (*From* κυλιω, *volvo, comes* κυλιστος, *convolutus, volubilis; twining.*)

Ait. hort. kew. 3. 512. *Schreb. n.* 1759.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ* or *Leguminoſæ.*

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, four-parted, very large, permanent: the upper diviſion reflex, bifid; the reſt erect, oblong, acute.

COR. papilionaceous, a little longer than the calyx, permanent.

Banner roundiſh, emarginate, with a ſmall lobe on each ſide of the baſe.

Wings oblong, obtuſe, ſhorter than the banner, with a proceſs on each ſide of the baſe.

Keel oblong, cleft at top and bottom, longer than the wings.

STAM. *Filaments* diadelphous (ſimple and nine-cleft) aſcending. *Anthers* roundiſh.

PIST. *Germ* ſuperior, ovate, compreſſed. *Style* ſubulate, aſcending. *Stigma* ſubcapitate.

PER. *Legume* ovate-oblong, compreſſed, one-celled.

SEEDS two, oval.

ESSENTIAL CHARACTER.

Cal. very large, four-parted: the upper diviſion cleft at the end. *Cor.* permanent.

SPECIES.

1. Cyliſta villoſa. *Hairy Cyliſta.*
   Ait. hort. kew. 3. 36.

It flowers in april and may, and was introduced in 1776, but from what country is not known. It is a ſhrub, and requires the heat of a ſtove to preſerve it.

CYMBACHNE. (*From* κυμβη, *a boat, and* αχνη, *a glume or chaff.*)

Retz. obſ. 6. 36.

Claſſ. 23. 1. Polygamia Monoecia.

Nat. order of *Gramina* or *Graſſes.*

GENERIC CHARACTER.

* *Hermaphrodite flowers.*

CAL. *Glume* two-valved, one-flowered, ſo placed that each valve is preſſed cloſe to the rachis and parallel, not one hid by the other. *Outer* valve linear, blunt, ciliate at the back : *inner* equal in length, ſemiovate, acute, boat-ſhaped, very much compreſſed, ſtriated, coloured, ciliate at the back, incloſing the corolla.

Cor. two-glumed, hyaline, ſmaller than the calyx.

Stam. *Filaments* three. *Anthers* black.

Pist. *Germ* minute. *Style* ſimple. *Stigmas* two, black-bearded.

* *Female flowers.*

Cal. one-valved, ovate, ſlightly bifid at the tip, ciliate at the edge, oppoſite to the rachis, preſſed cloſe.

Cor. none.

Pist. as in the hermaphrodite, but with longer ſtigmas.

ESSENTIAL CHARACTER.

Infloreſcence half-ſpiked.

Herm. *Cal.* two-glumed, one-flowered, parallel to the rachis, outer valve linear, the oppoſite boat-form.

Fem. *Cal.* one-glumed, ovate, oppoſite to the rachis.

SPECIES.

1. Cymbachne ciliata.
Retz. obſ. 6. 36.

DESCRIPTION, *&c.*

This is a ſlender graſs, a foot in height, with ſeveral culms, ſimple or branched, with a ſingle leaf or leafleſs. Leaf ſhort, ſlender, ciliate on the edge above the ſheath with long ſeparate hairs : ſheath truncate, with a pale brown mouth, and ciliate. Spikes two terminating, linear, an inch and half long, a line broad, ſome hermaphrodite, others female. Rachis linear, membranaceous, flat behind with three longitudinal ſtreaks, alternately and flexuoſely hollowed out in front.

Native of Bengal, where it was detected by König[a].

Cymbalaria. See *Antirrhinum* and *Saxifraga*.

CYMBARIA. (*From* κυμϐη, *cymba, a boat ; the fruit being boat-ſhaped.*)
Lin. gen. n. 751. *Reich.* 809. *Schreb.* 1008. *Amm. Ruth.* 1. *Juſſ.* 119. *Gærtn.* 53.
Claſſ. 14. 2. Didynamia Angioſpermia.
Nat. order of *Perſonatæ.*—*Scrophulariæ.* Juſſieu.

GENERIC CHARACTER.

Cal. *Perianth* ten-toothed, erect : two oppoſite teeth ſtronger and more ſpreading : the reſt erect, linear ; permanent.

Cor. one-petalled, ringent. *Tube* oblong, bellied. *Border* two-lipped ; *upper lip* two-parted, reflex, obtuſe ; *lower lip* three-cleft, obtuſe.

Stam. *Filaments* four, length of the tube. *Anthers* two-cleft, prominent.

Pist. *Germ* ovate. *Style* filiform, length of the ſtamens, tip incurved. *Stigma* obtuſe.

Per. *Capſule* ovate, one-celled, two-valved, (ſubcordate, membranaceous, two-celled, *G.*) *Receptacle* quadrangular, (kidney-form, very large, *G.*)

Seeds very many, cornered, ſmooth, (compreſſed, *G.*)

Obs. *The calyx alone eaſily diſtinguiſhes the genus from all others.*

ESSENTIAL CHARACTER.

Cal. ten-toothed. *Capſ.* cordate, two-celled.

SPECIES.

1. Cymbaria daurica.
Lin. ſpec. 861. *ſyſt.* 558. *Reich.* 3. 141. *mant.* 417. *Amm. ruth.* 47. *t.* 1. *f.* 2. *Gmel. ſib.* 3. 198. *n.* 8. *Gærtn. fruct.* 252.

DESCRIPTION, *&c.*

The whole plant is hoary, and nearly allied to Antirrhinum. Branches oppoſite, barren. Flowers lateral, very few, ſubſeſſile, large. Upper lip of the corolla vaulted ; lower equal ; palate gibbous[b]. Capſule ſlender, brown-bay, marked with a deep groove on each ſide, gaping only on the edge : when it is ripe the valves become narrower than the receptacle : partition contrary to the valves. Seeds from twelve to ſixteen in each cell, oblong, with an irregular membranous edge, of a bay colour[c].

Native of the mountains of Dauria.

Cyminosma. See *Laxmannia.*

Cyminum. See *Cuminum.*]

CYNANCHUM. (*From* κυων, *a dog, and* αγχω, *to ſtrangle. Hence* Κυναγχη, *a diſorder in the throat.*)
Lin. gen. n. 304. *Reich.* 331. *Schreb.* 430. *Gærtn. t.* 117. *Juſſ.* 147.
Claſſ. 5. 2. Pentandria Digynia.—Decandria *according to ſome.*
Nat. order of *Contortæ. Apocineæ* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* one-leafed, five-toothed, erect, very ſmall, permanent, (five-parted, acute, ſpreading, *Schreb.*)

Cor. one-petalled. *Tube* ſcarce any. *Border* five-parted, flat : *diviſions* linear, long, (lanceolate, *S.*) *Nectary* in the centre of the flower, length of the corolla, erect, cylindric : with a five-cleft *mouth.*

Stam. *Filaments* five, length of the *nectary,* parallel. *Anthers* touching, within the mouth of the corolla.

Pist. *Germ* oblong, two-cleft. *Style* ſcarce any. *Stigmas* two, obtuſe.

Per. *Follicles* two, oblong, acuminate, one-celled, gaping lengthwiſe.

Seeds numerous, oblong, crowned with a down, placed in an imbricate manner.

Obs. C. viminale *departs a little from the character here given.* Mant. 392. R.

Schreber, who takes the character from C. acutum, gives it thus :

Cal. and Cor. as above.

Nect. growing to the tube of the filaments, erect, one-leafed plaited in angles, ten-toothed : teeth five longer, ſharp, five alternate ſhorter, emarginate. From the bottom of the nectary ariſe five triangular, erect, thickiſh leaflets, furrowed in the middle, obtuſe, oppoſite to the longer toothlets.

Stam. *Filaments* thickiſh, conjoined into a ſhort tube. *Anthers* oblong, preſſed cloſe, two-celled, ending in an inflex membrane incumbent on the ſtigma ; winged on each ſide. *Pollen* conjoined in ten oval, flat corpuſcles, concealed within the cells of the anther, fixed to it by ſhort, horizontal threads ; which are faſtened by pairs to five cartilaginous twin tubercles, each fitting on the tip of the wings of the anthers at the notches of the angles of the ſtigma.

Pist. *Germs* two, ovate-oblong. *Styles* two, ſubulate. *Stigma* common to both, large, five-cornered, with emarginate angles ; in the middle two conical, obtuſe, ſmall tubercles.

Per. and Seeds as in the other.

ESSENTIAL CHARACTER.

Contorted. *Nect.* cylindric, five-toothed.

SPECIES.

1. Cynanchum viminale. *Naked Cynanchum.*
Lin. ſyſt. 257. *Reich.* 1. 604. *mant.* 392.
Euphorbia viminalis. *Lin. ſpec.* 649. *hort. cliff.* 197. *upſ.* 140. *amæn.* 3. 110. *Mill. dict. n.* 15.
Apocynum viminale. *Baſſ. act. bonon.*
A. guineenſe, &c. *Herm. parad.* 61.
Felfel Tavil. *Alp. ægypt. t.* 190.
Stem twining perennial leafleſs.

2. Cynanchum acutum. *Acute-leaved Cynanchum.*
Lin. ſpec. 310. *Reich.* 605. *hort. cliff.* 79. *upſ.* 54. *Gærtn. fruct.* 2. 171. *Jacqu. miſc.* 1. 16. *t.* 1. *f.* 4. *Gmel. it.* 2. 198. *Bauh. pin.* 294. 3. (*Scammoniæ*). *Cluſ. hiſt.* 1. 125. (*Apocynum*). *Beſl. eyſt. æſtiv.* 13. *t.* 9. *f.* 2.
Stem twining herbaceous, leaves cordate-oblong ſmooth.

[3. Cynanchum planiflorum. *Flat-flowered Cynanchum.*
Lin. ſyſt. 257. *Reich.* 605. *ment.* 53. *Jacqu. amer.* 82. *t.* 55. *pict.* 44. *t.* 81.
Stem twining, leaves cordate ſmooth tomentoſe underneath, peduncles ſubracemed.

4. Cynanchum racemoſum. *Racemed Cynanchum.*
Lin. ſyſt. 257. *Reich.* 605. *mant.* 54. *Jacqu. amer.* 81. *t.* 54. *pict.* 43. *t.* 80.
Stem twining, leaves cordate ſmooth acute, racemes ſimple.

5. Cynanchum maritimum. *Sea Cynanchum.*
Lin. ſyſt. 257. *Reich.* 605. *mant.* 54. *Jacqu. amer.* 83. *t.* 56. *pict.* 44. *t.* 82.

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[a] Retz. [b] Linn. mant. [c] Gærtner.

Stem twining, leaves cordate hirſute tomentoſe underneath, peduncles aggregate.]

6. Cynanchum ſuberoſum. *Cork-barked Cynanchum.* *Lin. ſpec.* 310. *Reich.* 605. *hort. cliff.* 79. *Gron. virg.* 27. *Dill. elth.* 308. *t.* 229. (*Periploca*).
Stem twining cork-barked at bottom and cleft, leaves cordate acuminate.

7. Cynanchum hirtum. *Hairy Cynanchum.* *Lin. ſpec.* 310. *Reich.* 605. *hort. cliff.* 79. *Plum. ſpec.* 2. (*Periploca*). *Mor. hiſt. ſ.* 15. *t.* 3. *f.* 61. *Herm. par.* 53. (*Apocynum*).
Stem twining ſhrubby cork-barked and cleft at bottom, leaves ovate-cordate.

8. Cynanchum monſpeliacum. *Montpellier Cynanch.* *Lin. ſpec.* 311. *Reich.* 606. *hort. cliff.* 79. *Cavan. hiſp.* 44. *n.* 66. *t.* 60. *Jacqu. ic. rar.*
Scammonea monſp. fol. rot. *Bauh. pin.* 294.
S. valentina. *Cluſ. hiſt.* 1. 126.
Stem twining herbaceous, leaves reniform-cordate acute.

[9. Cynanchum extenſum. *Hairy-flowered Cynanchum.* *Lin. ſyſt.* 217. *Ait. hort. kew.* 1. 303. *Jacqu. miſc.* 2. 353. *icon. rar.*
C. cordifolium. *Retz. obſ.* 2. 15. *n.* 37.
Stem twining fruteſcent, leaves cordate acute, peduncles elongated, pedicels filiform; corollas hirſute at the edge, follicles ramentaceous.

10. Cynanchum undulatum. *Waved-leaved Cynanch.* *Lin. ſyſt.* 257. *Reich.* 606. *mant.* 54. *Jacqu. amer.* 85. *t.* 58. *pict.* 45. *t.* 84.
Stem twining, leaves lanceolate-ovate ſmooth, umbels globular.

11. Cynanchum capenſe. *Cape Cynanchum.* *Lin. ſyſt.* 257. *ſuppl.* 168.
Stem twining conform on every ſide, leaves ſubcordate-ovate, peduncles many-flowered.

12. Cynanchum obtuſifolium. *Blunt-leaved Cynanch.* *Lin. ſyſt.* 257. *ſuppl.* 169.
Stem twining herbaceous, leaves oblong, rounded at the tip with a point, umbels lateral.

13. Cynanchum tenellum. *Lin. ſyſt.* 257. *ſuppl.* 168.
Stem ſomewhat twining herbaceous, leaves ovate-oblong.]

14. Cynanchum erectum. *Upright Cynanchum.* *Lin. ſpec.* 311. *Reich.* 606. *hort. cliff.* 79. *Jacqu. hort.* 1. *t.* 38. *miſc.* 1. 20. *t.* 2. *f.* 1.
Apocynum fol. ſubrotundo. *Bauh. pin.* 302.
A. 1. latifolium. *Cluſ. hiſt.* 1. 124.
A. latif. non repens. *Park. theat.* 385. 1.
Stem erect divaricated, leaves cordate ſmooth.

[15. Cynanchum filiforme. *Lin. ſyſt.* 257. *ſuppl.* 169.
Stem erect quite ſimple, leaves linear, flowers verticilled axillary.

16. Cynanchum criſpiflorum. *Curled-flower Cynanch.* *Swartz prodr.* 52. *Ait. hort. kew.* 1. 302. *Plum. ic.* 210. *t.* 216. *f.* 1.
Stem twining, leaves underneath villoſe oblong cordate, with the ſinus cloſed; petals curled at the end.

17. Cynanchum reticulatum. *Retz. obſ.* 2. 15. *n.* 38.
Stem twining, cork-barked at bottom and chinky, leaves ovate acute.]

18. Cynanchum aſperum. *Rough-leaved Cynanchum.* *Mill. dict. n.* 6.
Stem twining ſhrubby, leaves cordate acute rough, flowers lateral.

[19. Cynanchum roſtratum. *Beak-flowered Cynanch.* *Vahl. ſymb.* 3. 45.
Stem and petioles hirſute, leaves cordate-oblong, petals lanceolate flat.

20. Cynanchum parviflorum. *Small-flowered Cynanch.* *Swartz. prodr.* 53. *Plum. ic. t.* 215. *f.* 1.
Stem twining filiform, leaves ovate ſubulate at the end, umbels ſubſeſſile.

21. Cynanchum proſtratum. *Proſtrate Cynanchum.* *Cavan. hiſp.* 5. *n.* 7. *t.* 7.
Stem proſtrate, leaves heart-ſhaped orbiculate-acute tomentoſe underneath.

22. Cynanchum grandiflorum. *Great-flowered Cyn.* *Cavan. hiſp.* 14. *n.* 19. *t.* 21.
Stem twining, leaves heart-ſhaped ovate-cuſpidate glaucous underneath, corollas coriaceous.

23. Cynanchum odoratiſſimum. *Sweet Cynanchum.* *Lour. cochinch.* 166.
Flos ſiamicus, ſ. flos Tunkini. *Rumph. amb. c.* 75. *t.* 26. *f.* 1.
Stem twining corky and cloven at bottom, leaves heart-ſhaped acuminate wrinkled, cymes reflex.

24. Cynanchum altiſſimum. *Lofty Cynanchum.* *Jacqu. amer.* 84. *t.* 57. *pict. t.* 83.
Stem twining, leaves heart-ſhaped tomentoſe on both ſides, flowers umbelled.

25. Cynanchum longiflorum. *Long-flowered Cynanch.* *Jacqu. amer.* 85. *t.* 59. *pict. t.* 85.
Stem twining, leaves oblong acute villoſe, flowers umbelled.

26. Cynanchum filiforme (americanum.) *Jacqu. amer.* 86. *t.* 60. *f.* 1. *pict. t.* 86.
Stem twining, leaves ovate acuminate flat ſhining, umbels globular.

27. Cynanchum clauſum. *Cloſe-flowered Cynanchum.* *Jacqu. amer.* 87. *t.* 60 *f.* 2. *pict. t.* 87.
Stem twining, leaves acuminate-oblong, rolled back at the edge, flowers umbelled.

DESCRIPTIONS, &c.

Theſe are ſhrubs or underſhrubs, commonly twining. Leaves oppoſite. Flowers axillary or terminating, diſpoſed in ſpikes, corymbs or umbels[a].

Nothing has given more trouble to botaniſts, or given riſe to a greater variety of opinions among them, than the ſtructure of the genitals in this genus and that of Aſclepias. Tournefort, Desfontaines, Deſcemet, Richard, Jacquin, Rottboll, Kolreuter, Cavanilles may be conſulted on this ſubject. The parts are ſo very ſmall, and are furniſhed with a ſuch compound apparatus, that it is very difficult to determine any thing about them with certainty.

They have all two germs running out into conical ſtyles, covered with a fungoſe pentagon body, all of which, except the upper ſurface of the latter, are ſo covered, firſt with a ſheath, and then with little bags hanging down and preſſed cloſe, that there does not ſeem to be the minuteſt opening to theſe parts. In each of the five angles of the fungoſe body (which Linneus calls *corpus truncatum*, and Jacquin the ſtigma) is a very ſmall ovate body, or tubercle, ſharp at bottom, whence ariſe two filaments, which either widen into a club, or are terminated by tranſparent yellowiſh balls: theſe clubs or little balls are almoſt always taken up by the bags, which open at the top, and grow narrower towards the baſe. Kolreuter and Rottboll will not allow the five-cornered fungoſe body to be the ſtigma, as there is every reaſon however to ſuppoſe it is.

Authors diſagree as to the number of anthers in the flowers of Cynanchum, and of courſe as to its place in the ſexual ſyſtem. Linneus with his editors, and the French botaniſts aſſign only five, whilſt the German botaniſts and Cavanilles attribute ten anthers to the flower. There are five tubercles, as we have obſerved, at the five corners of the fungoſe body, whence ariſe ten filaments finer than a hair, ending in a club or elſe a little ball; they who take the latter for anthers place theſe plants in the claſs Decandria, whilſt others, who look upon the former as the anthers, place them in the claſs Pentandria[b]. Theſe parts are well figured and deſcribed in the firſt volume of Jacquin's Miſcellanea.

1. Naked Cynanchum, ſo called from its having ſtems without any leaves on them, was ſuppoſed by Linneus to be an Euphorbia, and is thus deſcribed under that name by Miller.] It ſends out a great number of ſlender taper ſtalks of a dark green colour, which are ſmooth, and twiſt about each other, or any neighbouring ſupport, and then will riſe to the height of ten or twelve feet, putting out ſmaller

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[a] Juſſieu.

[b] Cavanilles hiſp. p. 5.

branches at top, which alſo twine about the other ſtalks.

[Calyx five-parted. Corolla rotate, like that of Aſclepias, with a membranaceous edge ſurrounding the ſtamens and piſtils. Nectaries five, reſembling petals, erect, having a yellow perforated grain (or tubercle) with a ſmall claw on the inſide, and placed in a ring. Anthers minute, brown, placed on a head [c].

Native of the Cape of Good Hope. Cultivated in 1759, by Mr. Miller [c].] It has not flowered in England.

2. Root perennial, creeping. Stems annual, twiſting like hops round whatever plants are near them, and riſing to the height of ſix or eight feet. Leaves ending in acute points, and placed in pairs on long footſtalks. Flowers in ſmall axillary bunches, of a dirty white colour. [Jacquin ſays of a very pale fleſh-colour, with lanceolate, bluntiſh ſegments, ſpreading open very much, and flat. Leaflets of the calyx lanceolate, ſmall, greeniſh. From the tube of the petal aſcends the nectary, which is bell-ſhaped, of the ſame colour with, and ſhorter than the corolla, divided above two thirds of its length into five lanceolate, acute, erect ſegments, ſo far removed from each other as to admit five other very ſmall rounded ſegments, ſometimes quite entire, ſometimes lacerated, or bifid. Sheath conical and narrow at the baſe; thence widening, and divided into five two-celled oblong bractes, ending in as many rounded ſcales, and embracing the mouths of the ſtigma. Between theſe, to the margin of the ſtigma are fixed the ſtaminiferous tubercles, putting forth from their baſe on each ſide a ſingle very fine horizontal filament. Anthers pale, roundiſh-ovate, flat, fixed by their middle part, and containing a pulpy pollen. Germs two, ovate-oblong, ending in two ſhort ſtyles, which are crowned by a diſcoid pentagon ſtigma, common to both [d].

This deſcription of the fructification may be compared with the generic character given above from Schreber. According to Gærtner, the calyx is five-toothed, the corolla five-cleft, no nectaries, ten pendulous ſtamens, concealed within the involucre of the germs, which are two, involucred by five ſcales united into a cylinder. Follicles diverging horizontally as they approach to maturity, columnar, ſmooth: receptacle linear, membranaceous, free. Seeds ſeveral, imbricate downwards, ovate-oblong, flatted a little, ſurrounded by a narrow, membranaceous rim, with a lateral umbilicus in it, of a reddiſh ferruginous colour, and crinite; the hairs ſimple, ſilky-white, five times as long as the ſeeds.

Native of Spain and Sicily. Cultivated in 1596 by Gerarde [e].]

It flowers in june and july, but does not produce ſeeds in England; occaſioned probably by the roots creeping ſo far under ground; for moſt plants which propagate themſelves ſo much by their roots become barren, eſpecially if their roots have full liberty to extend.

[3. This is a milky plant, with twining, round, ſmooth ſtems. Leaves oblong-cordate, acuminate, quite entire, very ſoft, with a ſcarcely conſpicuous nap underneath, ſmoothiſh on the upper ſurface, but bearded at the origin of the petiole with abrupt rigid ferruginous, very ſhort cilias. Common peduncles ſmooth, lateral, ſolitary, ſuſtaining about five flowers, on pedicels elongated beyond the common one. Flowers void of ſcent, very flat, half an inch in diameter; corollas veined and æruginoſe; calyxes greeniſh white.

The parts of fructification are thus deſcribed. *Perianth* five-leaved; leaflets lanceolate, flat, acuminate, ſpreading very much, ſlightly coloured, generally exceeding the corolla in length. *Corolla*, tube ſpreading, very ſhort: border five-cleft, diviſions ovate-roundiſh, ſpreading very much, and flat. *Nectaries* five, connected at their ſides ſo as to form one body of the ſame form and ſize as the tube of the corolla; in the centre of the flower produced from their baſe riſing into five blunt, upright little bodies, twice as long as the tube of the corolla, furniſhed at the top with cowled two-celled little membranes. *Filaments* ten, capillary, ſhort, in pairs from the ſame point between the cowls of the nectary. *Anthers* obovate, obtuſe, columnar, upright, concealed by the cowls. *Germs* two, ovate, convex on one ſide, flat on the other, the ſame length with the tube of the corolla, in the centre of the nectary. *Styles* two, ſhort, upright. *Stigma* ſingle, ſimple, very large, quinquangular, cloven in the centre, funnel-form.

Native of Carthagena in New Spain; flowering in july and auguſt.

4. Stems herbaceous, twining, ſmooth, ſcandent, full of a white milky juice. Leaves quite entire, ſhining, ſlightly waved, bright green on the upper ſurface, æruginoſe on the back, petioled. Racemes lateral, three inches long, ſolitary; but by the ſide of the principal a ſmaller branch comes out, which is alſo loaded with flowers; they are ſmall, white, and void of ſcent.—*Calyx* five-leaved, leaflets lanceolate, concave, acute, patulous. *Corolla*, tube bell-ſhaped, very ſhort: border five-cleft, diviſions lanceolate, flat, ſpreading very much, revolute and emarginate at the end, a little longer than the calyx. *Nectaries* five, erect, the length of the calyx, ovate, flat, three-jagged and acuminate at the end; in the centre of the flower from its baſe produced, finally riſing into five oblong ſhort blunt little bodies, which end in membranes that are cowled, and rendered two-celled by a middle partition. *Filaments* ten, capillary, very ſhort, in pairs from the ſame point between the cowls of the nectary. *Anthers* oval, columnar, upright, concealed in the cells of the cowls. *Germs* two, very ſmall, in the centre of the nectary. *Style* ſingle, filiform, upright, almoſt the length of the nectary. *Stigma* very large, flat on both ſides, with five ſharp angles.

Native alſo of Carthagena; flowering in october and november.

5. This alſo is a milky plant, with twining, round, hirſute ſtems. Leaves acuminate, quite entire, petioled, from two to four inches long. Peduncles one-flowered and ſhortiſh, ſpringing aggregately from a tubercle among the leaves. Flowers without ſcent, with a green calyx, and a dark purple corolla. *Calyx* five-parted; with lanceolate, acute, ſmall leaflets, ſpreading very much. Tube of the *corolla* very ſhort, ſpreading; ſegments of the border ovate, acute, flat, large, hirſute within, ſpreading very much. *Nectary* bell-ſhaped, conſiſting of five obcordate, three-toothed, ſpreading leaflets, connected at the ſides into one body, of the ſame colour with the corolla, and of the ſame length with the calyx; riſing into five little bodies in the centre of the flower, furniſhed with five membranaceous, cowled, two-celled ſcales. *Filaments* ten, capillary, ſhort, in pairs from the ſame point between the ſcales of the nectary. *Anthers* obovate, columnar, upright, concealed in the cowls. *Germs* two, ovate, convex on one ſide, flat on the other, in the centre of the nectary. *Style* cloven at the baſe, at the height of the ſcales ſpread out into a body flat on both ſides, wide, and ſharply five-cornered; from the centre of this it again emerges ſingle, filiform, erect, the length of the corolla. *Stigma* bifid; the diviſions obtuſe, ſpreading.

Native of Tierra Bomba, on the coaſt; flowering in november [f].]

6. Root perennial. Stems ſlender, hairy, twining, and if ſupported riſing ſix or ſeven feet high: the lower part is covered with a thick fungous bark, ſomewhat like cork, and full of fiſſures. At each joint is a pair of leaves on long hairy footſtalks. The flowers are in ſmall axillary bunches; they are ſtar-ſhaped, and green when they firſt appear, but afterwards change to a duſky purple colour. They

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[c] Linn. mant. from Baſſi.

[d] Miſcell. 1. 16.

[c] Hort. kew.

[e] Hort. kew.

[f] Jacqu. amer.

appear in july and auguſt, but are not ſucceeded by ſeeds in England. Native of Carolina, whence the ſeeds were brought to England. [Cultivated in 1732, by James Sherard, M. D. [g].]

7. This riſes with a twining ſtem to the height of twenty feet or more, if ſupported; the lower part is cork-barked and full of fiſſures like the preceding. Leaves like that on long footſtalks, but ſmooth. Flowers of a yellowiſh green colour, not ſucceeded by pods in England. It grows naturally in Jamaica, whence the ſeeds were ſent to Mr. Miller by Dr. Houſtoun [before 1733 [h].

8. Stems filiform, green, ſmooth, ſwelling at the joints, very long, climbing. Leaves acute, glaucous, about the ſame length with the petioles. Flowers on ſolitary, peduncled racemes between two petioles, the peduncles thickening towards the top. Calyx ſmall, five-cleft. Corolla deeply five-parted; ſegments linear, white above, pale roſe-coloured beneath: in the centre is a whitiſh pitcher-ſhaped body, ten-cleft at the top, with five broad ſhorter ſegments, and five ſharp longer ones, ornamented internally with as many ſharp appendages, which are raiſed upwards: in the middle of this body is placed a ſheath, obſcurely five-cornered, with five pendulous two-celled appreſſed little bags, ending at top in as many orbicular ſcales, converging towards the top of the ſheath. Stamens ten, very ſhort, capillary, inſerted by pairs into an obovate root: anthers ten, globular, concealed within ten receſſes of the bag: the roots of the ſtamens appearing between the ſcales. Germs two, approximating, ending in conical ſtyles: the ſtigma is common to both, of a pentagon figure, forming the roof or top of the theca or ſheath, crowned by two toothlets, approximating at the baſe, afterwards divaricating [i].]

The leaves are broader and rounder at their baſe than in the ſecond ſort. The roots are very thick, running deep into the ground, and extending themſelves far on every ſide. Both theſe plants abound with a milky juice like the Spurge, which iſſues out wherever they are broken; and this, when concreted, has been frequently ſold for Scammony.

[Native of the South of Europe. Cultivated in 1597, by Gerarde [k].

9. From an annual root divided into whitiſh fibres a foot and half long, and not ſo thick as a quill, ariſes a twining ſtem, very much branched, twelve feet high, round, villoſe, with longer hairs thinly interſperſed, rough, glaucous, when far advanced ſlightly tinged with purple. The branches are the ſame. Leaves quite entire, almoſt ſmooth on both ſides, on a long round villoſe petiole. The common peduncles come out between the oppoſite petioles, commonly ſingle, but ſometimes on each oppoſite ſide, from half a foot to a foot in length, round, rugged, villoſe, ſpreading, leafleſs. Pedicels an inch and half long come out aggregately at intervals from the former. Flowers pendulous, ſweet-ſmelling, beginning to open about ſix o'clock in the evening, and cloſed by morning; they are of a greeniſh pale colour. The plant is elegant, and abounds with white milk. The character of the fructification is as follows. *Perianth* five-cleft, ſmall, ſomewhat villoſe, permanent: leaflets lanceolate, acute, erect. *Corolla* wheel-ſhaped: tube ſubquinquangular, longer than the calyx: diviſions of the five-cleft border lanceolate, acute, three times the length of the tube, flat, except that the ſides are rolled back, ſpreading very much, very cloſely and ſoftly ciliate, with hairs about the edges. *Nectary*, the ſheath from the tube of the corolla, to which it grows, is elevated into a pentagon five-grooved white cone ſhorter than the petal; this cone conſiſts of five erect obtuſe bractes, three-lobed at the tip, the middle lobe longer, and lying on the vertex of the ſtigma, on the inſide having two little bags for the lodgement of the anthers: to each bracte at the baſe of the double bag on the back is faſtened a lanceolate convex appendix, bent in both ways, acute, erecting itſelf from the middle of the ſheath beyond the ſtigma. *Filaments* ten, ſhort, from each brown point between the bractes of the ſheath conſpicuous on the ſtigma in pairs. *Anthers* obovate, compreſſed, pendulous, yellow. *Germs* two. *Styles* two, awl-ſhaped. *Stigma* capitate, globular, with an obtuſely five-cornered rim about the edge. *Follicles* lanceolate-acuminate, muricate, turgid, glaucous, coriaceous, diverging or reflex. *Seeds* very many, flat, with a ſilky down, and fixed to the receptacle [l].

Jacquin has retained the name *extenſum* originally given it by the celebrated Solander from the elongated peduncles. Retzius, who had it from König, calls it *cordifolium*; and ſays that the leaves are roundiſh-cordate, ſometimes a little angular, and ſmooth on both ſides; that the flowers are in cymes, on ſlender pedicels proceeding from a tubercle, with a ſmall ſhort bracte under each.

Native of the Eaſt-Indies. Introduced in 1777, by Patrick Ruſſell, M. D. It flowers in july and auguſt [m].

10. This is a milky plant, entirely ſmooth, with twining round ſtems. Leaves quite entire, fat to the touch, on very ſhort petioles, four inches long. A ſolitary, cloſe, ſmall umbel is placed on a round, thickiſh, lateral peduncle, uſually longer than the petiole. Flowers ſmall, without ſcent, firm; calyxes aſh-coloured, corollas nearly of the ſame colour on the outſide, and dirty purple within. Perianth five-leaved: leaflets ovate, concave, ſpreading. Corolla, tube globular-depreſſed, a little longer than the perianth: border five-cleft; ſegments flat, very blunt, ſpreading much, half the length of the tube: throat ſpreading very wide. In all other parts like C. altiſſimum.

Native of Carthagena in New Spain; flowering in july [n].

11. Stem lofty, ſcarcely pubeſcent, even at top, by no means cork-barked. Leaves petioled, mucronate, even; the younger ones ovate, the more advanced emarginate. Peduncles axillary, ſhorter than the leaves, toothletted, ſimple: pedicels alternate, capillary, longer than the peduncle. Calyx very ſhort. Native of the Cape of Good Hope. Obſerved by König and Sparrmann [o].

12. This alſo is a native of the Cape: and was firſt obſerved there by Thunberg [p].

13. Stem filiform, herbaceous, with alternate branches. Leaves oppoſite, petioled, even, the ſize of Chickweed, mucronate. Umbels lateral, irregular, ſhorter than the leaves, ſeſſile. Flowers the ſize of Galium. Two ſubulate follicles, the length of a finger. Found in New Granada, by Mutis [q].]

14. This is a perennial plant, which riſes with ſlender upright ſtalks about three feet high. Leaves broad, ſmooth, ending in points. Flowers axillary, in ſmall bunches, on branching peduncles; they are ſmall and white, greatly reſembling thoſe of the common white Aſclepias.

[The fructification is thus deſcribed by Jacquin. *Perianth* green, ſmall, ciliate, five-cleft: ſegments lanceolate, acute, erect. *Corolla* white, divided almoſt to the baſe into five oblong, obtuſe, flat ſegments, all together forming at bottom an almoſt bell-ſhaped corolla, but ſpreading very much at top, and ſlightly bent with the apparent courſe of the ſun. The ſheath is placed immediately on the pedicel of the flower; below it is round, green, and has two grooves; above the germ from the back below the bractes it puts forth five petal-ſhaped, white, ſublinear, obtuſe, upright, ſmall leaflets; but here the ſheath itſelf becomes oblong, concave bractes, ending in a roundiſh ſcale, yellowiſh, applied to the ſtigma, and half its length: theſe bractes have not any two-celled bags, but inſtead of them two roundiſh yellow ſmall plates, ſituated above the baſe in a parallel poſition, and extended forward. *Germs* two, obtuſe, pale: ſtyle very ſhort, thick, ſingle and undivided, common to both germs: ſtigma very large, elongate-conical, thick, erect, pale yellow, bifid and obtuſe at the end, very long. At the ſides of the ſtigma between the bractes about the middle are linear brown tubercles, from each of which ariſe two yellow obovate flat anthers, hanging forward between adjoining plates of neighbouring bractes and their edges, almoſt without filaments[r].

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[g] Hort. kew.
[h] Ibid.
[i] Cavanilles.
[k] Hort. kew.
[l] Jacquin.
[m] Hort. kew.
[n] Jacquin.
[o] Linn. ſuppl.
[p] Ibid.
[q] Ibid.

Native of Syria. Cultivated in 1640. It flowers in july and auguſt[s].

15. Found at the Cape, by Thunberg[t]. There is a ſpecies deſcribed under this name by Jacquin, entirely diſtinct from this[u]. See n. 26.

16. Native of South America, and the Weſt-Indies. Cultivated before 1741, by Robert James Lord Petre. It flowers in july[x].

17. Stem woody, covered with a thick whitiſh bark, the branches twining, ſtriated, ſmooth. Leaves far from each other, petioled, ſmooth, the upper ones lanceolate. Flowers ſmall, hairy on the outſide, unequally pedicelled in peduncled axillary umbels.

Native of the Eaſt-Indies, and obſerved there by König[y].]

18. Stem ſhrubby, twining, twenty feet high or more, very ſlender, and armed with ſmall ſtinging hairs. Leaves broad heart-ſhaped, ending in acute points by pairs at each joint, which are far diſtant, on ſlender foot-ſtalks; they are covered with rough hairs on their under ſide. The flowers are produced in ſmall cluſters, ſitting cloſe to the ſtalks; they are pretty large, yellow and ſtar-ſhaped, ſpreading open to the bottom. Follicles long, ſwelling. Seeds flat, crowned with long down. Native of La Vera Cruz in New Spain, whence the ſeeds were ſent from Dr. Houſtoun to Mr. Miller.

[19. Stem twining, ſhaggy, with reverſed hairs, as are alſo the petioles. Leaves two or three inches long, acuminate, having hairs thinly ſcattered over the upper ſurface, paler underneath, with numerous raiſed dots, viſible only with a magnifier, with a ſinus open, not cloſed as in C. criſpiflorum. Peduncles axillary, ſhorter than the petiole, ſmoothiſh. Pedicels ſubumbelled, four or five, unequal, filiform, hirſute, often twice as long as the general peduncle, but ſhorter than the leaves. Segments of the calyx ovate, thinly haired. Corolla before it unfolds ovate, acuminate-beaked: petals thrice the length of the calyx, linear-lanceolate, with a few hairs on the outſide. Found on the iſland of Trinidad by Rohr. The proper place of this is between the third and fourth ſpecies[z].

20. Native of the Weſt-Indies. Its place is between the twelfth and thirteenth ſpecies[a].

21. Stems a foot high, round, filiform, branched, knotted, tomentoſe, ſubherbaceous. Leaves in pairs at each knot, nearly equal to the petioles, quite entire, ſoft, glaucous underneath, having an unpleaſant ſmell. Flowers in ſolitary umbels: common peduncle half an inch long, between the two petioles: rays four, one-flowered, ſurrounded at the baſe by three little bractes. Calyx ſmall, divided half way into five ovate villoſe parts. Corolla deep green, deeply parted into five ſpreading ſegments, with a revolute border: in the centre is a whitiſh pitcher-ſhaped body, ſurrounding the genitals, five-parted, with the ſegments deeply two-horned; from the centre of the horns ariſe two plates, one of which is arched towards the genitals, the other is very ſmall, oppoſite to the former, and verges outwards. Genitals concealed within a ſheath, the bottom of which is occupied by two germs, which are partly united, and end in ſtyles, whoſe common ſtigma is large, five-cornered and fungoſe, ſurrounded by five little ſcales: in the corners of the ſtigma are five very ſmall brown bodies, which are the roots or baſes of the anthers; becauſe from each of theſe a pair of yellow appendages covered with little ſcales proceed, which are the anthers, and are therefore ten in number.

Native of Mexico. It flowered in the Paris garden in 1789; and the year following in the royal garden at Madrid, in the month of auguſt[b].

22. Stem very long, round, branched, thickened, and having a rufous nap at the joints. Leaves having one branching nerve; they are longer than the petiole, which is often twiſted at the baſe, and there is thicker and ſomewhat villoſe. Flowers in ſhort racemes: common peduncle thick, ſolitary, between the two petioles: pedicels in alternate pairs, an inch long. Calyx deeply parted into five acute ſegments. Corolla before it expands rolled up in a ſpiral, but afterwards ſpreading very much, deep green on both ſides, and ſomewhat coriaceous, divided into five lanceolate very ſharp ſegments near an inch in length. At the bottom of this is a yellow body the ſize of a pea, which has five hollows at the baſe, with as many claws arched inwards; from the centre ariſes a very ſhort priſm, terminated by a green pentagon; the ſides of this pentagon have each an ovate concave yellow appendicle, and at the angles are the red roots or baſes of the anthers. Filaments ten, thinner than the fineſt hair, fixed to theſe baſes by pairs, diverging, and gradually augmenting like a club: theſe ten club-ſhaped bodies are the anthers, they are tranſparent, yellow, and concealed between the ſides of the pentagon and the appendicles almoſt in a horizontal ſituation. Germs two, approximating, ending in conical ſtyles: ſtigma common, five-cornered, fungoſe, large.

Native of South America. It flowered at Madrid from ſeptember to the end of the year, about 1788 or 1789[c].

23. Stem very long, round, ſhining, and very ſmooth, except at bottom, where it has a bark like cork. Leaves waved, ſmooth, on long petioles. Flowers yellow, very ſweet-ſcented, in large, hemiſpherical, axillary, reclining cymes. Calyx five-leaved, inferior: leaflets ovate-lanceolate, waved, almoſt erect, permanent. Corolla ſalver-ſhaped, with a thick ſhort tube, inflated at the baſe, and a wide five-parted border, with oblong ſegments, ſomewhat reflex: nectary cylindric, thick, erect, five-cleft, the ſegments converging. Filaments five, membranaceous, adhering externally to the nectary, with ten glands at the baſe: anthers two-celled, compreſſed, acute, lying on the ſtigma. Germ ovate, bifid. Stigma ſeſſile, ovate, emarginate, ſingle.

Native of Siam and Cochinchina. Cultivated there and in China. In fragrance it does not yield to the Arabian Jaſmin (Nyctanthes or Jaſminum Sambac,) and though very common, it is no leſs uſed than that by women of faſhion in thoſe countries to adorn their hair[d].

24. This is a milky ſhrubby plant, climbing trees to the height of fifty feet. Stems round, when old woody, ſmooth, aſh-coloured, leafleſs, when young green, tomentoſe, leafy. Leaves acuminate, quite entire, thickiſh, with a very ſoft but ſcarcely viſible nap on both ſides, petioled, at firſt two inches, but afterwards half a foot in length. Umbels lateral, ſolitary, cloſe, hemiſpheric; common peduncle very thick, round, tomentoſe, ſcarcely the length of the petioles; involucre many-leaved, unequal. Theſe come out with the leaves, and in the leafleſs branches from the joints. Flowers thick, firm, without ſcent; calyxes greeniſh aſh-colour; corollas dirty purple. The ſcales of the nectary, in this and a few others, may be ſaid to have three cells, the partition being double, but ſince theſe folds converge, and the anthers are placed on the outſide, the middle cell is of no conſequence. One of the follicles only ripens, the other proving abortive.

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[r] Jacquin miſc. [s] Hort. kew. [t] Linn. ſuppl.
[u] Linn. ſyſt. [x] Hort. kew. [y] Retz.
[z] Vahl. [a] Swartz.

[b] Cavanilles. [c] Ibid.
[d] Loureiro.

25. Stems round, hairy, climbing to the height of fifteen feet. Leaves obverſely ſubovate, cordate at the baſe, quite entire, thickiſh, with hairy veins and nerves, half a foot long, on ſhort and hairy petioles. Umbels lateral, ſolitary, at moſt ſeven-flowered; common peduncle hairy, thick, round, the length of the petiole; involucre many-leaved, unequal. Flowers without ſmell or beauty; calyxes pale greeniſh; petals pale without, within fuliginous, with numerous ſilvery hairs. One or two of the flowers are abortive before they open, leaving a ſcar. The unuſual elongation of the tube gives the flower a very different appearance from the others.

26. Stems round, filiform, ſhining, branched, very numerous. Leaves quite entire, petioled, ſcarcely an inch and half in length. Umbels ſmall, erect, lateral, alternate: common peduncle filiform, twice the length of the petioles. Flowers without ſcent, ſmall, the petals and nectary ſnow-white. Both follicles commonly ripen.

27. Stems round, ſmooth, numerous. Leaves lanceolate-oblong, acuminate, quite entire, veined, ſhining, on very ſhort petioles, from two to three inches in length. Umbels lateral, ſolitary. Flowers without ſcent, with the corollas and nectaries ſnow-white.

Theſe are all climbing milky plants, and natives of Carthagena in New Spain[e].

On account of the obſcurity in the fructification, I have been the more particular in giving characters and deſcriptions at length, particularly from the celebrated Jacquin. They will not appear very intelligible without the plants themſelves, or at leaſt good magnified figures, ſuch as may be found in Jacquin's miſcellanea. But with theſe they will greatly aſſiſt the botanical ſtudent in developing theſe myſteries, and may lead him to form a more ſatisfactory generic character than has been hitherto given.

PROPAGATION AND CULTURE.

Theſe plants are chiefly inhabitants of hot climates; the greater part (3 to 5, 7, 10, 13, 16, 18 to 22, and 24 to 27) of South America and the Weſt-Indies. Two are from the Eaſt-Indies (9 and 17), and one (23) from Siam and Cochinchina.]

They are all tender, and will not thrive in this country unleſs they are placed in a bark ſtove. As they abound with a milky juice, they muſt have little water in winter. They may be propagated by laying down the young ſhoots, which in three or four months will put out roots, and may then be tranſplanted into pots filled with light ſandy earth, and plunged into the tan-bed, where the plants ſhould continue all the year.

[They may alſo be increaſed by parting the roots, or by cuttings. Such as produce good ſeeds in Europe, which many of them do not, may be propagated that way.

Four ſpecies (1, 11, 12, 15.) come from the Cape, and muſt be preſerved in the dry ſtove. They may be increaſed by layers, cuttings, &c.]

Two, (2, 8) being natives of the South of Europe, are hardy, and propagate too faſt by their creeping roots, which are not eaſily extirpated, when they have got poſſeſſion of the ground. The roots may be tranſplanted any time after the ſtems decay, till they begin to ſhoot in the ſpring.

6. The ſixth ſort from Carolina will live in the open air in England, if it be planted in a dry ſoil and warm ſituation. It may be increaſed by laying down the young ſhoots about midſummer, which, if they are now and then refreſhed with water, will put out roots, and may be tranſplanted in the autumn, where they are deſigned to remain. The roots ſhould be covered in winter with ſome rotten tan to keep out the froſt.

14. The fourteenth ſort from Syria, requires a warm ſituation, to live abroad in England. It is propagated by parting the roots in the ſpring, before they ſhoot.

[CYNANCHUM. See *Ceropegia* and *Periploca*.
CYNAPIUM. See *Æthuſa*.]

CYNĂRA. (*From* κυῶν. *Lin.* Κυναρα ακανθα, *Athenæus.* κιναρα, *Voſs. but he does not give any derivation.—Others derive it a cinere, becauſe, according to Columella, land for Artichokes ſhould be manured with aſhes. Parkinſon ſays it is ſo called from the aſh-coloured hue of the leaves.*)

Lin. gen. 928. *Reich.* 1007. *Schreb.* 1257. *Vaill. A. G.* 1718. Cinara. *Tourn.* 254. *Juſſ.* 173.

Claſſ. 19. 1. Syngeneſia Polygamia Æqualis.

Nat. order of *Compoſitæ Capitatæ*: *Cinarocephalæ.* Juſſ.

GENERIC CHARACTER.

CAL. *Common* ventricoſe, imbricate; *Scales* numerous, roundiſh, fleſhy, increaſed by a membranaceous ſcale-formed *appendicle*, which is larger, roundiſh, channelled, and emarginated with a ſpine.

COR. *Compound* tubulous, uniform: *Corollets* hermaphrodite, nearly equal.

Proper one-petalled, funnel-form: *tube* very ſlender; *border* erect, ovate, five-cleft; *diviſions* linear, *one* more deeply ſeparated.

STAM. *Filaments* five, capillary, very ſhort. *Anther* cylindric, tubuloſe, length of the corollule, five-toothed.

PIST. *Germ* ſomewhat ovate. *Style* filiform, longer than the ſtamens. *Stigma* ſimple, oblong, emarginate.

PER. none. *Calyx* converging but a little.

SEEDS ſolitary, oblong-ovate, four-cornered-compreſſed. *Down* ſeſſile, long.

REC. briſtly.

ESSENTIAL CHARACTER.

Cal. dilated, imbricate, with fleſhy ſcales, emarginate, with an acumen.

SPECIES.

1. Cynara Scolymus. *Common Artichoke.*
Lin. ſpec. 1159. *Reich.* 3. 692. *hort. cliff.* 394. *upſ.* 251. *Gouan. monſp.* 425. *Villars dauph.* 3. 34. *Blackw. t.* 458. *Woodv. med. bot.* 544. *t.* 199.
C. ſylveſtris. *Park. parad. t.* 519. *f.* 4. *Ger.* 992. 3. *emac.* 1153. 3. *Raii hiſt.* 300.—latifolia. *Bauh. pin.* 384. *hiſt.* 3. 52. 1.
Scolymus Dioſcoridis. *Park. theat.* 973. 1.
β. C. Scolymus. *Mill. dict. n.* 1. *French Artichoke.*
C. hortenſis aculeata. *Bauh. pin.* 383.
Carduus ſ. Scolymus ſativus ſpinoſus & non ſpinoſus. *Bauh. hiſt.* 3. 48. *Raii hiſt.* 299.
Cinara maxima alba. *Ger.* 991. *emac.* 1153. 2.
C. patula. *Park. parad. t.* 519. *f.* 3.
γ. C. hortenſis. *Mill. dict. n.* 2. *Globe Artichoke.*
C. hort. fol. non aculeatis. *Bauh. pin.* 383.
C. maxima anglica. *Ger.* 991. *f.* 1. *emac.* 1153. 1. *Bauh. pin.* 383.
Carduus ſ. Scolymus maximus non ſpinoſus. *Bauh. hiſt.* 3. 51.
C. ſativa rubra & alba. *Park. parad. t.* 519. *f.* 1, 2.
Leaves ſomewhat ſpiny, pinnate and undivided; calycine ſcales ovate.

[2. Cynara horrida. *Madeira Artichoke.*
Ait. hort. kew. 3. 148.
Leaves pinnatifid, tomentoſe underneath, ſpiny, ſpines at the baſe of the leaves, and pinnas connate at bottom.]

3. Cynara Carduncuius. *Cardoon Artichoke.*
Lin. ſpec. 1159. *Reich.* 3. 692. *Villars dauph.* 3. 34.
C. ſpinoſa, cujus pediculi eſitantur. *Bauh. pin.* 383.
Carduus eſculentus. *Park. parad. t.* 519. *f.* 5.
Scolymus aculeatus. *Tabern. hiſt.* 1075.
Leaves ſpiny, all pinnatifid; calycine ſcales ovate.

4. Cynara humilis. *Dwarf Artichoke.*
Lin. ſpec. 1159. *Reich.* 3. 692. *Cluſ. cur.* 35. *Pluk. alm. t.* 81. *f.* 2. (Carduus.) *Mor. hiſt.* 3. 158. *n.* 9. (Carduus.)
Leaves ſpiny, pinnatifid, tomentoſe underneath; calycine ſcales ſubulate.

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[e] Jacquin.

[5. Cynara acaulis.
Lin. ſpec. 1160. *Reich.* 3. 693. *Tilli piſan.* 41. *t.* 20.
Stemleſs; leaves pinnate, unarmed, ſmooth above.

6. Cynara integrifolia.
Vahl. ſymb. 1. 68.
Leaves lanceolate, toothletted, calycine ſcales lanceolate-acuminate.

DESCRIPTIONS, *&c.*

1. The Artichoke in its wild ſtate is ſaid to attain the height of a man. The leaves are much more tomentoſe than in the garden plant, and every ſmall diviſion of them is armed with a ſtrong yellowiſh ſpine. The heads are much ſmaller, and have much larger ſtronger ſpines at the ends of the ſcales.

The cultivated Artichoke ſeldom riſes above four feet in height, with a ſtout, furrowed, leafy ſtem, ſlightly tomentoſe, ſometimes a little branched at top. The root is large, thick, and perennial, crowned by a conſiderable cluſter of pinnatifid leaves, from two to four feet in length, pointing upright, the whole covered with an aſh-coloured down, eſpecially underneath: the midrib has a deep ſingle channel above, and ſeveral deep furrows underneath, with ſtrong ridges between them: at bottom there are uſually ſeveral ſeparate leaflets or rudiments of leaves, which increaſe in ſize till the main leaf begins, and are connected by a wing running down each ſide of the midrib; this wing increaſing, then unites the remainder into one pinnatifid leaf, very deeply cut, and each cleft has a few large ſerratures or jags, ending in a ſhort prickle, which is ſometimes ſcarcely perceptible. The leaves on the ſtem are ſimple, only ſerrate or jagged, like a ſingle cleft of the other; they end obtuſely, and are frequently retuſe; ſometimes they have ſcarcely any ſerratures; immediately below the heads are ſome looſe ſcales, partaking of the nature of the upper leaves and calycine ſcales. The heads are ſubglobular, either green or dark purple, the former commonly tinged at bottom with purple; compoſed of numerous, large, ovate ſcales, which at bottom are very fleſhy, and at top are obtuſe and emarginate, or cloven. If theſe heads be ſuffered to ſtand, the calyx will open, and a great number of jagged purple florets will appear. Theſe are placed on a large fleſhy receptacle, commonly called the bottom; and together with the briſtles interpoſed between the florets, and the down of the ſeed, form what is vulgarly called the choke, in the immature ſtate of the head, in which ſtate only the calycine leaves are ſucked, and the receptacle or bottom eaten, deprived of the maſs of florets, &c. or choke.

The Artichoke is a native of the South of Europe, as Italy, Sicily, the South of France, &c. In ſome parts it is eaten raw in its wild ſtate, by the common people, and ſurely muſt be a moſt wretched food. It is ſaid to dye a good yellow: and the flowers are uſed inſtead of rennet to turn milk for cheeſe. The whole plant has a peculiar ſmell, and a ſtrong bitter taſte. It was formerly in great requeſt for qualities which it is not now allowed to poſſeſs. It is reputed to be aperitive, ſtomachic, and ſomewhat heating.

β. γ. Mr. Miller makes two ſpecies of the Common Artichoke. 1. C. Scolymus, the Green or French. 2. C. hortenſis, the Globe Artichoke.]

The firſt of theſe, being the ſort moſt commonly cultivated in France, is generally known here by the title of French Artichoke, and is the only ſort in Guernſey and Jerſey. The leaves are terminated by ſhort ſpines, the head is oval, and the ſcales do not turn inwards at the top like thoſe of the Globe Artichoke; the heads are alſo of a green colour, the bottoms are not near ſo thick of fleſh, and they have a perfumed taſte, which to many perſons is very diſagreeable; ſo that it is ſeldom cultivated in the gardens near London, where the Globe or Red Artichoke is the only ſort in eſteem. The leaves of this are not prickly, the head is globular, a little compreſſed at the top, the ſcales lie cloſe over each other, and their ends turn inwards, ſo as cloſely to cover the middle.

[The leaves of the latter are of a bluer caſt, with more and deeper jags on the clefts; they have ſmall inert prickles, like the other, but not ſo perceptible: the leaves of the former are larger, much wider, and of a paler colour, inclining to yellow on the upper ſurface. The great openneſs of the ſcales in the head of the Green Artichoke is a leading character; it alſo rather draws up to a point in the middle, whereas the Globe Artichoke is quite flat at top: the colour is a reddiſh brown, or rather a duſky purple, with a tinge of green.

We learn from Turner that the Artichoke was certainly cultivated in England in 1551 [a]. We probably had it much ſooner.

Gerarde (a. 1597.) ſays that our great Artichock, which was firſt brought out of Italy, is become, by reaſon of the great moiſture which our country is ſubject unto, greater, and better than thoſe of Italy, inſomuch that divers Italians have ſent for ſome plants of our Artichockes, deeming them to be of another kind; nevertheleſs in Italy they are ſmall and dry, as they were before. And Parkinſon (parad. printed in 1629) affirms that our Engliſh red Artichoke is the moſt delicate meat of any other, and has been ſent into Italy, France, and the Low Countries; but that they degenerated there in two years: ſo that it ſeemeth that our ſoil and climate hath the preheminence to nouriſh up this plant to its higheſt excellency.—He alſo adds, that the French Artichoke was brought over, after a great froſt had well nigh conſumed our beſt kinds, and are now almoſt clean caſt out again, none being willing to have it take up the room of better. It is remarkable that this is the ſame account with that which is given by Mr. Miller, after the great froſt of 1739-40, above a century afterwards.

The Artichoke has the ſame name, with very little variation, in the European languages. In German it is *Artiſchoke*, corruptly *Erdſchocke*; in Dutch *Artisjok* or *Artichok*; in Daniſh *Ærteſkok*; in Swediſh *Ærtſkocka*; in French *Artichaut*; in Italian *Carcioſo*; in Spaniſh and Portugueſe *Alcachoſa*; in Poliſh *Karcioſ*; in Ruſſian *Artitſchok.*

2. Native of the iſland of Porto Santo, near Madeira. Mr. Francis Maſſon. Introduced in 1778 [b].

3. John Bauhin affirms that the Cardoon is a hybrid plant or mule from the ſeed of the Common Artichoke. The corollets and piſtils of this are of a deep blue colour, but the ſtamens are gray. Native of the iſland of Candia [c]. Cultivated in 1683, by Mr. James Sutherland [d]. Parkinſon ſays [e], he was aſſured by John Tradeſcante, that he ſaw three acres of land about Bruſſels planted with this kind, which the owner whited like Endive, and then ſold them in the winter; but that we cannot yet find the true manner of dreſſing them, that our countrey may take delight therein. It is evident, therefore, that Cardoons were not cultivated here in 1629.

In ſome parts of Spain they ſubſtitute the down of this plant for rennet, in making cheeſe. A ſtrong infuſion is made over night; and the next morning, when the milk is warm from the cow, they put nearly half a pint of the infuſion to about fourteen gallons of milk [f]. This plant has the ſame name with ſlight variations in all the languages of Europe, as Kardonen, Kardon, Cardone and Cardo.]

4. This is very like the preceding, but the ſtems of the leaves are much ſmaller, and do not grow more than half ſo high. The heads have ſome reſemblance to thoſe of the French Artichoke, but have no fleſhy ſubſtance in their bottoms. [The ſtem is ſcarcely the length of the leaves. The calycine ſcales are ovate-oblong and ſpreading. The ſeeds in this ſmaller ſpecies are much larger than in the others, and ſingular [g].

[a] Hort. kew.
[b] Ibid.
[c] Linn. ſpec.
[d] Hort. kew.
[e] Parad. 520.
[f] Townſ. Spain, vol. 1. 297.
[g] Linn. ſpec.

According to Juſſieu, it is of a diſtinct genus; the flower being radical, and the calycine ſcales unarmed, but ciliate-palmate at the tip as in Jacea.

Native of Spain and Barbary. Cultivated (before 1683) in the botanic garden at Oxford, from ſeed ſent by Alexander Baalam from Tangier. It flouriſhed there many years, but periſhed at length in the winter of 1683, never to be forgotten for its ſeverity[k].

5. Native of Barbary.

6. This is a low ſmooth plant, with a ſimple ſtriated ſtem. Leaves petioled, broad lanceolate, remotely toothletted, with minute ſpines, mucronate, an inch and half long. Flower terminating, peduncled, ſolitary, only half the ſize of the Common Artichoke. Scales of the calyx lanceolate-acuminate, the lower ones ending in a ſomewhat pungent ſpine. Corollas blue. Found by Barnadas in the mountains near Toledo in New Caſtille[i].]

PROPAGATION AND CULTURE.

1. The manner of propagating the Common Artichoke is from ſlips or ſuckers taken from the old roots in february or march; or rather ſome time in march, or the beginning of april; which, if planted in a good ſoil, will produce large fair heads the autumn following.

Method of Planting.

When you have a mind to make a new plantation, after having digged and buried ſome very rotten dung in the ground you have allotted for that purpoſe, make choice of ſuch of your plants as were taken from your old ſtocks, which are clear, ſound, and not woody, having ſome fibres to their bottom; then with your knife cut off that knobbed woody part which joined them to the ſtock; and if that cuts criſp and tender, it is a ſign of its goodneſs; but if tough and ſtringy, throw it away as good for nothing; then cut off the large outſide leaves pretty low, that the middle or heart leaves may be above them. Your plants being thus prepared, if the weather is very dry, or the plants have been any time taken from the ſtocks, it will be convenient to ſet them upright in a tub of water for three or four hours before they are planted, which will greatly refreſh them; you muſt then proceed to planting, which muſt be done by ranging a line acroſs the ground, in order to their being placed exactly in a row; and, with a meaſure-ſtick, plant them at two feet diſtance from each other in the rows, and if deſigned for a full crop, five feet diſtance row from row; your plants muſt be ſet about four inches deep, and the earth cloſed very faſt to their roots, obſerving, if the ſeaſon proves dry, to keep them watered two or three times a week, until they are growing, after which they ſeldom require any.

You may ſow a thin crop of Spinach upon the ground before you plant your plants, obſerving to clear it from about them after it is come up.

Theſe plants, in a kindly ſeaſon, or a moiſt ſoil, will produce the largeſt and beſt Artichokes ſome time in auguſt and ſeptember, after all thoſe from the old ſtocks are paſt; ſo that if you intend to continue your Artichokes through the whole ſeaſon, you muſt make a new plantation every year, otherwiſe you cannot poſſibly have fruit longer than two or three months.

If any of the plants which are planted in the ſpring ſhould not fruit in autumn, you may, at the ſeaſon of earthing up your roots, tie up the leaves with a ſmall Willow twig, &c. and lay the earth up cloſe to it, ſo that the top of the plant may be above ground; and when the froſt comes on, if you will cover the top with a little ſtraw, or Peaſe-haulm, to prevent their being killed by froſt, theſe plants will produce fruit in winter, or early in the ſpring.

But in thoſe plantations where you intend to plant other things between your Artichokes, you muſt allow nine or ten feet between the rows, as is often practiſed by the kitchen-gardeners near London, who ſow the ground between with Radiſhes or Spinach, and plant two rows of Cauliflowers, at four feet diſtance row from row, and two feet and a half aſunder in the rows, ſo that there are always five feet allowed for the Artichokes to grow; and in may, when the Radiſhes or Spinach are taken off, they ſow a row of Cucumbers for pickling, exactly between the two rows of Cauliflowers, at three feet diſtance from each other; and between the rows of Cauliflowers and the Artichokes, plant a row of Cabbages or Savoys for winter uſe, which, when the Cauliflowers are drawn off, and the Artichokes gathered, will have full liberty to grow, and by this means the ground is fully employed through the whole ſeaſon. This has long been the practice of the kitchen-gardeners near London, who pay large rents for their land, ſo are obliged to get as many crops in a year from it as poſſible.

In thoſe which are planted at five feet diſtance row from row, you may plant in every other row a line of Cabbages or Savoys for winter uſe, which will be gone by the time of landing them up; in doing of which you muſt lay the whole five feet of earth into one ridge, except the ground be extreme ſtiff, or the plants young, in both which caſes you may lay only three feet and a half of the ground in the ridge over the roots, and the remainder may be laid in a ſmall ridge between; the ſame compaſs of ground muſt alſo be allowed where they are planted at a wider diſtance.

And if in the ſpring you find your ſtocks ſhoot very weak, which may have been occaſioned either by hard froſt, or too much wet, you muſt then uncover them, and with your ſpade looſen and break the earth about them, raiſing a ſmall hill about each ſtock, levelling the reſt between the rows, which will greatly help them, and in three weeks, or a month's time after, they are commonly fit to ſlip.

Thoſe Artichokes which are planted in a moiſt rich ſoil, will always produce the largeſt and beſt fruit; ſo that where ſuch a ſoil can be obtained, it will be proper to make a freſh plantation every ſpring, to ſucceed the old ſtocks, and ſupply the table in autumn. But the roots will not live through the winter in a moiſt ſoil, ſo that your ſtocks which you intend ſhould remain to ſupply the table early, and to furniſh plants, ſhould be in a drier ſoil. You ſhould always obſerve to plant theſe in an open ſituation, and not under the drip of trees, where they will draw up very tall, and produce ſmall inſignificant fruit.

Winter dreſſing and landing.

Since we have experienced that, in very ſevere froſts theſe roots are ſometimes deſtroyed, therefore it is proper to give ſome directions to prevent it; though this rarely happens in dry ground, in which we have but few inſtances of their being killed, except in the hard froſts of 1683 and 1739-40. In theſe two winters moſt of the Artichokes were deſtroyed in England; in the laſt of theſe winters, it happened from the little care which was taken of them, there having been no froſt for ſo many years before, which had injured them, that few people uſed any care to preſerve them; but after that hard froſt, many people ran into the other extreme of covering all the roots of Artichokes with long dung every winter, which is a very bad method, becauſe the dung lying near the roots is very apt to rot the beſt plants; therefore I would adviſe the earthing (or as it is called by the gardeners, landing) the Artichokes to be deferred till the latter end of november, or the beginning of december, provided the ſeaſon continues mild; and towards Chriſtmas, if there is any danger of ſevere froſts, to lay a quantity of long dung, Peaſe-haulm, tanners bark, or any other light covering over the ridges of earth, which will keep out the froſt; and this being at a diſtance from the roots, will not injure them; but this covering ſhould be carefully taken off the beginning of february, or ſooner, provided the ſeaſon is mild, or at leaſt ſo ſoon as the weather is ſo, otherwiſe the plants will be injured by its lying too long upon them.

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[k] Mor. hiſt. oxon.

[i] Vahl.

It will alſo be a good method, whenever any roots of Artichokes are dug up in autumn, either to bury them deep in the ground in a pit till ſpring, or lay them in a heap, ſo as that they may be eaſily covered in hard froſts; and theſe may be a ſupply, if thoſe in the ground are deſtroyed.

When you have thus earthed them up, you have nothing more to do till february or march, by which time they will have grown through the ridge of earth; and, when the weather is proper, muſt be dreſſed as was before directed.

Spring Dreſſing.

At the end of february, in march, or the beginning of april, according to the earlineſs of the ſeaſon, or forwardneſs of the old Artichoke roots, will be the proper time for dreſſing them, which muſt be thus performed: with your ſpade remove all the earth from about your ſtock, down below the part from whence the young ſhoots are produced, clearing the earth from between the ſhoots with the hands, ſo as to be able to judge of the goodneſs of each, with their proper poſition upon the ſtock; then make choice of two of the cleareſt, ſtraighteſt, and moſt promiſing plants that are produced from the under part of the ſtock, which are much preferable to the ſtrong thick plants which generally grow upon the crown of the roots; for theſe having hard woody ſtems, never produce good fruit, but are generally what the market people call rogues, which have very little bottom, and the ſcales of their heads are irregularly placed; in ſlipping off the plants you muſt be careful not to injure thoſe which are to remain for a crop; then with your thumb force off all the other plants and buds alſo cloſe to the head of the ſtock, from whence they are produced, being very careful not to leave any of the buds, which will ſoon produce plants ſo as to hurt thoſe which are left: then with your ſpade draw the earth about the two plants which are left, and with your hands cloſe it faſt to each of them, ſeparating them as far aſunder as they can conveniently be placed without breaking them, obſerving to crop off the tops of the leaves which hang down with your hands; your ground being levelled between the ſtocks, you may ſow thereon a ſmall crop of Spinach, which will be taken off before the Artichokes will cover the ground, and be ſure to keep them clear from weeds; and toward the latter end of april, or the beginning of may, when your old plants begin to ſhew their fruit, you muſt carefully look over your ſtocks, and draw up all young plants from them, which may have been produced ſince their dreſſing, and cut off all ſuckers which are produced from the ſtems of the Artichoke, leaving only the principal head, by which means your fruit will be the larger; when your Artichokes are fit to gather, you muſt break or cut them down cloſe to the ſurface of the ground, that your ſtocks may make ſtrong freſh ſhoots before the end of october: the ſeaſon for earthing, or, as the gardeners term it, landing them up, is the middle or latter end of november, which is thus done:

Cut off all the young ſhoots quite cloſe to the ſurface of the ground; then dig between every ſtock, raiſing all the earth between each row of ſtocks into a ridge, as is done in the common method of trenching ground, ſo as that the row of Artichokes may be exactly in the middle of each ridge, this will be ſufficient to guard them againſt froſt; and I would here recommend it to the public, as infinitely preferable to long dung, which is by the unſkilful often uſed, and is the occaſion of their fruit being ſmall, and almoſt without any bottoms to them; for there is not any thing ſo hurtful to theſe, as new dung being either buried near, or laid about them.

[*Additional obſervations.*

Though the Artichoke is perennial, yet after the third or fourth year the heads will become ſmaller, and leſs fleſhy: it is a good method, therefore, to make a freſh plantation every year, to ſucceed the old ones when worn out, and at the ſame time to inſure a ſucceſſion of heads from june to november; for the old plants are over by auguſt, and then the young ones come in. If, however, the Artichokes are ſuffered to remain more than three or four years in the ſame ſpot of ground, it ſhould be well manured in november with rotten dung, and dug a full ſpade deep.

If you are deſirous of having large heads, the ſmall lateral heads ſhould be cut off before they are the ſize of a hen's egg: The latter are by many much eſteemed for the table. When the heads are gathered, the whole ſtalk ſhould be broken down cloſe to the ground, to encourage the ſtools to produce new ſhoots before winter.

The method of earthing or landing the Artichokes before winter is, having firſt cut down all the large leaves to the ground, preſerving only thoſe of the ſmall young ſhoots, to mark out with a line the middle ſpace between the rows, and then to dig the ground a ſpade deep, gradually working the earth towards the row of plants, ſo as to make a ridge, raiſing the earth cloſe about the plants, but not entirely covering their tops. Some, however, only draw a little earth with a hoe about the plants, and when there is froſt throw a little long dung or litter over them; whilſt others do nothing more than lay ſome ſhort dry muck about each plant when hard froſts ſet in. Either of theſe methods are ſufficient in common winters; but in ſevere ones nothing can inſure them but effectually ridging up the earth about them as firſt directed, and covering the ridge with long dry litter.]

3. The Chardon, or Cardoon, is propagated in the kitchen gardens to ſupply the markets; this is annually raiſed from ſeeds, which ſhould be ſown upon a bed of light earth in march; and when the plants come up, they ſhould be thinned where they are too cloſe; and if the plants are wanted, thoſe which are drawn out may be tranſplanted into a bed at about three or four inches diſtance, where they ſhould remain till they are tranſplanted out for good. Theſe young plants muſt be kept clean from weeds, and in the beginning of june they muſt be tranſplanted out, on a moiſt rich ſpot of ground at about four feet aſunder every way; the ground ſhould be well dug before they are planted, and the plants ſhould be well watered until they have taken new root, after which the ground muſt be kept very clean from weeds, to encourage the growth of the plants; and as they advance in height, there ſhould be ſome earth drawn up about each plant; and when they are fully grown, their leaves ſhould be cloſely tied up with a hay-band, and the earth drawn up in hills about each plant, almoſt to their tops, being careful to keep the earth from falling between the leaves, which may occaſion the rotting of the plants. The earth ſhould be ſmoothed over the ſurface that the wet may run off, and not fall into the center of the plants, which will alſo cauſe them to rot; in about eight or ten weeks after the plants have been thus earthed, they will be blanched enough for uſe; ſo that if a ſucceſſion of them are wanted for the table, there ſhould be but few plants earthed up at the ſame time; but once in a fortnight there may be a part of them earthed, in proportion to the quantity deſired.

Toward the middle, or latter end of november, if the froſt ſhould be ſevere, it will be proper to cover the tops of thoſe plants which remain with Peaſe-haulm or ſtraw, to prevent the froſt from penetrating to the tender leaves, which frequently pinches them where there is not this covering, but this ſhould be taken off again in mild weather; if this care is taken, the plants may be preſerved for uſe moſt part of the winter.

If a few of the plants are planted out in a warm ſituation to ſtand for ſeed, they ſhould not be blanched, but only in very hard froſt ſome light litter, or Peaſe-haulm, may be laid round them to keep out froſt, which ſhould be removed in the ſpring, and the ground gently dug between the plants, which will not only deſtroy the weeds, but alſo encourage the roots of the plants to ſhoot out on every ſide, whereby their ſtems will be ſtronger; theſe will flower about the beginning of july, and if the ſeaſon proves dry, their ſeeds will ripen in ſeptember; but in cold wet ſeaſons, theſe ſeeds will not come to maturity in England.

[The ſtalk of the leaf, which is thick and criſp, and by many perſons thought palatable, is the part which is eaten; this is rendered white and tender, by blanching like Celeri, about a yard or more in length: the ſeaſon for it is autumn and winter, and it is uſed in ſalads, ſoups, ſtews, &c. It is, however, now in no great eſtimation here, and therefore not much cultivated.

As this plant does not bear removal very well, the general practiſe now is to ſow the ſeed where it is to remain, in baſins or holes eighteen inches over, and three inches deep, three ſeeds in each hole, thinning out afterwards the two weakeſt plants.

Obſerve not to tye up the leaves for blanching before they are full grown, unleſs they are wanted in ſeptember or october, in which caſe they muſt be tied up, and the earthing muſt be begun in auguſt, but then the ſtalk of the leaf will never be broad and thick, and in that conſiſts its chief excellence. The proper time to begin blanching is at the end of ſeptember or in october, when the plants will come into uſe in december, and continue all the winter.

Obſerve alſo to tie up the leaves in a dry day, to add freſh hay-bands as the plants advance in height, and to cover their tops with long litter if the froſt ſhould be ſevere.]

4. This may be planted in the ſame manner as the preceding, the plants being ſet three or four feet apart. They require only to be kept clean from weeds. They will flower the ſecond year, and if the ſeaſon prove dry, the ſeeds will ripen in ſeptember. They generally decay the following winter, eſpecially if it be ſevere, unleſs they are covered.

[Cynocrambe. See *Mercurialis* & *Thelygonum.*

Cynoglossa. See *Cynogloſſum* & *Myoſotis.*

Cynoglossoides. See *Borago.*]

CYNOGLOSSUM. (Κυνος γλωσσα, *Dog's-tongue: from the form of the leaves.*)

Engl. Hound's-tongue.
Fr. Cinogloſe.

Lin. gen. n. 183. *Reich.* 195. *Schreb.* 243. *Gærtn.* 67. *Tourn.* 57. *Juſſ.* 131. Omphalodes. *Tourn.* 58.

Claſſ. 5. 1. Pentandria Monogynia.

Nat. order of *Aſperifoliæ.—Borragineæ.* Juſſ.

GENERIC CHARACTER.

Cal. *Perianth* five-parted, oblong, acute, permanent.

Cor. one-petalled, funnel-form, length of the calyx. *Tube* cylindric; ſhorter than the border. *Border* half-five-cleft, obtuſe. *Mouth* cloſed with five *ſquamules*, which are convex, prominent, converging.

Stam. *Filaments* five, very ſhort; in the mouth of the corolla. *Anthers* roundiſh, naked.

Pist. *Germs* four. *Style* ſubulate, length of the ſtamens, permanent. *Stigma* emarginate.

Per. none, but four *arils* of the ſeeds, depreſſed, roundiſh, outwardly more obtuſe, ſcabrous, not gaping, on the exterior ſide ſomewhat flattiſh, affixed by their tip.

Seeds as many, ſomewhat ovate, gibbous, acuminate, ſmooth.

Obs. *The eſſential character conſiſts in the four one-ſeeded arils affixed to the ſtyle.*

ESSENTIAL CHARACTER.

Cor. funnel-form, the throat cloſed with arches. *Seeds* flat, affixed to the ſtyle by the inſide only.

SPECIES.

1. Cynogloſſum officinale. *Common or Great Hound's-tongue.*

Lin. ſpec. 192. *Reich.* 390. *fl. ſuec. n.* 162. *mat. med.* 56. *Hudſ. angl.* 80. *With.* 192. *Curtis lond.* 4. 16. *Lightf.* 133. *Hall. helv. n.* 587. *Scop. carn. n.* 191. *Pollich. pal. n.* 188. *Neck. gallob.* 100. *Allion. pedem. n.* 170. *Villars dauph.* 2. 456. *Krock. ſileſ. n.* 277. *Plenck, ic. t.* 78. *Woodv. med. bot. app.* 12. *t.* 216.

C. vulgare. *Bauh. hiſt.* 3. 598. *Dod. pempt.* 54. 1, 2. *Lob. obſ.* 313. *Matth.* 1190. *Cam. epit.* 917. *Raii hiſt.* 489. *Blackw.* 249. *Mor. hiſt.* 488. *ſ.* 11. *t.* 30. *f.* 1, 2.

C. majus vulg. *Bauh. pin.* 257. *Ger.* 659. *emac.* 804. 1. *Park. theat.* 511.

β. C. maximum belgicum. *Bauh. pin.* 257. *Mor. n.* 2. *Raii hiſt.* 490. 3.

γ. C. ſempervirens. *Evergreen Hound's-tongue.* *Bauh. pin.* 257. *Hall. helv. n.* 588. *Pollich. pal. n.* 188. β. *Leyſſer fl. hal. n.* 188. β. *Park. theat.* 512. 5.

C. Dioſcoridis. *Villars dauph.* 2. 457.

Stamens ſhorter than the corolla; leaves broad-lanceolate, attenuated to the baſe, tomentoſe, ſeſſile; calycine ſegments oblong.

2. Cynogloſſum virginicum. *Virginian Hound's-tongue.*

Lin. ſpec. 193. *ſyſt.* 186. *Reich.* 390.

C. fol. amplexicaulibus. *Gron. virg.* 19. *Mor. hiſt. ſ.* 11. *t.* 30. *f.* 9.

Leaves ſpatulate-lanceolate, lucid, three-nerved at the baſe, bracte of the peduncles ſtem-claſping.

3. Cynogloſſum cheirifolium. *Silvery-leaved Hound's-tongue.*

Lin. ſpec. 193. *Reich.* 390. *Scop. carn. n.* 193. *Krock. ſileſ. n.* 278. *Gouan. fl. monſp.* 20. *hort.* 37. *Villars dauph.* 2. 457.

C. creticum 1. *Cluſ. hiſt.* 2. 162. *Ger. emac.* 804. 2. *Bauh. hiſt.* 3. 600. *Raii hiſt.* 492. 9.—argenteo anguſto fol. *Bauh. pin.* 257. *Mor. f.* 6.

Corollas twice the length of the calyx; leaves lanceolate.

4. Cynogloſſum apenninum *Apennine Hound's-tongue.*

Lin. ſpec. 193. *Reich.* 391. *Hall. helv. n.* 588? *Gærtn. fruct.* 324.

Cynogloſſa montana maxima frigidarum regionum. *Col. ecphr.* 1. 168. *t.* 170. *Raii hiſt.* 490.

Stamens equalling the corolla.

[5. Cynogloſſum lævigatum.

Lin. ſyſt. 186. *Reich.* 391. *ſuppl.* 130. *Gærtn. fruct.* 324.

Rindera tetraſpis. *Pallas. it.* 1. *app.* 486. *t.* F. *f.* 1, 2.

Leaves lanceolate-ovate, ſmoothiſh; calyxes tomentoſe; ſeeds gloſſy.]

6. Cynogloſſum luſitanicum. *Portugal Hound's-tongue,* or *Venus's Navel-wort.*

Lin. ſpec. 193. *Reich.* 391. *Vahl. ſymb.* 2. 34. *Mill. fig. t.* 190. *f.* 1.

Omphalodes luſitanica elatior, Cynogloſſi folio. *Tournef. inſt.* 140.

Leaves heart-ſhaped, ſtem-claſping, ſmooth, even about the edge.

7. Cynogloſſum linifolium. *Flax-leaved Hound's-tongue,* or *Venus's Navel-wort.*

Lin. ſpec. 193. *Reich.* 392. *hort. cliff.* 47. *upſ.* 33. *Gouan. hort.* 82. *Retz. obſ.* 1. *n.* 17. *Gærtn.* 324. *Mor.* 11. 30. 11. *Vahl. ſymb.* 2. 35.

Leaves linear-lanceolate, ſmooth, toothletted and rugged about the edge.

8. Cynogloſſum Omphalodes. *Comfrey-leaved Hound's-tongue.*

Lin. ſpec. 193. *Reich.* 392. *hort. cliff.* 47. *Mill. fig. t.* 190. *f.* 2. *Curtis magaz. t.* 7. *Scop. carn. n.* 190. *t.* 3. *Mor.* 11. 26. 3. (*Borrago*).

Symphytum minus, borraginis facie. *Bauh. pin.* 259. *Ger. emac.* 806. 4.

Borrago minor herbariorium. *Park. theat.* 766. 7. *Raii hiſt.* 494. *Bauh. hiſt.* 3. 597. 2.

Creeping; root-leaves cordate.

[9. Cynogloſſum japonicum.

Lin. ſyſt. 187. *Thunb. jap.* 81.

Leaves oblong, villoſe; ſtems proſtrate.]

10. Cynogloſſum pictum. *Painted Hound's-tongue.*

Ait. hort. kew. 179. *Vahl. ſymb.* 2. 34. *Moriſ. blæſ.* 258. *hiſt.* 3. 449. *n.* 3.

C. creticum. *Mill. dict. n.* 3. *Villars dauph.* 2. 457. *Cluſ. hiſt.* 2. 162. 2. *Bauh. hiſt.* 3. 600.—latifolium fœtidum. *Bauh. pin.* 257. *Tournef. inſt.* 140.

Corollas nearly equal to the calyx, ſegments roundiſh-dilated; leaves lanceolate tomentoſe, the upper ones cordate at the baſe.

[11. Cynogloſſum lanceolatum.

Vahl. ſymb. 2. 34. *Forſk. ægypt.* 41.

Leaves lanceolate, drawn to a point at both ends, rugged, with dots on the upper ſurface.

12. Cynogloſſum myoſotoides.

Billard. ic. ſyr. 2. *p.* 6. *t.* 2. *Lamarck. encycl.* 2. 240.

Arils baſket-ſhaped, ſmooth, ſtriated, tubercled, toothed on the edge, leaves hairy, tubercled, entire, root-leaves ſpatulate-lanceolate.

DESCRIPTIONS, *&c.*

1. The whole plant is downy, and ſoft to the touch. *Root* biennal. *Stem* two or three feet in height, upright, grooved-angular, villoſe, very leafy, branched at top: branches numerous, nearly upright, and villoſe. *Root-leaves* large, a foot or more in length, on petioles, ovate or lanceolate, pointed, covered with a ſilky down which gives them a grayiſh colour, veiny: *ſtem-leaves*, at leaſt the uppermoſt, ſeſſile, half-ſtem-claſping, quite entire, with a waving edge, ſeven or eight inches long, crowded, placed irregularly on the ſtem, upright, lanceolate, and broadeſt at the baſe. *Flowers* at firſt of a dull red, marone or mulberry colour; afterwards becoming blueiſh; growing in racemes, which are nearly upright, and generally naked, or without bractes; and all hanging one way. *Calyx*, ſegments ovate-lanceolate, upright, downy, bluntiſh, ſhining on the inſide. *Corolla*, tube half the length of the calyx: border concave, with roundiſh ſegments: throat perforated: ſquamules or nectareous ſcales anteriorly hollow, gibboſe at top, blunt, inſerted into the edge of the tube, half the length of the border, fringed. *Anthers* oblong, green, hid under the ſcales. *Germs* yellow, or yellowiſh green, ſmooth[a].—According to Scopoli, each raceme has one leaf at its origin; the nectareous ſcales are ſlightly emarginate; the ſtyle is an obtuſely quadrangular pyramid; the ſtigma is ſcored with a line along the middle; the arils or covers of the ſeeds are echinate.

It grows wild by road ſides, and in uncultivated places in moſt parts of Europe. With us it flowers in june and july, and ripens its ſeeds in autumn. The whole plant has a diſagreeable ſmell, much reſembling that of mice. It is ſuſpected to poſſeſs narcotic qualities; and an inſtance is related in the *Hiſtoria Oxonienſis* (3. 450.), in which the leaves, boiled by miſtake for thoſe of Comfrey, diſordered a whole family, and proved fatal to one perſon: others, however, will not admit the fact. It has formerly been uſed in medicine; and Mr. Ray informs us, from Dr. Hulſe, that a decoction of the roots inwardly, and cataplaſms of them outwardly, were uſed in ſtrumous and ſcrophulous caſes. It is, however, diſcarded from the preſent practice[b].

Cattle in general diſlike it; the Goat only is ſaid ſometimes to crop this nauſeous plant. Krocker affirms that all animals leave it untouched except ſheep, which exception muſt ſurely be a miſtake.

It is frequently found with a white flower. β. The large Dutch Hound's-tongue, which is double the ſize of the common ſort, is probably nothing more than a variety ariſing from luxuriancy of ſoil[c].

γ. Evergreen Hound's-tongue is a remarkable variety. The leaves are without nerves, are rougher and much narrower than the common ſort; but it has none of the hoarineſs of that, the leaves therefore are of a full green colour. It has none of that ſtrong ſcent which common Hound's-tongue has. The ſtem has a ſlight hairineſs. The flowers are blue and ſmaller[d].—In ſeveral parts of Germany and Switzerland. With us in the London road between Kelvedon and Witham, but more plentifully about Braxted: about Worceſter: about Southend by Eltham: beyond Waltham-abbey towards Harlow: Norbury near Leatherhead in Surrey. Flowering in april and may.]

2. This riſes with an upright branching ſtem near four feet high; this and the leaves are covered with rough hairs; the branches are ſpread out on every ſide, and are but thinly furniſhed with leaves, from three to near four inches in length, and little more than an inch broad in the middle, gradually leſſening to both ends; they embrace the ſtem, and are alternate. The flowers grow ſcatteringly towards the ends of the branches: they are ſmall and white, appear in june, and are ſucceeded by four ſmall ſeeds, which ripen in autumn, and then the plants decay.—Native of Virginia and other parts of North America.

[Linneus thinks that it is ſcarcely a diſtinct ſpecies from the foregoing, from which it differs only in having the upper ſurface of the leaves ſhining.

Cultivated in 1759, by Mr. Miller[e].

3. Root perennial, branched. Stems ſeveral, a foot high, round, branching; leaves half-ſtem-claſping, obverſely lanceolate, or ſpatulate, quite entire, covered on both ſides with a white ſilvery down, but having none of the tubercles, which occaſion the roughneſs in the firſt ſpecies. Flowers in racemes, without any bractes. Corollas white, with red, blue or purple veins[f].

Native of Sileſia, Carniola, Italy, the South of France, Spain, Gibraltar, and the Levant. It flowers in june and july.

Cultivated 1596 by Gerarde. Biennial[g].]

4. The leaves of this are much larger, the petal of the flower much ſhorter, and the ſtature taller than the firſt ſort; it alſo flowers earlier.

[Gærtner thus deſcribes the ſeeds.—Four nuts, with a leathery cruſt, fixed to a pyramidal receptacle, of an ovate-acuminate form, flattiſh on the upper ſurface (which is even depreſſed in old ſeeds), muricated, with erect little prickles, but gibbous below and on the ſides, roughened with ſharp dots, pale ſtraw-coloured. Seed large, obovate-beaked, below the beak umbilicated, of a brown colour.

Native of the Apennines. Cultivated 1731, by Mr. Miller. It flowers from april to june, and is Biennial[h].

5. Stem erect, a foot in height, ſtriated, panicled at top. Root-leaves petioled, ſoft: ſtem-leaves ſmall, ſeſſile[i].

Nuts four, leathery-membranaceous, ſcutiform on the outſide. Shield ovate, broad, with a membranous edge, radiated with ferruginous lines. The nut itſelf placed in the concave part of the ſhield is ovate-globular, acuminate at top, with an oblong umbilical area in the middle, one-celled and valveleſs. Seed ovate, with a beak, ſomewhat compreſſed, dark-bay[k]. Native of Siberia.

6. This whole plant is very ſmooth. Stem erect, a foot high, round: branches axillary, alternate, quite ſimple. Leaves an inch long, gradually ſmaller upwards, blunt, veinleſs, glaucous-green, nearly of the ſame form with thoſe of Braſſica orientalis. Racemes from the end of the ſtem and branches, without bractes, a hand or more in length. Pedicels remote, filiform, an inch long, ſpreading very much. Calyx deeply five-cleft; ſegments lanceolate, two of them ſomewhat ſmaller than the reſt: they are a little larger than in C. linifolium, without any hairineſs. Corolla as in C. linifolium, with which this plant has been confounded, though they were diſtinguiſhed by Tournefort, the Linnean character agreeing indifferently to either, and being much alike in habit and ſtructure[l].

Native of Portugal. Cultivated in 1731, by Miller.]

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[a] Curtis & Withering.

[b] Ibid. Ibid.

[c] Ray.

[d] Pollich & Withering.

[e] Hort. kew.

[f] Krocker & Scopoli.

[g] Hort. kew.

[h] Ibid.

[i] Linn. ſuppl.

[k] Gærtner.

[l] Vahl.

7. This ſeldom riſes more than five or ſix inches high; the ſtalks do not branch near ſo much as thoſe of the preceding. The leaves are very narrow and long, of a grayiſh colour, and ſmooth. [The root-leaves are petioled, and wedge-ſhaped; the upper ones lanceolate, attenuated at the baſe, rugged, with very minute remote white toothlets about the edge[m]. According to Retzius, they are ciliate, eſpecially on the branches.] The flowers grow in ſhort looſe panicles at the ends of the branches; they are white, like thoſe of the preceding, but ſmaller; and have ſeeds of the ſame form, namely umbilicated, whence theſe plants derived the name of Navel-wort.

[Gærtner thus deſcribes the fruit:

Nuts four, ſmall, with a ſubulate receptacle, bent in as the ſeeds ripen, accumbent, ſomewhat membranaceous, compreſſed, ovate-acuminate, at the edge extenuated into a diaphanous, whitiſh membrane, deeply ſtriated, with a large toothed hole at top. Seed black brown.

Native of Portugal. Cultivated 1731, by Mr. Miller[n].]

8. Root perennial. Branches trailing, and putting out roots from the joints. Leaves bright green, on long ſlender foot-ſtalks. Flowers ſhaped like thoſe of Borage, but ſmaller, and of a lively blue colour.

[Flower-ſtem ſimple, half a foot in height, not creeping itſelf, but putting out long runners from the baſe, during ſummer. The leaves on that are oval, not cordate, as the root-leaves are. Racemes axillary, with very few flowers. Corollas ſalver-ſhaped, ſix lines in diameter, with a tube one line only in length, obtuſely pentangular: the throat has a white ſtar formed of five heart-ſhaped plaits: ſtyle cylindric; ſtigma hemiſphæric, of the ſame colour with the ſtyle. Receptacle with a rim round it. Capſules (or arils) ſomewhat villoſe, with an elliptic hole in the middle: ſeldom all fertile (which is alſo the caſe in the common Hound's-tongue). Sometimes there are two ſeeds in one capſule (or aril); and then the baſe of the capſule is two-celled[o].

Native of the South of Europe, in woods: flowering about Chriſtmas. Cultivated in 1633; and flowering here from march to may[p].

9. Root annual. Stems four or five, round, villoſe, flexuoſe and erect, unequal. Leaves ſtem-claſping, acute, very finely ſerrate, ſpreading; root-leaves near a finger's length; branch-leaves gradually ſmaller. Flowers terminating, in racemes. Calyx wholly villoſe. Corolla purple, longer than the calyx. Style ſimple, with an obtuſe ſtigma. Native of Japan[q].

10. Leaves much ſhorter, ſofter, and more hoary than thoſe of the common ſort. Stems a foot and half in height, more branched. Seeds ſmaller.

It reſembles the common ſpecies ſo much, that it is no wonder they have been confounded by thoſe who have not ſeen both. It agrees with C. officinale in habit, ſize, and manner of growth, but differs in having the leaves not narrowed at the baſe, but cordate[r]; and the flowers pale blue or pale purple, beautifully painted with darker veins. Perennial, and flowering in auguſt. Native of the South of Europe, and of Barbary; alſo of Madeira, where it was found by Mr. Maſſon; and whence it was introduced 1777[s].] Mr. Miller ſays it grows naturally in Andaluſia, and that he received the ſeeds from Gibraltar.

11. This has the appearance of the common ſort, but differs from it in having all the leaves ſharp at both ends. Stem herbaceous, upright, angular, rough with hairs, hoary at top. Lower leaves drawn out into a petiole an inch in length; upper ones ſeſſile, veiny-nerved, the upper ſurface having dots and white hairs ſcattered over it, the lower aſh-coloured, with more crowded hairs, but not ſoft. Calyxes hirſute, with oblong ſegments[t].

Native of Egypt.

12. Root perennial. Stems uſually ſeveral, filiform, aſcending, ſcarcely half a foot high, hairy, uſually ſimple. Leaves rough, next the root petioled, on the ſtem ſeſſile, linear-lanceolate. Flowers in looſe ſpikes, pedicelled, erect, ſolitary. Calyx hairy, with ſubovate ſegments. Corolla very ſmall, ſcarcely longer than the calyx, blue; tube very ſhort; ſegments of the border rounded; ſcales cloſing the mouth, glandular. Arils, whilſt unripe, fixed to a pyramidal four-cornered receptacle. Seeds flatted, ovate, acute, ſmooth. Native of mount Libanus or Lebanon, on the very ſummit[u].]

PROPAGATION AND CULTURE.

1. The firſt ſort, being a common weed, is not admitted into gardens: it is ſometimes gathered in the fields by the herbariſts.

2 to 5, 10. Being hardy plants, where the ſeeds are permitted to ſcatter, they will ariſe plentifully without much care.

6, 7. Are annual plants, commonly ſown in gardens, with other low annual flowers, to adorn the borders of the flower-garden; but the ſeeds ſhould be ſown in autumn, for thoſe which are ſown in the ſpring often fail, eſpecially in dry ſeaſons; and the autumnal plants always grow much larger, and flower earlier. The ſeeds ſhould be ſown where the plants are deſigned to remain, for they do not bear tranſplanting, unleſs it be performed whilſt they are young. The plants require no other culture but to be thinned where they are too cloſe, and kept clean from weeds. They flower in june and july, and the autumnal plants come a month earlier. The ſeeds ripen in autumn.

8. This propagates very faſt by its trailing roots, which require to be kept within compaſs; on this account it ſeldom produces ſeeds. It delights in a moiſt cool ſituation.

[CYNOGLOSSUM. See *Borago*, *Myoſotis*, *Pulmonaria*.

CYNOMETRA. (*From* κυων *and* μητρα, *vulva canis.*
Lin. gen. n. 519. *Reich.* 562. *Schreb.* 710.
Juſſ. 350. *Gærtn. t.* 156. *Cynomorium. Garc.*
Claſſ. 10. 1. Decandria Monogynia.
Nat. order of *Leguminoſæ*. Juſſieu.

GENERIC CHARACTER.

CAL. *Perianth* four-leaved, oblong, reflex, length of the corolla.

COR. *Petals* five, lanceolate, equal, acute.

STAM. *Filaments* ten, twice the length of the corolla. *Anthers* oval, two-cleft at the tip.

PIST. *Germ* boat-form; *Style* filiform, length of the ſtamens. *Stigma* ſimple.

PER. *Legume* creſcent-ſhaped, compreſſed, fleſhy, tuberculate.

SEED ſingle, kidney-form, large.

ESSENTIAL CHARACTER.

Cal. four-leaved. *Anth.* bifid at the tip. *Legume* fleſhy, creſcent-ſhaped, one-ſeeded.

SPECIES.

1. Cynometra cauliflora.
Lin. ſpec. 547. *Reich.* 2. 263. *fl. zeyl. n.* 166.
Gærtn. fruct. 2. 350.
Cynomorium. *Rumph. amb.* 1. 163. *t.* 62. *Burm. ind.* 100.
Trunk floriferous.

2. Cynometra ramiflora.
Lin. ſpec. 547. *Reich.* 2. 263. *fl. zeyl. n.* 167.
C. ſylveſtre. *Rumph. amb.* 1. 164. *t.* 63.
Iripa. *Rheed. mal.* 4. 65. *t.* 31. *Raii hiſt.* 1675.
Burm. ind. 100.
Branches floriferous.

DESCRIPTIONS, *&c.*

Theſe trees are natives of the Eaſt-Indies. Their leaves are conjugate; and the peduncles are many-flowered.

1. Roots knotty and large, appearing above ground, and having ſmaller ones between them, which are curled, and look like pig's tails. Trunk

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[m] Vahl.
[n] Hort. kew.
[o] Scopoli.
[p] Hort. kew.
[q] Thunberg.
[r] Vahl.
[s] Hort. kew.
[t] Vahl.
[u] Billardiere.

very ſhort, ſeldom two feet high, very irregular, rugged, unequal, ugly, in hills and holes, covered with a thick, hard, cloven bark, the colour of Liverwort. The head is not large, but thick; it conſiſts of thick long branches, ſubdivided into many others at the end, the extreme of which only bear the leaves: theſe are alternate, in pairs, on very ſhort petioles, three or four inches long, and an inch and half wide, entire, ſmooth, firm, flexible, acuminate; rib ſtraight, prominent on both ſides, dividing the leaf into two very unequal ſegments. The flowers come out on the trunk and large branches, and on the root when above ground; the corolla is ſmall and white[a].

The fruit is thus deſcribed by Gærtner. It is a Legume, fleſhy, large, the ſize of half the palm of the hand and more, in the ſhape of a half moon, compreſſed like a lens, with a groove, like a ſuture, along its whole circuit, on the ſides tubercled, rough to the touch like a woollen cloth, one-celled, not opening. Seed of the ſame ſhape with the cavity of the legume, ſmooth, marked with capillary arched veſſels ariſing from the umbilicus, of a red ferruginous colour, faſtened to the ſhell by a ſhort thick chord at the middle of the ſtraight ſuture. Skin ſingle, leathery, thin, in old ſeeds ſcarcely ſeparable from the kernel by boiling water. Albumen none. Embryo of the ſame ſhape with the ſeed, white: cotyledons plano-convex, with a little hole on the inſide where the radicle is placed: plume ſlender, two-horned, with very ſhort ſoft fulvous or red-ferruginous villoſe hairs about its baſe, by which the radicle is ſeparated to the diſtance of half a line from the cotyledons: radicle conic, immerſed, centrifugal.

2. This is a lofty tree, ſixty feet in height; trunk thick, ſolid, aſh-coloured; bark blackiſh, within red; branches many, aſh-coloured or greeniſh. Leaves in a double parallel row, roundiſh, ſmooth, the upper ſurface dark green and ſhining, the lower paler green, with many ſmall nerves from the midrib ſtanding out, dividing the leaf unequally, and running obliquely to the ſides. Smell none; taſte ſubaſtringent. The flowers come out ſcatteringly from the ſmall branches among the leaves; they are ſmall, white, and without ſcent. Petals four, acuminate. Stamens eight, with red anthers. Fruit oblong, compreſſed, unequal, grooved, not unlike a gourd, covered with a thick, leathery, fleſhy, ſoft rind, ſomewhat like that of the almond, opening on each ſide. Kernel whitiſh, compact, covered with a thin pellicle; it has no ſmell, and has an aſtringent taſte.

In Malabar. It is always green, and bears flowers and fruits in auguſt and november[b].

CYNOMORIUM. (*A canini genitalis ſimilitudine. Mich.*)

Lin. gen. n. 1033. *Reich.* 1126. *Schreb.* 1394. *Mich.* 12. *Amœn. acad.* 7. *p.* 357. *Juſſ.* 445.

Claſſ. 21. 1. Monoecia Monandria.

Nat. order of *Amentaceæ.*

GENERIC CHARACTER.

* *Male flowers* diſpoſed in an imbricated ament with the female ones.

CAL. *Ament* erect, club-ſhaped, on every ſide covered with floſcules.

Perianth proper, four-leaved: *leaflets* three clavate, and the fourth inferior one larger, very obtuſe, channelled.

COR. none.

STAM. *Filaments* ſingle, firm, ſtraight, longer than the calycine ſcale. *Anther* twin.

* *Female flowers* mixed with the males in the ſame plant, and ſcarce remote from them.

CAL. *Ament* common with the males.

Perianth proper ſuperior: *leaflets* four, club-ſhaped, tuberculated, equal, permanent.

COR. none.

PIST. *Germ* ovate, inferior. *Style* ſingle, erect, firm, ſpreading, length of the calycine ſcale. *Stigma* obtuſe.

PER. none.

SEED ſingle, roundiſh.

OBS. *I have alſo ſeen hermaphrodite monandrous florets intermixed with the others. The whole plant is a ſingle ament.*

ESSENTIAL CHARACTER.

MALE. *Cal.* an imbricate ament. *Cor.* none.

FEM. *Cal.* in the ſame ament. *Cor.* none. *Style* one. *Seed* one, roundiſh.

SPECIES.

1. Cynomorium coccineum.

Lin. ſpec. 1375. *Reich.* 4. 89. *amœn.* 4. 351. *t.* 2. *mat. med.* 169. *Mich. gen.* 17. *t.* 12. *Pet. gaz. t.* 39. *f.* 8. *Tilli piſan. t.* 25. *Bocc. muſ.* 2. 69. *ſic. t.* 81.

Stipe ſcaly, ament cylindrical; ſcales imbricate, ovate retuſe.

2. Cynomorium jamaicenſe.

Swartz prodr. 12. *Brown. jam.* 334.

Stipe ſcaly, ament elongated, ſcales imbricate, halved, rhomboidal.

3. Cynomorium cayanenſe.

Swartz prodr. 12.

Stipe naked, ament ſubglobular, ſcales roundiſh, peltate.

DESCRIPTIONS, &c.

1. This is a fungiform plant, the whole conſiſting of a long, thick, radical ſpadix, growing upon the roots of trees in ſalt marſhes, under water[c]. Stem commonly half a foot long, upright, ſolid, tough, as thick as the finger, when young covered with ovate, acute, imbricate, white ſcales, which it moſtly puts off at flowering time, ſo as to be then almoſt naked, wrinkled, unequal, and the whole, when dried, purple. A ſpike terminates this ſtem, frequently as long as the ſtem itſelf, but twice its breadth, with ſcales or bractes, in the axils of which the flowers ſit cloſe[d].

Native of Barbary, on the coaſt, at the roots of Lentiſcus, Myrtle, &c. Sicily, Malta, Cadiz, &c. on Halimus or Portulaca marina, &c.

2. It grows in beds, and riſes generally to the height of three, four, or five inches; but is commonly ſmalleſt towards the bottom. At firſt it is covered pretty thick with ſcales of the figure of a heart, which fall off gradually as it riſes, and expoſe the body of the plant thickly beſet with little tranſparent denticles, intermixed with a few tubular trifid flowers, that jet above the level of the ſurface. The ſtem is ſucculent and fleſhy, and all the parts aſtringent. Jamaica; ſeldom met with but in the moſt ſhady inland woods[e].

3. Native of Cayenne[f].

CYNOMORIUM. See *Cynometra.*

CYNOPHALLOPHORUS. See *Capparis.*

CYNOPS. See *Plantago.*

CYNORYNCHIUM. See *Chelone.*

CYNOSORCHIS. See *Orchis.*

CYNOSŪRUS, (κυνος ὀυρα, *Dog's-tail.*)

Lin. gen. n. 87. *Reich.* 93. *Schreb.* 118. *Juſſ.* 31. *Gærtn. t.* 1. & Eleuſine, *t.* 1.

Claſſ. 3. 2. Triandria Digynia.

Nat. order of *Gramina, Gramineæ,* or *Graſſes.*

GENERIC CHARACTER.

CAL. *Receptacle common* unilateral, (often) leafy.

Involucre (in ſome) one-leafed, lateral.

Glume many-flowered, two-valved: *Valves* linear, acuminate, equal.

COR. two-valved: the *outer* concave, longer: the *inner* flat, awnleſs.

Nectary two-leaved: *leaflets* ovate, acute, gibbous at the baſe.

STAM. *Filaments* three, capillary. *Anthers* oblong.

PIST. *Germ* turbinate. *Styles* two, villoſe, reflex. *Stigmas* ſimple.

PER. none. *Corolla* cloſely coating over the ſeed, and not gaping.

SEED ſingle, oblong, acuminate to each end.

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[a] Rumphius.

[b] Hort. malab.

[c] Juſſieu.

[d] Linn. amoen.

[e] Browne.

[f] Swartz.

Obs. *The Involucres in moſt ſpecies are pinnatifid, or of a pectinate form.*

In the different ſpecies the number of floſcules is different.

Eleuſine of Gærtner *differs in having the ſeed included in a membrane.*

ESSENTIAL CHARACTER.

Cal. two-valved, many-flowered. (two or four-flowered. *G.*) *Recept.* proper unilateral, leafy.

SPECIES.

1. Cynoſurus criſtatus. *Creſted Dog's-tail graſs.*
Lin. ſpec. 105. *Reich.* 198. *hort. cliff.* 493. *Hudſ. angl.* 59. *With.* 95. *Hall. helv. n.* 1545. *Pollich pal. n.* 99. *Neck. gallob.* 57. *Leers herborn. n.* 99. *t.* 7. *f.* 4. *Krock. ſileſ. n.* 149. *Villars dauph.* 2. 91. *Schreb. gram.* 69. *t.* 8. *f.* 1. *Fl. dan. t.* 238. *Barrel. ic.* 27. *n.* 11. *Stilling. miſc. t.* 11. *Curtis pract. obſ. t.* 6. *Fl. ruſt. t.* 106. *Muſ. ruſt.* 4. *t.* 2. *f.* 2. *Anderſon t.* 10.
Phleum criſtatum. *Scop. carn. n.* 81.
G. criſtatum. *Bauh. hiſt.* 2. 468. 3. *Raii hiſt.* 1269. *ſyn.* 398.—anglicum. *Park. theat.* 1159. *f.* 1160. 3. *Mor.* 3. 194. *n.* 6.
G. pratenſe criſt. &c. *Bauh. pin.* 3. 1. *prodr.* 8. *theat.* 43. *Scheuch. gram.* 79. *t.* 2. *f.* 8. A. C. *Mor. ſ.* 8. *t.* 4. *f.* 6.
Bractes pinnatifid.

2. Cynoſurus echinatus. *Rough Dog's-tail graſs.*
Lin. ſpec. 105. *ſyſt.* 116. *Reich.* 198. *Hudſ. angl.* 59. *With.* 95. *Hall. helv. n.* 1546. *Scop. carn. n.* 97. *Krock. ſileſ. n.* 152. *Gærtn. fruct.* 1. 5. *Villars dauph.* 2. 92.
G. alopecuroides ſpica aſpera. *Bauh. pin.* 4. *theat.* 59. *prodr.* 10. *Scheuch.* 80. *t.* 2. *f.* 8. B. D. *Park. theat.* 1168. 6. *Barr. rar. t.* 123. *f.* 2. *Raii hiſt.* 1265. *ſyn.* 397. *Mor. ſ.* 8. *t.* 4. *f.* 13.
G. cum cauda leporis aſpera, &c. *Bauh. hiſt.* 2. 474. 1.
Bractes pinnate-chaffy, awned.

3. Cynoſurus Lima. *Imbricate Dog's-tail graſs.*
Lin. ſpec. 105. *Reich.* 199. *Loefl. itin.* 41. *Cavan. hiſp.* 62. *n.* 100. *t.* 91.
Spike facing one way, the inner glume of the calyx lying below the ſpikelets.

4. Cynoſurus durus. *Rigid Dog's-tail graſs.*
Lin. ſpec. 105. *Reich.* 199. *Hall. helv. n.* 1419. (Lolium). *Pollich. pal. n.* 100. *t.* 1. *f.* 1. *Krock. ſileſ. n.* 150. *t.* 28.
Poa dura. *Scop. carn. n.* 101.
G. loliaceum minus ſup. ſp. multiplici. *Bauh. prodr.* 19.
G. arvenſe, &c. *Barrel. ic.* 1213. *t.* 50.
Spicules one-ranked, alternate, ſeſſile, rigid, obtuſe, preſſed cloſe.

5. Cynoſurus ſphærocephalus.
Lin. ſyſt. 117. *Jacqu. miſc.* 2. 71.
Seſleria ſphærocephala. *Arduini ſpec.* 20. *t.* 20.
Bractes entire, ſpikes globular.

6. Cynoſurus cæruleus. *Blue Dog's-tail graſs.*
Lin. ſpec. 106. *ſyſt.* 117. *Reich.* 199. *hort. cliff.* 495. *fl. ſuec. n.* 89. *Hudſ. angl.* 59. *Jacqu. miſc.* 2. 66. *icon. rar. Gouan. illuſtr.* 4. *Krock. ſileſ. n.* 151. *Fl. ruſt. t.* 20.
Seſleria cærulea. *Scop. carn. n.* 90. *Hall. helv. n.* 1446. *Ard. ſpec.* 2. 18. *t.* 6. *f.* 3, 4, 5. *With.* 84.
Aira varia. *Jacqu. vind.* 15.
Gramen glumis variis. *Bauh. pin.* 10. *prodr.* 21. 1. *theat.* 158. *Scheuch.* 83. *t.* 2. *f.* 9. A. B. *Raii ſyn.* 399. 4. *Park. theat.* 1152. *f.* 6.
Bractes entire, ſpikes ſubovate.

7. Cynoſurus Uniolæ.
Lin. ſyſt. 117. *ſuppl.* 110.
Without bractes; ſpike turned one way; ſpikelets in two rows, alternate, preſſed cloſe, ovate, keeled, oblique.

8. Cynoſurus coracanus. *Thick-ſpiked Dog's-tail graſs.*
Lin. ſpec. 106. *ſyſt.* 117. *Reich.* 200. *Schreb. gram.* 2. 71. *t.* 35. *Rumph. amb.* 5. 203. *t.* 76. *f.* 2. (Panicum). *Rheed. mal.* 12. *t.* 78.
Eleuſine coracana. *Gærtn. fruct.* 1. 8.
Gr. dactylon ægyptiacum. *Bauh. pin.* 7. *theat.* 110. —americanum minus. *Scheuch. gram.* 107.—orientale, &c. *Pluk. alm.* 174. *t.* 91. *f.* 2. *Raii ſuppl.* 606.
Spikes digitate, incurved, culm compreſſed, erect, leaves nearly oppoſite.

9. Cynoſurus ægyptius. *Creeping Dog's-tail graſs.*
Lin. ſpec. 106. *ſyſt.* 117. *Reich.* 200. *Lour. cochinch.* 59. *Pluk. alm. t.* 300. *f.* 8. *Mor. hiſt. ſ.* 8. *t.* 3. *f.* 7. *Scheuch. gram.* 109. *Burm. ind.* 28. *Bont. jav.* 148. *Rumph. amb.* 6. *t.* 4. *f.* 1.
Spikes digitate, in fours, obtuſe, ſpreading very much, mucronate; ſtem creeping; leaves oppoſite.

10. Cynoſurus indicus. *Indian Dog's-tail graſs.*
Lin. ſpec. 106. *ſyſt.* 117. *Reich.* 201. *Vahl ſymb.* 2. 21. *Lour. cochinch.* 59. *Burm. zeyl.* 106. *t.* 47. *f.* 1. *Rumph. amb.* 6. *t.* 4. *f.* 2. *Rheed. mal.* 12. *t.* 69. *Forſk. ægypt.* 18. (Panicum).
Eleuſine indica. *Gærtn. fruct.* 8.
Spikes digitate, linear, culm compreſſed, declined, knotty at the baſe, leaves alternate.

11. Cynoſurus virgatus. *Fine ſpiked Dog's-tail graſs.*
Lin. ſpec. 106. *Reich.* 201. *amæn.* 5. 393. *Brown. jam.* 137. *Sloan. jam.* 1. 113. *t.* 70. *f.* 2.
Panicle with ſimple branches; flowers ſeſſile, ſix together, the laſt barren, the loweſt ſometimes awned.

12. Cynoſurus domingenſis.
Lin. ſyſt. 117. *Jacqu. miſc.* 2. 363.
Panicle with ſimple branches, ſpikelets ſubſeſſile, ſix-flowered, all the flowers awned.

13. Cynoſurus aureus. *Golden-ſpiked Dog's-tail graſs.*
Lin. ſpec. 107. *Reich.* 201. *Murr. prodr.* 138. *Shaw. afr. f.* 232. *Barr. rar.* 1180. *t.* 4.
Gr. panic. pendula aurea. *Bauh. pin.* 3. *theat.* 33. *Scheuch. gram.* 149.
Panicles with barren pendulous ternate ſpikelets, flowers awned.

14. Cynoſurus erucæformis. *Linear-ſpiked Dog's-tail graſs.*
Ait. hort. kew. 105.
Phalaris erucæformis. *Lin. ſpec.* 80. *Gmel. ſib.* 1. *t.* 29. *Barr. rar.* 1158. *t.* 2.
Spike compound; ſpikelets ſcattered, the fruit-bearing ones erect; calyxes one and two-flowered, glumes obtuſe, boat-ſhaped, keel obtuſe; corollas acuminate.

15. Cynoſurus retroflexus.
Vahl ſymb. 2. 20.
Spike compound, ſpikelets aggregate, calyxes two-flowered, awned, corollas awnleſs.

16. Cynoſurus filiformis.
Vahl ſymb. 2. 20.
Spike ſolitary diſtich, calyxes awl-ſhaped, three-flowered, barren floret awnleſs.

17. Cynoſurus monoſtachyos.
Vahl ſymb. 2. 20.
Spike terminating, calyxes awl-ſhaped, awnleſs, ſubtriflorous, florets awned, one-ſided.

18. Cynoſurus penicillatus.
Vahl ſymb. 2. 21.
Spikes digitate, calyxes four-flowered, awned at the back, outer petals of the hermaphrodite awned, with bearded pencils.

19. Cynoſurus paſpaloides.
Vahl ſymb. 2. 21. *t.* 27.
Spikes digitate, calyxes two-flowered, ſubglobular, outer valve of the calyx awned, corollas awnleſs.

20. Cynoſurus floccifolius.
Vahl ſymb. 1. 10. *Forſk. ægypt.* 21. *n.* 73.
Spikes linear, ſtraight, leaves doubled together, alternately bearded on the edge.

DESCRIPTIONS, &c.

1. *Root* perennial. *Culms* from one to two feet in height, erect, ſtrict, having three or four joints, ſmooth and even. *Leaves* narrow, flat, ſmooth on both ſides, ſcarcely rough at the edge: *ligule* ſhort, ſlender, truncate, cloven, with the edge a little prominent: *ſheaths* ſtriated, ſmooth and even. *Spike*

compound, when in flower ſemicylindric, facing one way, obtuſe: when out of flower interrupted, awnleſs. *Rachis* flexuoſe, twiſted. *Peduncles* ſhort, ſolitary, alternate, unilateral, in a double row; having three ſpikelets (ſometimes five), and always three *bractes*, which are feathered, from convex flat, and ſubſeſſile, made up of an axis which is ſomewhat flexuoſe, and ſeven or nine pinnules; each, when magnified, has the appearance of a diſtich ſpikelet, with ſubulate, alternate, compreſſed, awned, ſcabrous valves. *Spikelets* two-flowered, rarely three-flowered, ſmaller than the bractes. *Calyx* ſlightly unequal, keeled, mucronate; the outer valve remote from the other at the baſe, bowed upwards, more ſcabrous. *Florets* ſlightly awned. *Anthers* red or purple. *Styles* naked at the baſe [a].

According to Pollich, the leaves are near half a foot in length, above two lines in breadth, and roughiſh if the fingers be moved from the point towards the baſe. Ligule entire. Panicle (or ſpike) three or four inches in length, and as many lines in breadth. Outer valve of the glume has an awn at the end ſcarcely a quarter of a line in length. Stigmas white, feathered.

Common in dry paſtures; flowering in july and auguſt, and called *Bent-graſs*, in common with many others: in Scotland *Windleſtraw-graſs*. Moſt modern writers, ecchoing Stillingfleet, have celebrated this graſs as excellent for ſheep. Mr. Curtis juſtly thinks leſs favourably of it, and conſiders it as greatly inferior to many other graſſes. It is predominant on ſheep downs, and in many parks, but is late and unproductive.

Mr. Ray (ſyn. 399. 3.) ſets down a variety of this, which he calls *Square Creſted-graſs*, becauſe the ſpike has four rows of flowers. It was found by Mr. Dale, in the fields at Notley in Eſſex.

2. Raceme glomerate, pointing one way. Bractes only on the outſide of the flowers, alternately pinnate, one-flowered, the rays ending in an awn. Calyx two-flowered, membranaceous, very much attenuated at the tip. Corolla has a ſtraight awn on the outer tip. Style bifid [b].

According to Gærtner, the calyx is ſometimes three-flowered, very thin, oblong, acuminate; the corolla ſomewhat rigid, the inner glume flattiſh, acuminate, the outer concave, awned below the tip; awn briſtle-ſhaped, ſtraight, twice as long as the calyx. Seed oblong, acuminate at both ends, pubeſcent at the tip, convex on one ſide and ſmooth, concave on the other, marked with an obſcure raiſed line, bay-colour or rufeſcent.

Villars remarks, that it is ill-named *echinate*, for the ſpike is rather lanuginoſe, than beſet with prickles: he adds, that it is ſometimes very tall among the corn, and that he has ſeen it on a rock only two or three inches high.

Native of Europe and the Levant.—Near Sandwich, and in Jerſey, in a ſandy ſoil, flowering in july. Annual.

3. Scarcely a ſpan in height. Leaf ſmall, the ſheath ſwelling a little. Spike cloſely imbricate, oblong, compoſed of ſeſſile flowers, compreſſed and keeled, directed one way, in a double row: the outer calycine valve is compreſſed, and larger than the other: each flower conſiſts of five florets [c]. Culms ſlender, upright. Leaves ſhorter than the ſheath, acute, the edges rolled inwards as they advance in age ſo as to appear ruſhy. Spike ſolitary, an inch and half long. Calyx one or two-flowered; valves awl-ſhaped, long, the outer keeled, compreſſed, and longer than the other. Outer valve of the corolla keeled, ſharp, inner ſhorter, flat. Seed oblong, ſharp at both ends [d].

Native of Spain; flowering in may. Annual. With us it flowers in july and auguſt.—Introduced in 1776, by M. Thouin [e].

4. Culms few, ſcarcely a palm in height, procumbent. Leaves even. Spikelets in two rows, pointing the ſame way, without an involucre; they are ſtiff, three-flowered, linear, obtuſe, even. Florets compreſſed, awnleſs [f]. Culms many, a finger's length, very ſtiff. The upper leaves longeſt. Flowering-ſpike ſtraight, ſtiff, compoſed of imbricate, hard, compreſſed, lanceolate ſpikelets. Calyx awnleſs, ſmooth, ſhorter than the petals, with unequal glumes. Petals alſo unequal; one obtuſe, the other acuminate. Styles two or three. There is a third or fourth flower, often incomplete. The plant when adult, is entirely of a brown or bay colour [g].

Scopoli not finding any character of this genus in it, has removed it to the Poas: and Pollich, though he leaves it with the *Cynoſuri*, approves the removal.

Native of the ſouthern parts of Europe: in Carniola, Switzerland, the Palatinate, Sileſia, and other parts of Germany. Annual, flowering in may and june; with us in july.—Introduced 1776, by Monſ. Thouin [h].

5. Root, culms and leaves as in C. cæruleus, except that the culm is much more tender, and ſomewhat ſhorter; the leaves three or four times narrower, flat, and of a paler colour. The ſpike reſembles a head of Garlic. Univerſal involucre three-leaved; leaflets membranaceous, ſeſſile, ſuborbicular, concave, jagged-toothed at top, in the other parts entire, very pale blue, turning whitiſh, and becoming tranſparent. Spikelets imbricate every way, and ſubſeſſile. Calyx two or three-flowered; glumes nearly equal, at firſt longer than the corolla, but afterwards ſhorter, blue, with white edges, ending in a ſort of creſt, and ciliate on the middle of the back. Outer valve of the corolla larger, blue, white, and membranaceous on the edge, ciliate along the middle of the back, ending in three little creſts of the ſame colour, the middle one twice or thrice the length of the others. Inner valve ſhorter, flattiſh, with blue edges, forked, with two greeniſh keels along the middle of the back. Native of the Alps. There is a variety with white flowers in larger heads *.

6. Culms oblique, ſurrounded at the baſe with a bundle of root-leaves incloſed in a whitiſh brown wrinkled ſkin, giving the appearance of a branched root; above bare of leaves. Panicle reſembling a ſpike, of an ovate-oblong form. Florets on ſhort peduncles, purpliſh, livid, or browniſh white, from half an inch to an inch in length. Involucre roundiſh, embracing the ſtalk, gnawed, membranaceous, ſhorter, but thrice as wide as the calyx; the lower one at the baſe of the ſpike, the other a little higher up at the baſe of the florets of the oppoſite ſide. Calyx moſtly two-flowered, ſometimes juſt longer, and ſometimes juſt ſhorter than the florets; edges and keel bearded. Valves of the corolla equal, with the edges and keel bearded: outer with five ribs, four-toothed, ending in awn-like points, the two middle ones ſhorter, with the keel running out from between them into a ſhort awn twice as long as the teeth. Anthers whitiſh, cloven at the baſe. Germ reddiſh brown. Seed hairy [i].

To this we may add, that the root is perennial; the culms ſlender, from two to ſix inches, and a ſpan in height, having three joints, with a very ſhort leaf at each. Leaves bluiſh ſea-green, from half an inch to three inches in length, keeled, and rough along the edges. Spike of a reddiſh purple colour, ſometimes browniſh white, or entirely white. Calyx, though uſually two-flowered, has ſometimes one, and ſometimes three florets. Anthers deeply cloven at both ends, yellow except at one end, where they are purple.

There is much diſſention about the genus of this graſs. Jacquin made it an *aira*; and Scopoli obſerves, that in its manner of flowering it reſembles that genus, but that it has the appearance of Anthoxanthum, and is very nearly allied to the Phleums:

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[a] Leers.
[b] Linn. ſyſt.
[c] Linn. ſpec.
[d] Cavanilles.
[e] Hort. kew.
[f] Linn. ſpec.
[g] Scopoli.
[h] Hort. kew.
* Jacquin.
[i] Stokes in Withering.

he made it a diſtinct genus, under the name of *Seſleria,* and has been followed by Scopoli, Arduini, Withering, *&c.*

Native of Europe in mountainous and boggy paſtures. In the north of England, on the higheſt lime-ſtone rocks, as Ingleborough, *&c.*

The firſt notice of it we have is from Mr. Ray, who received it from Mr. Petiver, to whom it was ſent out of the north, by Mr. Fitz-Roberts. It flowers the earlieſt of all our graſſes. In the ſpring of 1792 the ſpikes were puſhing vigorouſly on the 16th of march, and it was in full flower on the 29th. This would recommend it for culture, if it were not of low growth. Foreign authors deſcribe it as being larger than we find it to be.

7. A very ſmooth graſs, with the appearance of *Uniola,* but the calyx is bivalved, not many-valved. Spike linear. Spikelets ſeſſile, preſſed cloſe to the rachis, in two rows, alternate, ſpreading at the ſides, oblique, very ſmooth, many-flowered.—Native of the Cape of Good Hope[k].

8. Annual. Culms four feet high, covered with leaf-ſtalks. Leaves long, in two rows, the edge and upper ſurface, eſpecially towards the fauces, villoſe with a few long hairs; ſheaths oppoſite, compreſſed, ſtem-claſping. Spikes four or ſix, terminating, (ſometimes one below) ſtriated, almoſt erect, the length of the finger; as they ripen growing broader, and often bent in. Rachis of the ſpikelets depreſſed, with the flowers alternate on the inſide, ſeſſile on the outſide. Flowers ovate-oblong, compreſſed, awnleſs, preſſed cloſe to the rachis. Calyxes four-flowered, the inner valve lower and ſmaller, but both compreſſed and keeled, like the corolla. Seeds nearly globular, large, in four rows, ſwelling, naked.—Native of India[l], and Japan, where it is cultivated for the eatable ſeeds[m].

According to Gærtner, one globular, ſmooth ſeed, of a ferruginous red colour, is covered by an ovate-globular, membranaceous, thin, diaphanous, one-celled, valveleſs capſule.

It flowers from july to ſeptember; and was cultivated in 1714, by the Dutcheſs of Beaufort[n].

9. Culm even, ſlender, long, pale, jointed, bent and procumbent at the joints, ſmooth, and very tough, with many ſhort upright branches. Leaves awl-ſhaped. Spikelets four or five, horizontal, with a mucronate rachis extended beyond the flowers, which are alternate and diſtich. Calyxes two-flowered and awnleſs. Valves of the calyx acuminate, keeled, unequal[o].

Native of Aſia, Africa, and America. Annual; flowering from july to ſeptember. Introduced 1770, by Monſ. Richard[p].

10. Culm ſlender, almoſt upright, reddiſh, ſometimes creeping, leafy. Leaves many, ſmall, ſtiff[q]. Spikes heaped, linear, four or ſix from horizontal ſpreading, from a thick baſe growing gradually more ſlender to the top, floriferous at bottom. Valves of the calyx acute; the inner longer, ciliate, lanuginoſe. Capſule and ſeed reſembling the eighth ſpecies, only one-third leſs in all the parts. It differs abundantly, not only from this, but all other known genera of graſſes, in having a real and very conſpicuous pericarp.—C. ægyptius, though like this in external appearance, is not of this genus[r].

Linneus remarks, that after the ſeeds fall, there remain pectinate ſpikes, with calycine glumes, of which the ſide ones ſpread open with a rugged keel: and that the calyxes contain about four flowers.

Vahl obſerves, that this Graſs varies with more and fewer, longer and ſhorter ſpikes; and that the lower leaves are frequently oppoſite.

Annual. Native of both Indies; (Japan and the Society Iſles.) Cultivated 1714, by the Dutcheſs of Beaufort. It flowers in auguſt[s].

11. Height two feet and a half, with a ſpreading panicle at the top, generally compoſed of many delicate ſlender ſimple ſpikes. Native of Jamaica[t]. Cultivated 1727, by Mr. Miller. It flowers from july to ſeptember; and is perennial[u].

12. Root perennial. Culms ſeveral, erect, from two to three feet high, round, ſmooth, ſhining, ſlender, jointed, leafy, frequently putting out a ſingle branch from one of the lower joints, otherwiſe quite ſimple. Leaves enſiform-linear, acute, flat, feeling rough when the finger is drawn along the edge from point to baſe, hairy on the upper ſurface below the middle, ſmooth on the lower; ſheath ſomewhat hirſute. Panicle upright, filiform, compoſed of ſeveral very ſpreading alternate or oppoſite branches forming a ſort of raceme, defended at their origin by a bundle of hairs; on the alternate toothlets of theſe branches ſit ſmall compreſſed ſpikelets in a double row. The calyx contains from three to five florets, without any other involucre; valves keeled, prickly at the back, acute, awnleſs, upright, permanent, one ſhorter than the other. Outer valve of the corolla like the calycine glume, but awned, inner flat and awnleſs. Awn purple, rough, from the top of the back part of the valve; gradually ſhorter in the upper flowers. Stigmas very dark purple. Seed minute. It flowers and ſeeds in the ſtove during the whole year.

Native of St. Domingo in the Weſt Indies[x].

According to Swartz, this is nothing more than a variety of C. virgatus, which has often ſpikelets with and without awns growing promiſcuouſly in dry ſoils of the Eaſt Indies. The glumes have from three to ſix flowers; the branches of the panicle are filiform or thicker; and the flowers are more or leſs ſeſſile. The habit of this is more tender and lax[y].

13. Spikelets ternate, barren; calyx bivalved, linear, acuminate, involving many ſolitary, alternate, ovate, obtuſe, concave glumes, without the ſmaller valve ſtamens or piſtils; they cannot therefore be well called flowers, but are rather involucres: at the baſe of the ſpikelets are two flowers, with a linear calyx the length of the florets which are two together, the lower ſeſſile; the outer glume is ovate, with a long ſtraight awn coming out below the tip; the inner glume is very narrow. The other floret, on a peduncle the length of the former floret, is very like that, but ſmaller: there is the rudiment only of a third floſcule.—Native of the South of Europe, among ſtones and rocks, and of the Levant. Annual[z].

Introduced 1770, by Monſ. Richard. It flowers in july[a].

14. It reſembles *Paſpalum,* but the valves of the flower gape in a contrary manner[b].

Native of Ruſſia and Hudſon's Bay. Introduced 1773, by Monſ. Richard. It flowers in july, and is annual[c].

It is obſerved by Dr. Stokes (With. arr. 95.) that in the *C. criſtatus, echinatus* and *aureus* there are generally only two florets in a calyx; that in the *cæruleus* and *aureus,* the little ſpikes are inſerted on different ſides of the ſpike; and that in the *durus, coracanus, ægyptius* and *indicus,* the receptacle cannot be ſaid to be leafy, as in theſe the involucre is wanting. The *durus* is truly a Poa; and the three others have the habit of Panicum, with the ſtructure of Poa, forming a natural aſſemblage of their own. The *Cynoſurus* therefore, as a natural genus, ſeems to be confined within the limits of *criſtatus, echinatus,* and *aureus.*

New Species from Vahl.

15. Culms round ſmooth. Leaves awl-ſhaped, a ſpan long, ſmooth. Ligule membranaceous. Spike a ſpan long, upright. Common rachis grooved, angular. Spikelets in threes at each tooth of the rachis, the lateral ones ſeſſile, the middle one on a ſhort pedicel, all linear, an inch long, a little longer than the interſtices, ſpreading; ſometimes, but ſeldom, a fourth ſpikelet, which is ſeſſile and a little

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[k] Linn. ſuppl.
[l] Linn. ſpec. and ſyſt.
[m] Thunberg.
[n] Hort. kew.
[o] Loureiro and Linn. ſyſt.
[p] Hort. kew.
[q] Loureiro.
[r] Gærtner.
[s] Hort. kew.
[t] Browne.
[u] Hort. kew.
[x] Jacqu. miſc.
[y] Swartz obſ.
[z] Linn. ſpec.
[a] Hort. kew.
[b] Linn. ſpec.
[c] Hort. kew.

above the others, all bent back when old. Flowers on one ſide of the rachis, compreſſed, ſmooth. Partial rachis flexuoſe. Valves of the calyx lanceolate, attenuated very much into a briſtle, hence as it were awned. Corollas in pairs, one pedicelled.—Station between the 4th and 5th ſpecies.

16. Culms creeping, branched, filiform, compreſſed at bottom; internodes an inch long. Floriferous ſcapes from the top, a ſpan long, quite ſimple, jointed, having a ſingle awl-ſhaped leaf towards the middle. Leaves at the joints ſeveral on each ſide, an inch and half in length, briſtle-ſhaped. Sheaths compreſſed, equitant, nearly the ſame length with the leaves, and broader. Spike an inch long, linear. Flowers ſmall, alternate, compreſſed, ſmooth. Valves of the calyx, ſpreading, nearly equal, the length of the florets, acute. Florets uſually three, one ſeſſile hermaphrodite, a ſecond pedicelled male, a third barren. Outer valve of the corolla awned below the tip in the male and hermaphrodite, awnleſs in the barren floret. Awn a little longer than the calyx.

The ſtation of this and the three following is between the 7th and 8th ſpecies.

17. Culm upright, a foot and half high, ſmooth. Leaves awl-ſhaped, narrow. Spike ſolitary, a ſpan long. Rachis convex and keeled on the outſide. Flowers alternate, imbricate, on the inner ſide, ſmooth. Valves of the calyx awl-ſhaped; the outer larger the length of the florets, the inner ſhorter. Florets bearded at the baſe and compreſſed: hermaphrodite ſeſſile, male ſmaller, the third barren: outer valve of all keeled, awned below the tip; awns ſtraight, twice as long as the calyx.

18. Culm round, upright, very finely ſtreaked, pubeſcent at top. Spikes in threes, but ſometimes ſolitary, on very ſhort pedicels, bearded at the baſe, four or five inches long, upright, ſometimes a little recurved at the end. Rachis ſomewhat convex on the outſide, channelled within. Flowers from the inner ſide only, ſeſſile, alternate, very much crowded, awl-ſhaped, ſlightly compreſſed, ſpreading. Inner valve of the calyx lower, ovate, acuminate, almoſt tranſparent: outer ſuperior, lanceolate, attenuated, three times the length of the inner one, compreſſed, keeled, having a groove on the back, ciliated in a raiſed line on each ſide by the groove; awn on the middle of the valve, upright, the length of the valve. Florets four, bearded at the baſe: two hermaphrodite, the outer petal bearded at top with two pencils, and ciliated with white long very ſoft hairs; awn half an inch long, ſtraight: two flowers ſmaller, one of them awnleſs; probably theſe are males.

Theſe four ſpecies are natives of the Eaſt Indies.

19. Culm very ſimple, almoſt leafleſs, a foot high. Root-leaves ſheathing, linear-lanceolate, two inches long, ſharpiſh. Sheaths compreſſed, equitant, twice as broad as the leaves. Spikes five, ſeſſile, an inch and half long and more, woolly at the baſe, linear, narrow, ferruginous, ſhining. Flowers on one ſide, the ſize of millet ſeed, alternate, crowded, very blunt. Outer valve of the calyx ſhorter than the corolla, ovate, awned a little below the tip, emarginate, keeled; the other ſmaller. Florets in pairs, longer than the calyx, the outer valves keeled, the keel and whitiſh edge ciliate.

Native of the Cape of Good Hope: obſerved there by Bulow.

20. The limits between this and the other digitate Cynoſuri are determined with difficulty. In habit it approaches very near to C. coracanus. It differs from them all in having the ſingle leaves folded together and alternately bearded. On the inner ſide of the leaf towards the edge is a minute oblong hole, and oppoſite to this on the outſide a ſpot, both yellowiſh, the margin of the leaf, which is rolled in, is cut out between theſe two ſpots, and all this part is clothed with ſoft white hairs in bundles. The ſheaths are not ciliate, nor the leaves hairy. The ſpikes and ſpikelets are longer and narrower than in C. coracanus, and the valves of the florets ſharper.—Native of Egypt [d].

PROPAGATION AND CULTURE.

Several of the ſpecies are natives of the Weſt Indies, and more of the Eaſt Indies. Few of theſe are known in Europe otherwiſe than by ſpecimens or deſcriptions. They muſt be propagated by ſeeds brought from their native places of growth; and kept in the bark ſtove. Thoſe from the Cape of Good Hope, &c. are preſerved of courſe in the dry ſtove. For the culture of the European ſorts, particularly the firſt, ſee Grass.

Cynosurus. See *Alopecurus* and *Dactylis.*

Cynoxylon. See *Nyſſa.*

Cyparissias. See *Euphorbia.*

Cyparissus. See *Cupreſſus.*

Cyperella. See *Schoenus.*

Cyperi genus. See *Scirpus.*

Cyperoides. See *Carex.*]

CYPERUS. (Κυπειρος, *of Hippocrates, Theophraſtus, and Dioſcorides*; Cyperus *of Pliny. So called on account of the form of the root repreſenting a little box.* Ray.)

Fr. *Souchet.*

Lin. gen. n. 66. *Reich.* 72. *Schreb.* 93. *Mich.* 31. *Tournef.* 299. *Gærtn. t.* 2.

Claſſ. 3. 1. Triandria Monogynia.

Nat. order of *Calamariæ.—Cyperoideæ* Juſſ.

GENERIC CHARACTER.

Cal. *Spike* imbricate two ways: *ſcales* ovate, keeled, flat-inflected, ſeparating the flowers.

Cor. none.

Stam. *Filaments* three, very ſhort. *Anthers* oblong, furrowed.

Pist. *Germ* very ſmall. *Style* filiform, very long. *Stigmas* three, capillary.

Per. none.

Seed ſingle, three-ſided, acuminate, deſtitute of villus.

ESSENTIAL CHARACTER.

Glumes chaffy, imbricate in two rows. *Cor.* none. *Seed* one naked.

SPECIES.

* *With a round culm.*

[1. Cyperus articulatus. *Jointed-ſtalked Cyperus.*
Lin. ſpec. 66. *Reich.* 122. *Rottboell deſcr.* 1. 26. *n.* 31. *Brown. jam.* 128. 10. *Vahl. ſymb.* 1. 7. niloticus. *Forſk. ægypt.* 13. *n.* 37.—ægpytiacus. *Gloxin obſ.* 20. *t.* 3.
Jancus cyperoides, &c. *Sloan. jam.* 1. 121. *t.* 81. *f.* 1.
Culm naked jointed.

2. Cyperus minimus. *Leaſt Cyperus.*
Lin. ſpec. 66. *Reich.* 123. *hort. cliff.* 21. *Sloan. jam.* 1. 120. *t.* 79. *f.* 3. *Brown. jam.* 127. 1. *Raii hiſt.* 3. 625.
Culm naked, ſpikes under the tip.

3. Cyperus lateralis. *Lateral-ſpiked Cyperus.*
Lin. ſyſt. 96. *ſuppl.* 102.
Culm roundiſh naked, ſpike lateral ſeſſile.

4. Cyperus Monti.
Lin. ſyſt. 96. *ſuppl.* 102. *Monti gram. t.* 1. *f.* 2. *Raii hiſt.* 3. 626.
Culm round, umbel ſuperdecompound, leaves even on the keel.

5. Cyperus tenellus.
Lin. ſyſt. 96. *ſuppl.* 103.
Culm naked ſetaceous, ſpikes ſolitary and twin ſeſſile.

* *With a three-cornered culm.*

6. Cyperus monoſtachyos. *Single-ſpiked Cyperus.*
Lin. ſyſt. 96. *Reich.* 123. *mant.* 180. *Rottboell deſcr.* 1. 18. *t.* 13. *f.* 3. *Swartz obſ.* 29. *Sloan. jam.* 1. 120. *t.* 79. *f.* 2.
Culm naked, ſpike ſimple ovate terminating, ſcales mucronate.

7. Cyperus lævigatus.
Lin. ſyſt. 96. *Reich.* 123. *mant.* 179. *Rottboell deſcr.* 1. 19. *t.* 16. *f.* 1.
C. arenarius. *Retz. obſ.* 4. 9. *n.* 11. See n. 35.
Culm naked, head two-leaved, flowers levigated.

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[d] Vahl.

8. Cyperus Haſpan.
Lin. ſpec. 66. *Reich.* 124. *fl. zeyl. n.* 37. *Rottboell deſcr.* 1. 36. *n.* 47. *t.* 6. *f.* 2. *Pluk. alm. t.* 192. *f.* 2.
Culm leafy, umbel ſuperdecompound, ſpikelets umbellate-ſeſſile.]

9. Cyperus longus. *Sweet Cyperus.*
Lin. ſpec. 67. *Reich.* 124. *mat. med.* 45. *Hudſ. angl.* 17. *With.* 45. *Scop. carn. n.* 55. *Plenck, ic. t.* 39. *Blackw.* 316. *Jacqu. ic. rar. vol.* 2. *collect.* 3. 191.
C. odoratus, &c. *Bauh. pin.* 14. *Scheuch. gram.* 378. *t.* 8. *f.* 12. *Mor. hiſt.* 3. 237. *ſ.* 8. *t.* 11. *f.* 13.
C. panicula ſparſa ſpecioſa. *Bauh. hiſt.* 2. 501. 1.
C. longus. *Ger.* 28. 1. *emac.* 30. 1.——odoratus. *Park. theat.* 146. 3. *Raii hiſt.* 1299. *ſyn.* 425.
Culm leafy, umbel leafy ſuperdecompound, peduncles naked, ſpikes alternate.

[10. Cyperus eſculentus.
Lin. ſpec. 67. *Reich.* 124.
C. rotundus eſcul. anguſtifolius. *Bauh. pin.* 14. *theat.* 222.
C. rotundus. *Lob. ic.* 75. *Dod. pempt.* 338.
C. eſculentus. *Ger.* 28. 2. *emac.* 32. 1, 2. *Raii hiſt.* 1301.
Traſi. *Bauh. hiſt.* 2. 504. *f.* 505.
Culm naked, umbel leafy, tubers of the roots ovate, zones imbricate.]

11. Cyperus rotundus.
Lin. ſpec. 67. *Reich.* 124. *fl. zeyl. n.* 36. *mat. med.* 45. *Scheuch. gram.* 391. *Rottb. deſcr.* 1. 28. *t.* 14. *f.* 2.
Culm almoſt naked, umbel decompound, ſpikes alternate linear.

[12. Cyperus ſquarroſus.
Lin. ſpec. 66. *ſyſt.* 96. *amœn.* 4. 303. *Rottb. deſcr.* 1. 25. *t.* 6. *f.* 3. *Pluk. alm. t.* 397. *f.* 2.
Culm naked, umbel leafy glomerate, ſpikes ſtriated, ſquarroſe.

13. Cyperus difformis.
Lin. ſpec. 67. *ſyſt.* 96. *Reich.* 125. *amœn.* 4. 302. *Rottb. deſcr.* 1. 24. *t.* 9. *f.* 2. *Pluk. alm. t.* 417. *f.* 5.
Culm naked, umbel two-leaved ſimple trifid; ſpikes cuſpidate, the middle one ſeſſile.

14. Cyperus Iria.
Lin. ſpec. 67. *Reich.* 125. *Pluk. alm. t.* 191. *f.* 7. *Rottb. deſcr.* 1. 41. *n.* 54. *Rheed. mal.* 12. *t.* 56. (Ira.)
Culm half naked, umbel leafy, peduncles unequal ſubumbellate, floſcules diſtinct.

15. Cyperus elatus.
Lin. ſpec. 67. *Reich.* 125. *amœn.* 4. 301.
Culms naked, umbel leafy ſuperdecompound, ſpikes a finger's length imbricate, ſpikelets ſubulate.

16. Cyperus glomeratus.
Lin. ſpec. 68. *Reich.* 125. *amœn.* 4. 301. *Mich. gen.* 45. *n.* 12. *Segu. veron.* 3. 68. *t.* 2. *f.* 2. *Monti gram.* 14. *t.* 1. *f.* 1.
Culm naked, umbel decompound ſimply leafy, pedicels ſpiked in a double row.

17. Cyperus glaber.
Lin. ſyſt. 97. *Reich.* 126. *mant.* 179. *Segu. ſuppl.* 66. *t.* 2. *f.* 1.
Culm naked, even; umbel three-leaved; flowers glomerate, the lower brachiate; leaves ſmooth.

18. Cyperus elegans.
Lin. ſpec. 68. *Reich.* 126. *Rottb. deſcr.* 1. 34. *n.* 44. *t.* 6. *f.* 4. *Sloan. jam.* 1. 117. *t.* 75. *f.* 1. *Brown. jam.* 128. 4. *Raii ſuppl.* 623.
Culm naked, umbel leafy, peduncles naked proliferous, ſpikes crowded, with ſpreading points.

19. Cyperus odoratus.
Lin. ſpec. 68. *Reich.* 126. *Rottb. deſcr.* 1. 38. *n.* 49. *Gron. virg.* 131. *Burm. ind. t.* 8. *Sloan. jam.* 1. 116. *t.* 74. *f.* 1. & *t.* 8. *f.* 1.
Culm naked, umbel decompound ſimply leafy, pedicels ſpiked in a double row.

20. Cyperus compreſſus.
Lin. ſpec. 68. *Reich.* 126. *Swartz obſ.* 30. *Retz. ob.* 4. *p.* 11. *n.* 17. *Rottb. deſcr.* 1. 27. *t.* 9. *f.* 3. *Gron. virg.* 131. *Jacqu. hort.* 3. *t.* 12. *Sloan. jam.* 1. 117. *t.* 76. *f.* 1. *Raii ſuppl.* 623.
Culm naked, univerſal umbel three-leaved, glumes mucronate with the ſides membranaceous.

21. Cyperus flaveſcens. *Yellow Cyperus.*
Lin. ſpec. 68. *Reich.* 127. *Gouan illuſtr.* 2. *Hall. helv. n.* 1348. *Scop. carn. n.* 53. *Pollich pal. n.* 41. *Krock. ſileſ. n.* 67. *t.* 11. *Scheuch. gram.* 385. & 386. *t.* 8. *f.* 13. *Mor.* 3. 239. *t.* 11. *f.* 37. *Bauh. pin.* 6. 11. *theat. t.* 88. *Bauh. hiſt.* 2. 471. *f.* 1. *Raii hiſt.* 1301. 9.
Culm naked, umbel three-leaved, peduncles ſimple, unequal, ſpikes crowded lanceolate.

22. Cyperus fuſcus. *Brown Cyperus.*
Lin. ſpec. 69. *Reich.* 127. *Hall. helv. n.* 1349. *Scop. carn. n.* 54. *Pollich pal. n.* 42. *Jacqu. vind.* 206. *Leers herborn. n.* 33. *t.* 1. *f.* 2. *Krock. ſileſ. n.* 68. *t.* 12. *Rottb. deſcr.* 1. 33. *n.* 43. *Fl. dan. t.* 179. *Scheuch. gram.* 384. *Mor.* 3. 239. *t.* 11. *f.* 38. *Bauh. pin.* 6. *n.* 12. *Bauh. hiſt.* 2. 471. *f.* 2. *Raii hiſt.* 1300. *n.* 8.
C. ferrugineus. *Forſk. ægypt.* 14. *n.* 43.
Culm naked, umbel trifid, peduncles branched unequal, ſpikes crowded linear.

23. Cyperus pumilus.
Lin. ſpec. 69. *Reich.* 128. *amœn.* 4. 302. *Gærtn. fruct.* 9. *Pluk. alm. t.* 191. *f.* 8. good.
Culm naked, umbel two-leaved compound, ſpikelets alternate digitate lanceolate; glumes mucronate.

24. Cyperus triflorus.
Lin. ſyſt. 97. *Reich.* 128. *mant.* 180.
Schænus cyperoides. *Koenig. Retz. obſ.* 4. 8. *n.* 8.
Culm naked, umbel three-ſpiked, the middle one ſeſſile, ſpikelets even.

25. Cyperus ſtrigoſus.
Lin. ſpec. 69. *Reich.* 128. *Sloan, jam.* 1. 116. *t.* 74. *f.* 2, 3. *Retz. obſ.* 5. 1.
Culm naked, umbel ſimple, ſpikelets linear very much crowded horizontal.

26. Cyperus ligularis.
Lin. ſpec. 70. *Reich.* 128. *amœn.* 5. 391. *Rottb. deſcr.* 1. 35. *t.* 11. *f.* 2. *Sloan. jam.* 1. 36. *t.* 9. *Brown. jam.* 128. 6. *Rheed. mal.* 12. *t.* 55?
Spikelets of the umbel capitate oblong ſeſſile, involucres very long ſerrate and rough.

27. Cyperus Papyrus. *Paper Cyperus,* or *Egyptian Papyrus.*
Lin. ſpec. 70. *ſyſt.* 97. *Reich.* 129. *Rottb. deſcr.* 1. 32. *Bruce Abyſſ.* 5. 1. *t.* 1. *Mich. gen.* 44. *t.* 19. *Scheuch. gram.* 387. *t.* 8. *f.* 14. *Mor.* 3. 239. *t.* 11. *f.* 41.
Papyrus nilotica. *Bauh. pin.* 19. 1, 2. *theat.* 333. *Bauh. hiſt.* 507. *Raii hiſt.* 1302. *Ger.* 37. *emac.* 40. *Park. theat.* 1207.
Culm naked, umbel longer than the involucres, involucels three-leaved ſetaceous longer, ſpikelets in threes.

28. Cyperus ſpathaceus.
Lin. ſyſt. 98. *Reich.* 129. *Gron. virg.* 131. *Pluk. alm. t.* 301. *f.* 1.
Schoenus ſpathaceus. *Lin. ſpec.* 63.
C. arundinaceus. *Lin. ſpec. ed.* 1. 44.
Culm cloathed with ſheaths of leaves, peduncles pinnate lateral.

29. Cyperus alternifolius. *Alternate-leaved Cyperus.*
Lin. ſyſt. 98. *Reich.* 129. *mant.* 28. *Mor.* 3. 183. *ſ.* 8. *t.* 3. *f.* 17. *Jacqu. ic. rar. vol.* 2. *collect.* 2. 306.
Culm naked alternately leafy at the end, peduncles lateral proliferous.

30. Cyperus denudatus.
Lin. ſyſt. 98. *ſuppl.* 102.
Involucre ſcarcely any.

31. Cyperus diſtans.
Lin. ſyſt. 98. *ſuppl.* 103. *Rottb. gram.* 37. *n.* 48. *t.* 10.
Culm naked, umbel leafy ſuperdecompound, ſpikes alternate filiform, floſcules diſtant.

32. Cyperus

32. Cyperus pannonicus. *Dwarf Cyperus.*
Lin. ſyſt. 98. *ſuppl.* 103. *Jacqu. auſtr.* 5. 29. *t. app.* 6. *Ait. hort. kew.* 79.
Culm obſcurely three-cornered proſtrate, ſpikes about four together ſeſſile.

33. Cyperus viſcoſus. *Clammy Cyperus.*
Ait. hort. kew. 79. *Swartz prodr.* 20. *Jacqu. ic. rar. vol.* 2.
Culm three-ſided, clammy; leaves rough, triangular at the tip.

34. Cyperus pygmæus.
Retz. obſ. 4. *n.* 10.
Culm round, umbel compound involucred, ſpikes lanceolate, glumes mucronate.

35. Cyperus arenarius.
Retz. obſ. 4. *n.* 11. See n. 7.
Culm compreſſed naked, ſpikes of the head glomerate ſeſſile, involucre one or two-leaved.

36. Cyperus capitatus.
Retz. obſ. 4. *n.* 12.
Culm ſubangular ſtriated leafy in the middle, head terminating three-leaved, ſpikes ſeſſile.

37. Cyperus ſtoloniferus.
Retz. obſ. 4. *n.* 13.
Culm naked three-cornered, umbel compound involucred, ſpikelets lanceolate.

38. Cyperus Pangorei.
Retz. obſ. 4. *n.* 14. *Rottb. deſcr.* 31. *t.* 7. *f.* 3.
Culm three-cornered leafy at the baſe, involucre three-leaved, univerſal umbel decompound, partial ones ſubtrifid.

39. Cyperus cinnamomeus.
Retz. obſ. 4. *n.* 15.
An C. ligularis. *n.* 46. *Rottb. t.* 11. *f.* 2?
Culm three-cornered leafy, umbel conſiſting of ſpikelets in a head peduncled and ſeſſile, involucre five-leaved ſerrulate-ſcabrous.

40. Cyperus ſetaceus.
Retz. obſ. 5. 10. *n.* 6.
Culms ſetaceous ſtriated-angular naked, ſpike terminating with about four flowers and naked.

41. Cyperus compactus.
Retz. obſ. 5. *n.* 7.
Culm round leafy, umbel decompound, involucre five-leaved, ſpikelets heaped ſubſpiral.

42. Cyperus mucronatus.
Retz. obſ. 5. *n.* 8. *Rottb. deſcr.* 19. *t.* 8. *f.* 4?
Culm round? naked, ſpikes lateral ſeſſile, involucre one-leafed.

43. Cyperus diphyllus.
Retz. obſ. 5. *n.* 9.
Culm ſubtriangular two-leaved, umbel ſuperdecompound, ſpikelets roundiſh ſubpinnate.

44. Cyperus leucocephalus.
Retz. obſ. 5. *n.* 10.
Culm ſetaceous three-cornered naked; head ſeſſile; involucre four-leaved or thereabouts, ſpreading very much; flowers one-ſtamened.

45. Cyperus exaltatus.
Retz. obſ. 5. *n.* 12.
C. faſtigiatus. *Rottb. deſc.* 32. *t.* 7. *f.* 2.
Culm three-cornered one-leafed at the baſe, umbel ſuperdecompound, many-leaved, ſpikelets linear peduncled.

46. Cyperus niveus.
Retz. obſ. 5. *n.* 13.
Culm three-cornered filiform naked, umbel terminating ſeſſile two-leaved, ſpikes compreſſed lanceolate.

47. Cyperus imbricatus.
Retz. obſ. 5. *n.* 14.
Culm three-cornered naked, umbel decompound, rays of the umbellules imbricate, involucre ſix-leaved with three leaves very long and three very ſhort.

48. Cyperus cruentus.
Retz. obſ. 5. *n.* 15.
Culm three-cornered one-leafed at the baſe, umbel terminating two-leaved very ſimple.

49. Cyperus nitens.
Retz. obſ. 5. *n.* 16.
Culms three-cornered leafy at the baſe, umbels almoſt ſimple, involucre three-leaved, flowers one-ſtamened.

50. Cyperus flavidus.
Retz. obſ. 5. *n.* 17.
Culm three-cornered ſtriated, umbel compound three-leaved, ſpikes lanceolate, flowers one-ſtamened.

51. Cyperus venuſtus.
52. Cyperus ſtuppeus.
53. Cyperus linctus.
Forſt. fl. auſtr. app. n. 495, 496, 497.

DESCRIPTIONS, *&c.*

Moſt of the ſpecies have three-cornered culms or ſtems. The flowers in aggregate peduncled and umbelled ſpikes. The lower chaffs are ſometimes empty[a].

1. Root tuberous, red, having a very grateful ſmell like that of *Calamus aromaticus.* Stalk three feet high, ſmooth, with very ſtrong and frequent tranſverſe partitions or membranes. At the top ſeveral brown chaffy panicles, made up of ſmall, long ſpikes.

Native of Jamaica, in the rills of the Savanna, beyond two-mile wood[b]: and in Egypt on the banks of the Nile.

The Egyptian plant differs from that of the Weſt Indies only in having ſhorter ſpikelets, ſometimes eight-flowered, and paler. Forſkall ſays that the culms are not jointed, probably in the freſh plant the joints may be leſs conſpicuous, but in the dry ſpecimens certainly the culms are jointed[c].

2. Roots compoſed of many capillary brown fibres, whence ariſe many ſmall narrow leaves, an inch long, and reddiſh underneath. Stalks many ſimple, triangular, about two inches high, (three or four, *Browne,*) with two or three ſmall ſhort leaves towards the top. Above theſe, uſually three ſmall ruſty ſcaly ſpikes or heads, two whereof have ſhort peduncles, and the other none: they are ſufficiently diſtinguiſhable by their ſmallneſs[d].—Native of Jamaica, and Braſil.

3. Culms the length of a needle, many, briſtle-form, not ſtiff. Spike ovate, ſcales from ſeven to nine, diſtich, ſomewhat ſharp, ſmooth and even, ſeſſile its own length below the tip of the culm. Annual.—Native of the Cape of Good Hope[e].

4. Culm ſmooth and even, leafleſs. Leaves very long, cutting downwards by means of little prickles on the edge; in other parts, and even on the keel, ſmooth. Involucre ſix-leaved, very long. Spikelets ovate, ferruginous.

Native of India, now found wild in Italy.—Perennial[f].

5. Culm not a finger's length, the thickneſs of a horſe-hair. Spikes below the top of the culm, compreſſed, ancipital, ovate, even, with ten or twelve ſcales.—Native of the Cape of Good Hope[g].

Perhaps the ſame with the third.

6. Root-leaves numerous, linear, very narrow, even, looſe, a ſpan in length. Culm filiform, weak, ſcarcely a foot high. Spike imbricate, compreſſed a little, even, the ſize of a cucumber ſeed, with keeled, mucronate ſcales. A ſubulate leaflet, ſometimes two, under the ſpike, and of the ſame length with it[h].

This, according to Swartz, is rather the loweſt glume, not longer than half the ſpike; which he deſcribes as being imbricate in a double row, with the two loweſt ſcales longer than the others, linear, awl-ſhaped, keeled, the others broader, the uppermoſt acuminate: there are little briſtles between the ſcales near the keel. Germ three-cornered: ſtyle three-ſided, trifid at the end: ſtigmas reflex. Seed white, calloſe with dots.

Native of the Eaſt and Weſt Indies.

7. Culms even, two feet high. Leaves two, ſtiff, convolute-ſubulate; the upper one broad at the baſe, concave, produced from the tip of the culm, three or four times as long as the head; the lower immediately under it, reflex, half the length of the other. Head terminating, roundiſh, compoſed of ſeveral ſeſſile ſpikelets. Involucre two-leaved.

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[a] Juſſieu.
[b] Sloane.
[c] Vahl.
[d] Sloane.
[e] Linn. ſuppl.
[f] Ibid.
[g] Ibid.
[h] Linn. mant.

Spikes or flowers oblong-ovate, imbricate, bluntiſh, with ovate ſcales. Perennial.—Native of Coromandel in the Eaſt Indies [i].

8. Culm a foot high; lax, yellowiſh, ſtriated, tender. Leaves linear, ſtriated, yellowiſh dotted with brown, longer than the culm. The general involucre conſiſts of two leaves like thoſe on the culm; the largeſt one-third longer, the ſmaller three times ſhorter than the umbel. The partial involucre conſiſts of lanceolate ſcales at the ſubdiviſions of the partial umbel and the baſe of the ſpikes. Principal rays of the umbel about twenty, ſpreading, unequal, filiform. Rays of the ſecond diviſion twelve to fifteen, ſpreading very much, ſo as to be almoſt horizontal. Rays of the third diviſion, when there are any, five or ſix, only half an inch long, and even ſhorter. In the fourth or laſt ſubdiviſion ſpikes three to ſix, expanded in a ſtar. Spikes linear, compreſſed, diſtich, tender and very delicate, one-third of an inch long, ſcarcely half a line broad; ſcales imbricate, very ſmall, compreſſed, alternate, diſtant, bluntiſh or truncate, ferruginous, dotted, ſixteen to twenty in each ſpike [k].

Native of India, Ceylon and the Cape. Perennial.

9. Root long odoriferous. Peduncles ſometimes twelve, umbelled, the rays gradually ſhortening to the middle, the outer one half a foot in length. Spikelets corymbed, ſlender, acuminate, cheſtnut-coloured [l].

Native of France, Germany, Italy, Sicily, and Carniola, in bogs, marſhes and ditches. Found by Mr. Newton, in the iſle of Purbeck, Dorſetſhire, and by Canon Holcombe near St. David's. Perennial; flowering in july.—Called Engliſh Galingale.

The root is agreeably aromatic to the ſmell, warm and bitter to the taſte. The modern practice diſregards it; but perhaps it is not inferior to ſome of the more coſtly medicines brought from abroad [m].

10. Roots fibrous, with ſmall round tubers or bulbs hanging from them the ſize of Peas or Beans, of a ſweetiſh taſte, ſomewhat like Cheſtnuts. Stems about eighteen inches high. Shorter and ſmaller in all the parts than the next ſpecies.

Native of the country about Montpellier, Italy, Sicily, and the Levant. Perennial [n].

11. Culm ſcarcely a foot high, having at bottom four alternate leaves. Panicle of many naked peduncles, each of which produces four or five diſtich, oblong ſpikes, almoſt linear, with one in the middle on a very ſhort peduncle, furniſhed in the ſame manner with ſpikelets. Involucre of two or three leaflets the length of the umbel. The root bears ſome bulbs [o].—Native of Arabia, India, Ceylon, Japan.

The Cyperus, n. 36. of Flora zeylanica, and hexaſtachyos of Rottboll, which are the ſame, are ſuppoſed to be different from the C. rotundus of the materia medica.

12. Culms ſeveral, one or two inches high, filiform, three-ſided. Leaves linear-briſtle-ſhaped, longer than the culm, embracing the baſe of it with purple ſheaths, when young glaucous, when old ferruginous. Involucre of four leaves, ſeldom three or five, alternately ſhorter, longer than the umbel, ſpreading, reſembling thoſe on the culm. Bractes ſmall, ovate, at the baſe of each ſpike. Umbel bifid or trifid; middle umbellule ſeſſile; ſide ones two ſometimes three, very ſhort, ſubſeſſile, naked, commonly on divaricate peduncles almoſt the length of the central umbellule. Spikes ſeveral, linear, acute, ſtriated, ſquarroſe, diſtich, radiating, alternate. Scales commonly ten to fourteen, lanceolate, very ſharp, compreſſed, keeled, reflex at the end, ſomewhat hairy, ferruginous or gray, with the keel green [p].

Native of Tranquebar, and the Cape of Good Hope.

13. Culm three-ſided, flaccid, very weak, a foot high, having two linear ſoft leaves, two inches long, of a browniſh green colour, above the baſe, in other parts naked [q]. Involucre two-leaved, one of the leaflets very long. Spikes numerous, ſeſſile, lanceolate, with ovate, concave, obtuſe ſcales, ſcarioſe on the ſide [r].

Native of India.

14. Peduncles in the umbel very many, umbelluliferous at top; umbel of three or four rays alternately bearing ſpikelets of three-cornered and very obtuſe grains, covered with a ſcarcely diſcernible chaff, and little diſtant from each other [s]. Umbel ſimple, many-rayed: ſome of the peduncles ſhort, others very long, panicled with alternate ſpikelets, each floſcule remote from another, which makes it an elegant plant [t].

Native of India, China, and Japan.

15. This is a large plant, with an even culm. Umbel unequal. General involucre many-leaved, very long; partial ſhorter than the ſpikes, which are all ſeſſile, ferruginous, compoſed of tender, diſtich ſpikelets.

Native of India [u].

16. This has ſo much the ſtructure of the preceding, that perhaps it may be the ſame, only become ſhorter by growing in a colder climate. Spikes heaped and conglomerate, not elongated. This plant, together with Phalaris oryzoides, and Andropogon alopecuroides, was probably brought originally from India to Italy with rice.—Native of Italy [x].

17. Culm a palm in height. Root-leaves erect, wholly ſmooth, the length of the culm. Involucre three-leaved, longer than the culm, except three ſubulate leaflets which are ſhort. Umbel ſimple, with alternate ſeſſile flowers at top, the loweſt pedicelled. Flowers ovate, compreſſed, imbricate in two rows, growing brown by age [y].—In wet places about Verona, and in Piedmont. Annual.

18. Root-leaves from two to three feet and an half in length. Stalk two feet and an half high, with two or three leaves on the top, one whereof is a foot long. Panicle very ſparſe and elegant, made up of many ſpikes, ſome on peduncles three or four inches long, ſome on none, and others of all intermediate lengths; ſpikes compreſſed, broad, one-third of an inch in length, made up of two rows of ferruginous imbricate ſcales.

Native of Jamaica, in the ſea-marſhes, Liguanee [z]. Alſo of the iſland of Santa Cruz.

19. Root long, roundiſh, frequently jointed, reddiſh on the outſide, very odoriferous, creeping and making a large tuft, whence riſe many leaves with a prominent ſharp cutting keel. Stalks two or three feet high, with ſeveral ſmaller leaves towards the top, under the panicle, which is very ſparſe, having, beſides ſome ſhorter ſpikes, many on peduncles, above ſmall leaves, ſome whereof are a foot high; each of the ſpikes being long, very ſmall, roundiſh, pale green.—By river ſides in Jamaica, and moſt of the Caribees [a]. Alſo in Surinam, and the Society iſles.

20. This is known by its green panicle and ſpikes; by its mucronate glumes, not ſpreading, but the ſide edges membranaceous. The partial umbels naked, the univerſal glomerate [b].

Native of Malabar, Jamaica, Virginia, *&c.* in ſandy paſtures.

In the American plant the involucre is *three-leaved*; in that of Malabar *four-leaved*; in that of Ceylon *five-leaved*, and the leaves long [c].

The Jamaica plant is thus deſcribed by Swartz. Culms in a tuft, half a foot high or leſs, three-ſided, naked. Leaves from the baſe of the culm, linear, ſtraight, ſtiff, even. Involucre terminating, three-leaved; leaflets ſpreading, linear, keeled. Umbel decompound. Spikelets ſeſſile, pale green. Peduncles very ſhort, three or four, three-ſided, ſheathed at the baſe. Spikes imbricate in two rows;

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[i] Linn. mant. and Rottb. [k] Rottb. [l] Scopoli. [m] Withering. [n] Linn. [o] Linn. zeyl. [p] Rottboll.

[q] Rottb. [r] Linn. [s] Linn. ſpec. [t] Thunberg. [u] Linn. amoen. [x] Ibid. [y] Linn. mant. [z] Sloane. [a] Ibid. [b] Linn. ſpec. [c] Retz.

glumes compreſſed, keeled, membranaceous at the edge, ovate, acute but not mucronate. Briſtles two, whitiſh, between the ſcales. Anthers bifid. Style trifid: ſtigmas reflex. Seed roundiſh three-cornered, ferruginous and ſhining.

According to Rottböll, the culm is a foot high and ſtriated. Leaves at the baſe about three, ſoft, ſhorter than the culm, glaucous, with purple ſheaths. Involucre of four leaves, of which the largeſt is almoſt twice the length of the umbel. Partial involucres none. Umbel ſimple: rays unequal, from an inch and half to three inches in length, filiform, terminated by digitate ſpikes in fours, with one ſeſſile umbellule in the middle. Spikes lanceolate, diſtich, compreſſed on the ſides, almoſt four-ſided. from three quarters to an inch in length. Scales concave, lanceolate, compreſſed, acuminate, green ſtreaked with purple.

21. Fibres of the root loaded with little tubers. Culms obtuſely three-cornered, ſmooth, from an inch to a hand and a ſpan in height. Root-leaves ſpreading, ſmooth, keeled, two or three inches long, mucronate; beſides theſe there are two or three under the umbel of unequal lengths, narrower than the others, and longer than the umbel. Spikes ſeveral, of different lengths, forming a conglobate umbel, uſually trifid; ſometimes however only one or two ſpikes are ſeſſile at the top of the culm, and then there are only two involucral leaves: the ſpikes are much flattened, and at firſt are of a yellowiſh green, but turn yellow[d].

Native of France, Germany, Switzerland, Carniola, Piedmont.—Biennial, flowering from july to ſeptember. Introduced 1776, by Monſ. Thouin[e].

22. It ſcarcely differs apparently from the foregoing, in having narrower brown ſpikelets, and the leaves more ſcabrous[f].

Culm regularly three-cornered, thicker, higher, and not ſo ſhining. Panicle looſer and more branched. Seed ovate, not ſubcordate and pounced with ſmall holes, as in the foregoing[g]. Spikelets black, ſmaller, and more in number; it agrees with *C. flaveſcens* in every thing elſe[h]. Root annual. Culms a ſpan in height, ſmooth, with two or three leaves at the baſe, which are keeled, ſmooth and the length of the culm. Involucre three-leaved, the loweſt leaf as long as or longer than the culm, the two others longer than the umbel, ſometimes there is a fourth which is very ſhort. Peduncles three-cornered, ſheathed at the baſe: the middle one very ſhort, covered with ſpikelets: theſe are lanceolate-linear, compreſſed, dark brown, and have nine, eleven, or thirteen flowers in each. Glumes keeled, ſharp. Style cloven into two or three. Seed naked[i].

Native of Denmark, France, Germany, Switzerland, Carniola, Piedmont, Egypt. It flowers from july to ſeptember, and was introduced in 1777, by Mr. Thomas Blackie[k].

23. This reſembles C. compreſſus, but is ſhorter, and has the glumes leſs imbricate, and mucronate at the tip. Involucres longer than the umbels. Spikelets ſcarcely alternate and almoſt digitate[l].

Culm about three inches in height, with a few leaves at bottom. Involucre three-leaved, unequal. The head is compoſed of ſeſſile ſpikes, the larger of which have often one or two ſmaller ones at the baſe. Spikelets oblong, compreſſed, bay-coloured, compoſed of from ſixteen to twenty ovate keeled glumes; the keel green continued into a point[m].—Native of India.

24. Culms even, a foot high. Involucre terminating, two-leaved, ſhorter than the ſpike, ſubulate. Spikes terminating, ovate, compreſſed, ancipital, even, acute, with acuminate ſcales; peduncles of the ſide ones longer than the ſpike.—Native of the Eaſt Indies. Perennial[n].

25. Root roundiſh. Culm ſtriated, ſmooth, ſheathed with leaves at bottom, a foot high. Leaves channelled, entire, ſmooth, ſhorter than the culm. Involucre many-leaved, leaves from five to ſeven, unequal, longer than the umbel. Spikes about eight[o]; longiſh, ferruginous, very numerous, horizontal or even deflex[p].

Retzius ſuſpects that this is a ſpecies of Kyllingia.

Native of Barbadoes, Virginia, and Japan, in marſhes.

26. Leaves many, three feet long, near an inch broad at bottom, ending in a point, and making a large tuft. Stalks as thick as the finger, three feet high. Involucre of leaves two feet long, with ſeveral ſhorter. Spikes on three-cornered peduncles of different lengths from ſix inches, ſome branched into two or three, all of which have ſome ferruginous, ſcaly, round, pointed ſpikelets, made up of imbricate ſcales, ſticking cloſe to the tops of the peduncles. Seed browniſh-red and ſhining.

Native of Barbadoes, near Bridgetown[q]. Alſo of Guinea.

27. Involucre eight-leaved, the four outer leaflets broader. Univerſal umbel nearly equal, very copious, with the rays ſheathed at the baſe. Involucels erect, the length of the univerſal umbel. Umbellules with the peduncles in threes, and very ſhort. Spikelets many, alternate, ſubulate, ſeſſile[r].

Native of Egypt, Syria, Calabria, Sicily. According to Strabo, in the lake Thraſimene near Perugia.

Papyrus was called by the Greeks Biblus: in Egypt it has the name of el Berdi, and in Syria it is ſaid to be known by the name of Babeer, which approaches near to the ſound of papyrus and paper.

The general figure of this plant, as Pliny has rightly ſaid, reſembles a Thyrſus; the head is compoſed of many ſmall graſſy filaments, each about a foot long. About the middle, each of theſe filaments parts into four, and in the point, or partition, are four branches of flowers; the head of this is not unlike an ear of wheat in form, but in fact is but a chaffy, ſilky, ſoft huſk. Theſe heads, or flowers grow upon the ſtalk alternately, and are not oppoſite to, or on the ſame line with each other at the bottom.

Pliny ſays the Papyrus has no ſeed. It is very ſmall, and by its exalted ſituation, and thickneſs of the head of the flower, ſeems to have needed the extraordinary covering it has to protect it from the violent hold which the wind muſt have upon it. For the ſame reaſon the bottom of the filaments compoſing the head are ſheathed in four concave leaves, which keep them cloſe together, and prevent injury from the wind getting in between them.

The ſtalk is of a vivid green, and of a triangular form. It has but one root, which is large and ſtrong. Pliny ſays, as thick as a man's arm; ſo it probably was when the plant was fifteen feet high; but the whole length of the ſtalk, comprehending the head, being little more than ten feet, in the plants we now find, it is leſs in proportion. In the middle of this long root ariſes the ſtalk at right angles, the whole inverted having the figure of a T. From each ſide of the large root proceed ſmaller elaſtic ones (or fibres) in a direction perpendicular to it, and which, like the ſtrings of a tent, ſteady it and fix it to the earth at bottom. About two feet or little more of the lower part of the ſtalk is cloathed with long, hollow, ſword-ſhaped leaves, covering each other like ſcales, and fortifying the foot of the plant: they are of a duſky brown or yellow colour.

It grows in the lakes of Ethiopia and Egypt; in the river Jordan between Paneas, and the lake of Tiberias; and at the confluence of the Tigris and Euphrates: but it was probably not propagated into Aſia and Greece, till the uſe of it, as manufactured into paper, was firſt known. It does not grow in the body of the Nile itſelf, but in the caliſhes or places into which the river overflows and is ſtagnant. The head is too heavy, the ſtalk too ſlender, tall and feeble, the root too ſhort and ſlender, to reſiſt the violent preſſure of wind and current in an open plain country, and a deep rapid river.

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[d] Scopoli, Pollich, Krocker. [e] Hort. kew. [f] Linn. ſpec.
[g] Scopoli. [h] Pollich. [i] Leers. [k] Hort. kew.
[l] Linn. amoen. [m] Gærtner. [n] Linn. mant.

[o] Thunberg. [p] Linn. ſpec. [q] Sloane. [r] Linn. ſyſt.

The Papyrus ſeems to have come down very early from Ethiopia, and to have been uſed in upper Egypt immediately after the diſuſe of hieroglyphics. According to Varro, it came not into general uſe in Greece, till after the conqueſt of Egypt by Alexander; yet it is plain from Anacreon, Alcæus, Æſchylus, and the comic poets, that it was known in their time. Plato and Ariſtotle ſpeak of it, and ſo do Herodotus and Theophraſtus. We alſo know that it was of old in uſe among the Ionians, who probably brought it in very early days directly from Egypt. Numa, who lived three hundred years before Alexander, is ſaid to have left a number of books written on Papyrus.

The ancients divided the plant into three parts. The top, with the thyrſe of flowers, adorned the temples, and crowned the ſtatues of the gods. Ageſilaus preferred being crowned with this to any other, on account of its ſimplicity. Antigonus made uſe of nothing elſe but the ſtalk for ropes and cables to his fleets, before the uſe of Spartum was known; which, though very little better, ſtill ſerves that purpoſe in ſmall ſhips on the coaſt of Provence to this day. The top of the Papyrus was likewiſe uſed for caulking the veſſels, by forcing it into the ſeams, and afterwards covering it with pitch.

Pliny tells us that the whole plant together was uſed for making boats, a piece of the Acacia-tree being put in the bottom to ſerve as a keel

> "Conſeritur bibula Memphitis cymba papyro."

And this is ſtill the only boat which they have in Abyſſinia; they call it Tancoa. Probably the junks of the Red ſea, ſaid to be made of leather, were firſt built with Papyrus and covered with ſkins.

The bottom, root or woody part of this plant, before it turned hard, was chewed for the ſweet juice contained in it. This is ſtill practiſed in Abyſſinia, where they likewiſe chew the root of Indian corn, and of every ſort of Cyperus. Herodotus tells us, that about a cubit of the lower part of the ſtalk was roaſted over the fire and eaten.

On account of the great ſcarcity of wood in Egypt, this lower part was likewiſe uſed in making cups, moulds, and other utenſils; alſo for boards or covers to their books.

Paper was made after the following manner: the thick part of the ſtalk being cut in half, the pellicle between the pith and the bark, or perhaps the two pellicles were ſtripped off, and divided by an iron inſtrument, which probably was ſharp-pointed, but did not cut at the edges. This was ſquared at the ſides ſo as to be like a ribband, then laid upon a ſmooth table or dreſſer, after being cut into the length that it was required the leaf ſhould be. Theſe ſtripes, or ribbands, were lapped over each other by a very thin border, and then pieces of ſame kind were laid tranſverſely, the length of theſe anſwering to the breadth of the firſt. A weight was then laid on them while moiſt; and they were thus left to dry in the ſun.

It was ſuppoſed that the water of the Nile had a gummy quality in it; but this is without foundation: the ſaccharine juice of the plant cauſes the adheſion of the ſtripes, and the water only ſerves to diſſolve and diffuſe this[s].

Paper, ſays the Abbé Rochon, is manufactured in Madagaſcar from the Papyrus, which the natives call *Sanga-Sanga*. They pull off with great dexterity the inner bark; divide it into very thin filaments, which they moiſten with water; and having laid them acroſs each other, in various directions, preſs them well down. They are then boiled in a ſtrong lye of aſhes, and afterwards pounded in a large wooden mortar till they are reduced to a paſte. This paſte is waſhed and drenched with water upon a frame made of bamboos in the form of a grate. When this operation is finiſhed, the leaves are ſpread out to dry in the ſun, and are glazed with a decoction of rice water. This paper is of a yellowiſh colour; but when it is well glazed, it does not imbibe the ink. The pens uſed by theſe iſlanders are made of the bamboo. Their ink is made from a decoction in boiling water of the bark of a tree, which they call *Arandrato*. It is not quite ſo black as ours, but more ſhining. The art of writing was doubtleſs brought into the iſland by the Arabs, who made a conqueſt of it about three hundred years ago. But the Abbé Rochon calls the Papyrus nilotica a tree! We cannot therefore tell what material this Madagaſcar paper is made of.

28. Size of the Sugar-cane. Sheaths large, one-leafed, alternate, deciduous, involving the flowering racemes. Native of Virginia and the Cape of Good Hope. Perennial[t].

29. Perennial. Culms a foot high. Leaves at the top crowded, enſiform, half a foot long, even, roughiſh at the edge. A ſmall ſubulate bracte from each axil. A filiform peduncle, four times ſhorter than the leaf, from the axil of each leaf, terminated by an ovate ſpike. A few pedicels ſpring from the baſe of the ſpike, bearing at top a ſimilar ſpike: and therefore no umbel[u].

Native of the iſland of Madagaſcar. It flowers in february and march; and was introduced in 1781, by Monſ. Thouin[x].

30. Culm two feet high, with one ſheath in the middle of it. Umbel compound, not much expanded. Univerſal involucre with the rays ſcarcely manifeſt, and indeed hardly any; partial none. Spikes oblong, purpliſh, with a green keel, ſpreading a little at top.

Native of the Cape of Good Hope[y].

31. Root tuberous. Culm two feet high, three-ſided, ſtriated, yellowiſh. Leaves alternate, lanceolate, keeled, reflex, glaucous, inveſting the lower half of the culm with their ſheaths. General involucre of ſeveral lanceolate unequal leaves, the largeſt of which are much longer than the umbel. Partial involucres two to four-leaved, linear or linear-briſtle-ſhaped, ſhorter than the umbellules. Central umbellule in the firſt and ſecond diviſion ſubſeſſile: rays of the firſt diviſion about ten, unequal, the largeſt a ſpan long, the leaſt ſcarcely an inch and half: rays of the ſecond diviſion about five, an inch and half and two inches long: rays of the third diviſion about three, lengthened out into peduncles having ſpikes their whole length, of which the middle one is longeſt, being almoſt two inches long; and ſometimes trifid. Spikes about ten, looſe, very ſlender, ſpreading out horizontally, almoſt an inch long: ſcales many (about twenty-eight), very ſmall, alternate, ſpreading, oblong, bluntiſh, ferruginous with a ſtriated green keel. It varies with much ſhorter ſpikes, and an umbel only twice divided, or even ſometimes ſimple[z].

Native of Malabar.

32. Root annual. The whole plant ſmooth and ſhining. Culms in a very thick tuft, from half an inch to ſix inches in length, leafleſs. Root-leaf ſheathing, much ſhorter than the culm, linear, channelled. Involucre of two, ſeldom of three leaves, unequal, longer than the ſpikelets; which are ovate-oblong, in a ſort of umbel, blunt, compreſſed, ſlightly incurved. Scales membranaceous, roundiſh, blunt, pale with green ſtreaks. Seeds pale bay, ſmooth[a].

Native of Hungary. Flowering in july and auguſt. Annual. Introduced 1781, by Abbé Pourret[b].

33. Native of Jamaica. Flowering from may to auguſt. Perennial. Introduced 1781, by Monſ. Thouin[c].

34. Root-leaves filiform, twice as long as the culm, which is ſtriated and ſcarcely an inch and

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[s] Bruce Abyſſ. vol. 5. p. 1, &c.

[t] Linn. ſpec.

[u] Linn. mant.

[x] Hort. kew.

[y] Linn. ſuppl.

[z] Rottboll.

[a] Jacquin.

[b] Hort. kew.

[c] Ibid.

half in height. Umbel with five or ſix umbellulate peduncles. Spicules of the umbellules four to ſix, lanceolate, compreſſed, pale, in the middle reddiſh brown, with keeled glumes, ending in a ſmall daggered point. Involucre four-leaved, three times as long as the umbel.

Native of the ſands of Tranquebar.

Is not this the ſame with C. ſquarroſus of Rottböll: and is not C. ſquarroſus of Linneus (n. 12.) a different plant?

35. Roots jointed, creeping, from which proceed bunches of leaves ſheathed at the baſe. Leaves filiform, naked, from three to ſix inches long, compreſſed, ſtriated, channelled on one ſide, yellowiſh green. Culm ſolitary from the bunch of leaves, ſtriated, and ſomewhat higher than the leaves. Head ſeſſile compoſed of ſpikelets from eight to twelve. Spikelets thick, compreſſed, diſtich, compoſed of broad-ovate, boat-ſhaped, ſtriated, brown ſcales edged with white. Involucre longer than the head, compreſſed; there is often another leaf ſhorter than the head.

Native of the Eaſt Indies in looſe ſand[d].—This ſeems to be the ſame with C. lævigatus, n. 7.

36. Culm four inches long, compreſſed, with a leaf or two at the baſe, and a bunch of leaves in the middle; thoſe at the baſe much broader, and a little higher than the culm. Head globular, compoſed of ſeſſile linear-oblong ſpikelets. Glumes imbricate, ſcarioſe, ending in a recurved daggered point ſomewhat awned.—Probably native of the Eaſt Indies[e].

37. Root bulbous. Leaves narrow, linear, complicate, a hand or half a foot in length. Culm a ſpan in height. The umbel has only one ſubſeſſile umbellule, and about three that are peduncled, having from three to five ſpikelets, which are red, and have imbricate glumes. Involucre one or two-leaved, the longer an inch and half in length, the ſhorter half an inch long. Beſides theſe there is another leaf or two ſtill ſhorter; they are all ſubulate and ſtriated.—Native of Tranquebar in the Eaſt Indies[f].

38. Culm two feet and an half high. Leaves long, unarmed, looſe. Peduncles of the umbellules flexuoſe. Involucre longer than the umbel. Scales in place of the partial involucre lanceolate, with a long filiform tip. Spikelets not filiform, but compreſſed, and linear.

Native of Tranquebar[g].

39. Root annual. Culms three feet high and more, ſolitary, leafy at the baſe, naked above. Leaves longer than the culm, near half an inch broad, plaited, with an unarmed keel; edge of the upper part rough. Leaves of the involucre plaited, with the keel unarmed; the outmoſt from one and an half to two feet in length, the reſt ſhorter, and the fifth only two inches long. Umbel formed of compound heads, three on compreſſed peduncles; five or more ſeſſile, with a ſubulate involucel under each. Heads ovate, compound, cinnamon-coloured. Spikelets heaped, compreſſed, diſtich, linear. Scales oblong, imbricate, obtuſe, the keel green; theſe are from ſix to nine in number[h].

40. This very much reſembles *Scirpus acicularis*. Culms in bunches three or four inches long, very ſlender. Leaves none. Glumes purpliſh. Style trifid. Seed whitiſh, turbinate, ſomewhat wrinkled; the angles riſe above the ſeed with a truncate dagger-point.—Frequent about Calcutta.

41. Culm two feet high and more. Leaves nearly as long as the culm, linear, with purpliſh ſheaths, the edge and keel unarmed, ſtriated. The longeſt leaf of the involucre a foot and half in length, the ſhorteſt three inches, all ſcabrous about the edge. Umbellules three or five-rayed. Involucels the number of the rays, ſhorter than the heads, ciliate. Heads compact of very ſpreading ſpikes, of a linear-ſubulate form, and ferruginous colour. Spikes ſeſſile, half an inch long, a line broad, ſeem twiſted, uſually ſix-flowered. Scales ſubulate with converging edges, ſtriated, purpliſh with a green keel. Stigmas three, villoſe.—Sent from China by Oſbeck[i].

42. Culms a foot high, with brown truncate ſheaths at the baſe. One or two root-leaves, ſhort and narrow. Head compoſed of a few ſeſſile ſpikes placed an inch and half from the end of the culm. Involucre ſcarcely longer than the ſpikes. Scales ovate, acute, convex, whitiſh.—Native of Viſagapatnam, in the Eaſt Indies[k]. Compare Rottb. 19. t. 8. f. 4.

43. Culm ſix feet high. Umbel terminating, four inches long. Involucre of many ſhort, acute leaves. Peduncles compreſſed. A lanceolate, whitiſh, involucel under each partial peduncle. Spikelets acute, pale, having about twelve flowers. Scales imbricate, ovate, acute, ſtriated. Styles three, with villoſe ſtigmas.—Eaſt Indies[l].

44. Root bulbous, oblong. Culms half a foot high. Leaves even, half the length of the culm. Head ſmall, ſnow-white. Spikes eight to twelve ſeſſile, broad-ovate. Scales linear, compreſſed, the loweſt long, the upper ones gradually ſhorter, obtuſe, ſtriated. Stigmas three villoſe. Seed long, linear, black.—Eaſt Indies[m].

45. Culm five feet high, ſtriated. Root-leaf near three feet long, flat, ſtriated, rough about the edge. Umbel more than a foot high, faſtigiate. Involucre many-leaved; the longeſt leaf two feet in length, the others decreaſing to an inch, all rough about the edge. Umbellules many-rayed, the rays unequally divided and compounded: involucels unequal in number, ſhort, filiform. Spikelets compreſſed, ferruginous on the ſides, having twenty flowers in them: there are two minute ſcales at the baſe of the pedicels. Scales compreſſed, acute, keeled. Seed white.——Tranquebar in the Eaſt Indies[n].

46. Culms a foot and half in height, ſtriated. Root-leaves few, ſhort, narrow; ſheath entire, with a ſhort, obtuſe ligule, oppoſite to the leaf. Umbel compoſed of ſnow-white ſpikes, uſually ſeſſile. Involucre reflex, longer than the head. Spikes half an inch in length, with thirty flowers in ſome. Glumes compreſſed, keeled, ſtriated. Seed black, like Buckwheat.—Eaſt Indies[o].

47. Umbel unequal, four inches long; ſome of the umbellules ſeſſile, others on peduncles of three inches and an half in length. No involucels. Spikelets convex on both ſides, compreſſed longitudinally in the middle, lanceolate, ſcarcely two inches long, having from twelve to twenty flowers, yellowiſh brown and pedicelled. Scales imbricate, broad-ovate, acute, with membranaceous edges. Stamen one. Stigma trifid.—Tranquebar, in the Eaſt Indies[p].

48. Culm four or five inches high, filiform. Leaf linear ſhorter than the culm. Spikelets from two to ten, lanceolate, ſanguineous-brown, two or three lines long. Involucre two-leaved, four times as long as the umbel. Scales imbricate, boat-ſhaped, bluntiſh. Stigmas three duſky purple. Seed convex on both ſides, dark purple, with a ſharp edge.—Tranquebar[q].

49. Culms many, an inch or two in height. Leaves two to four, linear, longer than the culm. Umbel glomerate; ſome of the ſpikes ſimple, others forming an almoſt ſeſſile umbellule. The longeſt leaf of the involucre an inch and half in length, the others gradually ſhorter. Spikelets linear, narrow, ſhining, whitiſh but longitudinally brown in the middle, with the ſcales diverging at top, and from ten to fourteen flowers. Scales ovate, compreſſed, keeled, ſtriated, hyalinous with a green keel, obtuſe with an acumen. Stamen one. Seed aſh-coloured. This approaches to *C. ſquarroſus*, but the ſpikelets are of a different colour, twice as broad with the tips of the ſcales ſhorter and leſs divaricated;

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[d] Retz. [e] Ibid. [f] Ibid. [g] Ibid. [h] Ibid.

[i] Retz. [k] Ibid. [l] Ibid. [m] Ibid. [n] Ibid. [o] Ibid. [p] Ibid. [q] Ibid.

nor are the partial umbels peduncled.——Tranquebar[r].

50. Culms half a foot in height, one-leafed. Root-leaves in bunches, ſhort, narrow. Some ſpikes of the umbel ſeſſile, others in umbellules. Involucre erect, three or four times as long as the umbel, linear. About twenty-ſix flowers in the ſpikes. Scales ſcarioſe, purpliſh on the ſides, ſeparate, narrow.—From Tranquebar[s].

Theſe were all ſent from the Eaſt Indies, by König, and are deſcribed by Retzius from the dried ſpecimens.

51, 52, 53. are natives of the Society iſles[t].]

PROPAGATION AND CULTURE.

9. 11. Cyperus longus and rotundus may both be propagated by dividing the roots in the ſpring. The firſt of theſe, if planted in a warm ſituation, will thrive in the open air. The ſecond being more tender, the roots ſhould be planted in pots, and ſheltered in winter. [Very few others have yet been introduced into cultivation here. Moſt of them are natives of the Eaſt or Weſt Indies, and therefore will require the protection of the bark ſtove.

CYPERUS. See *Carex, Dorſtenia, Eriophorum, Schoenus, Scirpus, Spinifex.*

CYPHIA. See *Lobelia.*

CYPRESS. See *Cupreſſus.*

———, Summer. See *Chenopodium.*]

CYPRIPEDIUM. (*From* Κυπρις, *Venus, and* ϖοδιον, *a ſhoe or ſlipper.*)

Engl. *Ladies-Slipper.*
Fr. *Sabot.*

Lin. gen. n. 1015. *Reich.* 1100. *Schreb.* 1376. *Juſſ.* 65. *Calceolus. Tourn.* 249.

Claſſ. 20. 1. Gynandria Diandria.

Nat. order of *Orchideæ.*

GENERIC CHARACTER.

CAL. *Spathes* vague. *Spadix* ſimple.
Perianth none.

COR. *Petals* four or five, lanceolate-linear, very long, ſpreading, erect.
Nectary within the lower petal, ſlipper-form, inflated, obtuſe, hollow, ſhorter than the petals, broader: *upper lip* ovate, flat, inflex, ſmall.

STAM. *Filaments* two, very ſhort, ſeated on the piſtil. *Anthers* erect, covered by the upper lip of the nectary.

PIST. *Germ* long, twiſted, inferior: *Style* very ſhort, growing to the upper lip of the nectary: *Stigma* obſcure.

PER. *Capſule* obovate, obtuſely three-cornered: with three futures, under which it gapes in the corners, three-valved, one-celled.

SEEDS numerous, very ſmall. *Receptacle* linear, growing lengthwiſe to each valve of the pericarp.

ESSENTIAL CHARACTER.

Nectary ventricoſe, inflated, hollow.

SPECIES.

1. Cypripedium Calceolus. *Common Ladies-Slipper.*
Lin. ſpec. 1346. *ſyſt.* 817. *Reich.* 4. 33. *fl. lapp.* 318. *ſuec. n.* 820. *Hudſ. angl.* 392. *With.* 1001. *Hall. helv. n.* 1300. (Calceolus). *Gmel. ſib.* 1. 2. *t.* 1. *Gron. virg.* 135. *Mill. fig. t.* 242. *Sowerb. engl. bot. t.* 1. *Villars dauph.* 2. 54. *Saliſb. Linn. tranſ.* 1. 76. *t.* 2. *f.* 1.
Calceolus marianus. *Dod. pempt.* 180. *f.* 1, 2. *Lob. ic.* 1. 312. 3. *Ger.* 359. *emac.* 443. 1, 2. *Raii ſyn.* 385. *Baub. hiſt.* 3. 518. Damaſonium.) *Pet. herb. brit. t.* 70. *f.* 4. *Beſl. eyſt. vern.* 8. 6. *f.* 1.
Helleborine fl. rotundo, ſ. Calceolus. *Baub. pin.* 187. *Raii hiſt.* 1232. *Mor. hiſt.* 3. *ſ.* 12. *t.* 11. *f.* 14.
Elleborine major ſ. Calceolus mariæ. *Park. theat.* 217. 3.
β. *Pluk. mant. t.* 418. *f.* 2. *Mor.* 3. 488. *ſ.* 12. *t.* 11. *f.* 15. Helleborine.
C. bulboſum. *Mill. dict. n.* 2.—parviflorum. *Saliſb. Linn. tranſ.* 1. 77.
γ. *Corn. canad.* 204. (Calceolus). *Mor. f.* 17. Helleborine. *Raii hiſt.* 1232. 13.
C. hirſutum. *Mill. dict. n.* 3.
δ. *Amm. ruth.* 133. *t.* 22. *Gmel. ſib.* 1. 5. Calceolus.
Roots fibrous, leaves ovate-lanceolate on the ſtem, petals acuminate.

[2. Cypripedium bulboſum. *Bulbous Ladies-Slipper.*
Lin. ſpec. 1347. *ſyſt.* 817. *Reich.* 4. 34. *Fl. lapp. n.* 319. *t.* 12. *f.* 5. *ſuec. n.* 821. *Gmel. ſib.* 1. 7. *t.* 2. *f.* 1. (Serapias). *Rudb. elyſ.* 2. 209. *f.* 10. *Smith. ſpicil. t.* 11.
Bulb roundiſh; leaf roundiſh at the root.

3. Cypripedium japonicum. *Japoneſe Ladies-Slipper.*
Lin. ſyſt. 817. *Thunb. jap.* 30.
Leaves on the ſtem roundiſh, nearly oppoſite, nerved.

4. Cypripedium album. *White Ladies-Slipper.*
Ait. hort. kew. 3. 303. *Curt. mag. t.* 216. *Pluk. mant. t.* 418. *f.* 3. (Helleborine).
C. hirſutum. *Mill. dict.*
C. ſpectabile. *Saliſb. Lin. tranſ.* 1. 78. *t.* 3. *f.* 3.
Roots fibrous, leaves ovate-lanceolate on the ſtem, petals obtuſe.

5. Cypripedium acaule. *Two-leaved Ladies-Slipper.*
Ait. hort. kew. 3. 303. *Curt. magaz. t.* 192. *Pluk. mant. t.* 418. *f.* 1. *Cateſb. car. app.* 3.
C. humile. *Tranſact. Lin. ſoc.* 1. 79. *t.* 3. *f.* 4.
Roots fibrous, leaves oblong at the root.]

DESCRIPTIONS, *&c.*

1. Root compoſed of many fleſhy black fibres, ſpreading obliquely near the ſurface; the fleſhy part retaining the mark of the ſtalk produced the former year: a new root being annually formed on the ſide of the old one. Stalks two, three or more, in proportion to the ſtrength of the root, nine, ten or twelve inches high, and a little hairy. Leaves from three to near four inches long, and near two inches broad at their baſe, of a deep green, and ending in acute points. Four or five of theſe leaves are placed alternately along the ſtalk. In the boſom of the upper leaf is incloſed the flower-bud, ſupported by a ſlender peduncle, which generally turns a little on one ſide; and before the flower opens, advances above the ſheath. The corolla has four narrow petals, of a dark purple colour, placed in form of a croſs, and ſpreading wide open. In the centre is ſituated the nectary, ſhaped like a wooden ſhoe, of a pale yellow colour, with a few broken ſtreaks: the opening is covered with two ears; the upper one tender, white, and ſpotted with purple; the lower thick, and of an herbaceous colour[a].

[The lower leaves ſheath, the upper embrace the ſtem; they are marked with ſeven or nine principal parallel nerves, and very numerous intermediate ones, fringed with ſhort hairs on both ſides. Upper part of the ſtem and the germ downy. No bracte, unleſs the upper leaf, from the boſom of which the peduncle ariſes, be called ſo. The upper petal broad, the two middle ones narrow, the loweſt ſhorteſt, hanging over the opening of the lip, all longer than the lip, ſlightly downy, marked with parallel veins; lip very large, curved, rounded at the bottom, and the margins contracted, pale yellow within, marked with deep orange hairy lines. Seed-veſſel erect, about an inch long, ſomewhat priſm-ſhaped, with three flat ſides, and three ribbed angles[b].

Native of Lapland, Sweden, Switzerland, Savoy, Piedmont, Germany, Hungary, Poland, &c. In the north of England, in woods and thickets, but rare.—Parkinſon and Ray remarked it to grow in Helk's wood, Lancaſhire, near Ingleborough, Yorkſhire: but Mr. Woodward has ſearched for it there in vain; a gardener of Ingleton having eradicated every plant for ſale.] Mr. Miller found it in the park of Borough-hall, in Lancaſhire, the ſeat of the late Robert Fenwick, Eſq.—[About Clapham and Ingleton in Yorkſhire. In the neighbourhood of Kilnſay; and about Kilſey-Crag, Wharſdale, both in Yorkſhire; and Caſtle-Eden-dene in the county of Durham.—Gerarde had a plant of it in his garden, which he received from his very good friend Maſter Garret, an apothecary. It was not then known to grow wild in England.

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[r] Retz.

[s] Ibid.

[t] Forſter.

[a] Mill. dict. & fig.

[b] Woodw. Mſs.

Johnſon adds, that it was reported to grow in the north parts of this kingdom; and that he ſaw it in flower with Mr. Tradeſcant. Its old name in Engliſh was *Our Ladies ſhoe* or *ſlipper*, from the latin, *Calceolus D. Mariæ*, or *Marianus*. It is the ſame in the other European languages. In German, *Marienſchuh*. In French, *Sabot de la Vierge*, or *Soulier de Notre-Dame*. In Italian, *Pantoffala* or *ſcarpa della Madonna*, &c.]

It flowers the end of may, and the ſtalks decay to the root in autumn, new ones riſing the following ſpring.

β. The ſtalks riſe near a foot and half high; it has longer and ſmoother leaves than the European. The two ſide petals of the flower are long, narrow, terminate in acute points, and the ſides are waving. The nectarium is oblong and narrower, yellow, ſpotted with browniſh red. Native of Virginia, and other parts of North America.

γ. This riſes a foot and half high. The leaves are of an oblong oval form, and deeply veined. The flower is large, of a reddiſh brown colour, marked with a few purple veins. It flowers the end of may.

Native of America, where it is called Moccaſin flower. [Theſe are thought to be diſtinct ſpecies. This is probably the ſame with our fourth; but *bulboſum* of Miller does not correſpond with our ſecond.

2. Root a bulb, throwing out a few thick fibres from its lower part, and inveſted with a ſemi-tranſparent, acute, erect membrane, riſing far above its top. Leaf radical, ſolitary, petioled, oval, ſomewhat pointed, entire, ribbed, ſmooth, dark green, ſpotted with brown, very like the Dog's-tooth Violet. Stalk three inches high, erect, round, one-flowered, inveſted with two tubular, membranous ſheaths. Bracte ſolitary, not far from the flower, linear-lanceolate, acute, purpliſh. Flower a little inclined. Petals five, all pointing upwards, ſpreading, lanceolate, acute, three-nerved, purple, three on the outſide of the other two. Lower lip of the nectary as long as the petals, very large, pendulous, ſtreaked with purple, having a prominent cloven point in the fore-part beneath, gaping above, with a ſpreading, reflex, dependent margin, and bearded in the orifice with a little tuft of yellow hairs; the upper lip ſhorter than the petals, erect, broad-oval, entire, almoſt of the ſame ſubſtance and colour with the petals[c].

Native of Lapland, Ruſſia, Siberia, and Nova Scotia.

3. Stem round, erect, villoſe, a foot high. Leaves in the middle of the ſtem two, embracing, acute, ſinuate-waved, ſmooth, a hand broad. Below the flower a ſeſſile, ſolitary, oblong, acute, entire leaflet, ſcarcely an inch in length. Flower terminating, ſolitary, the ſize of that of the common ſpecies. Native of Japan, flowering in april and may[d].

4. This ſpecies derives its name from the whiteneſs of its petals. The large nectary is tinged with purple. It is the moſt magnificent of the genus; whence Mr. Saliſbury has called it *ſpectabile*: indeed there are few flowers which to ſuch ſingularity of ſtructure add ſuch elegance and beauty. It grows ſpontaneouſly in various parts of North America, chiefly in the woods. In the catalogue of the royal garden at Kew, it is ſaid to have been introduced there by Mr. William Young, about the year 1770, but it was known to Mr. Miller, and cultivated by him at Chelſea, long before that period[e]; if it be his *hirſutum*.

5. Has rarely more than two radical leaves, a very ſhort flowering ſtem compared with the others, a large nectary in proportion to the ſize of the plant, divided on its upper part, through its whole length, ſo as to deſtroy in a great degree that ſhoe or ſlipper-like form from which this genus has taken its name. It flowers with us in may[f].—Native of North America. Introduced in 1786, by William Hamilton, Eſq.[g].]

PROPAGATION AND CULTURE.

All theſe ſorts are with ſome difficulty preſerved in gardens; they muſt be planted in a loamy ſoil, and in a ſituation where they may have the morning ſun only. They muſt be procured from the places where they naturally grow, for they cannot be propagated in gardens. The roots ſhould be ſeldom removed, for tranſplanting them prevents their flowering.

[Our Engliſh ſort ſucceeds very well in a pot, ſet under a hedge, where it has the morning ſun only, and will laſt thus many years. The roots will ſpread ſo as to fill the pot, and the plant may be propagated by parting the roots, but it muſt be done with caution. The American ſorts require a little ſhelter in ſevere weather.

The gardeners (ſays Dr. Stokes) might make the botaniſts amends for rooting out theſe rare wild plants in their natural places of growth, and at the ſame time enrich themſelves, if they would prove by experiment that one at leaſt of the Orchis tribe may be raiſed from ſeed[h].

Cypripedium. See *Arethuſa*, and *Ophrys*.

Cyprus. See *Lawſonia*.

CYRILLA. (*So named by L'Heritier, in honour of Dominico Cyrillo, M. D. Profeſſor of Medicine at Naples, author of Plantæ rariores regni Neapolitani, &c.*)

L'Herit. ſt. nov. 6. 147. *t.* 71.

Claſſ. 14. 2. Didynamia Angioſpermia.

Nat. order of *Perſonatæ*.

GENERIC CHARACTER.

Cal. *Perianth* ſuperior, five-leaved, permanent: *leaflets* linear-lanceolate, acute, ſpreading.

Cor. one-petalled, funnel-form: *tube* cylindric, ſubcompreſſed, inflated, declined-ſtraight, longer than the calyx: *border* almoſt equal, inclined, five-parted; parts rounded, revolute, ſpreading, the three lower more produced.

Stam. *Filaments* four, the two lower longer, filiform, then capillary incurved-converging, finally ſpiral, thickened at the baſe, inſerted into the lower margin of the corolla, ſhorter than the tube. *Anthers* ovate, two-celled, peltate, diſtinct before flowering time, but afterwards united into a ſquare, white.

Pist. *Germ* half emerging, conic at top, with a nectareous lid, below turbinate, villoſe. *Style* filiform, pubeſcent, becoming bent down, the length of the ſtamens. *Stigma* two-lobed.

Per. *Capſule?* turbinate, half-two-celled: *partitions* two, extending half way, each ending in a two-parted receptacle.

Seeds numerous, ſmall.

ESSENTIAL CHARACTER.

Cal. ſuperior, five-leaved, linear-lanceolate. *Cor.* declined, funnel-form: tube cylindric, gibbous on its lower edge: throat tricallous: border inclined, five-parted; ſegments roundiſh, the three lower more produced. *Filaments* inſerted into the margin of the corolla, incurved, with a fifth barren. *Anth.* cohering. *Germ* inferior, half emerging, with a nectareous lid. *Style* bent down. *Stigma* two-lobed. *Capſ.* half-two-celled, with two-parted receptacles. *Seeds* numerous.

SPECIES.

1. Cyrilla pulchella.

L'Herit. ſtirp. nov. 6. 147. *t.* 71. *Brown. jam.* 271. *t.* 30. *f.* 1. (Achimenes).

DESCRIPTION, *&c.*

This is a handſome plant. Root branched, fibroſe, ſtoloniferous. The young ſhoots reſemble aments or catkins, are cylindric, and cloſely imbricate, with ovate pubeſcent ſcales, thickened at the baſe, emarginate and red. Stems ſeveral, almoſt upright, branched, round, extremely villoſe, duſky purple, herbaceous: branches ternate, ſpreading. Stem-leaves in threes, on the branches uſually oppoſite, petioled, ovate or ovate-lanceolate, ſharp at both ends, looſely ſerrate, entire at the baſe, with nerves prominent below, grooved above, villoſe on both ſides, bright green, beneath paler, and very frequently blood-red. Petioles round on one ſide, on the other flattiſh and ſlightly channelled, one third only of the length of the leaves. Flowers reſembling thoſe of *Ruellia*, axillary, ſolitary, peduncled, inclined, red. Peduncles ſpreading very much, round, villoſe, red, twice the length of the petioles. Calyx villoſe, ending in a turbinate germ, red at the baſe. Tube of the corolla pubeſcent: throat tricallous at bottom; with oblong tubercles, hollowed outwards, each oppoſite to each ſegment. Beſides the four fertile filaments, there is a fifth ſuperior to and ſhorter than the others, which has no anther. This plant is diſtinguiſhed from *Geſneria* by its funnel-form corolla, with a cylindric ſtraight tube, and a flat almoſt equal border.

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[c] Smith ſpicil.

[d] Thunberg.

[e] Curt. magaz.

[f] Curt. magaz.

[g] Hort. kew.

[h] With. Arr.

Native of Jamaica[a]. Browne obſerved it near Hope-river, in the lower mountains of Liguanea. It flowers here at the end of ſummer and the beginning of autumn.

PROPAGATION AND CULTURE.

It muſt be kept in the bark ſtove, and may be propagated by ſuckers. It never produces ſeed here. It deſerves to be cultivated in the Weſt-Indies for its beauty and elegance. There it thrives beſt in a cool moiſt gravel, mixed with rich mould[b].

Cyrilla racemiflora. See *Itea.*

CYRTANDRA. See *Beſleria.*

CYRTANTHUS. (*From* κυρτος *bent, and* ανθος *a flower.*)

Ait. hort. kew. 3. 510.

Claſſ. 6. 1. Hexandria Monogynia.

Nat. order of *Spathaceæ. Narciſſi.* Juſſ.

GENERIC CHARACTER.

CAL. none.

COR. one-petalled, club-ſhaped, bent, ſix-cleft at top: ſegments ovate-oblong; the three inner blunt, the three outer terminating in a little horn.

STAM. *Filaments* ſix, faſtened to the tube, filiform-ſubulate, a little ſhorter than the corolla. *Anthers* oblong, erect.

PIST. *Germ* inferior, ovate, obtuſely three-cornered. *Style* filiform, the length of the *corolla. Stigma* trifid.

ESSENTIAL CHARACTER.

Cor. tubular, club-ſhaped, crooked, ſix-cleft; ſegments ovate-oblong. *Filam.* inſerted into the tube, converging at top.

SPECIES.

1. Cyrtanthus anguſtifolius. *Narrow-leaved Cyrtanthus.*
Ait. hort. kew. 1. 414. *Curt. magaz.* 271.
Crinum anguſtifolium. *Linn. ſuppl.* 195.
Leaves obtuſely keeled, ſtraight, flowers drooping.

2. Cyrtanthus obliquus. *Oblique-leaved Cyrtanthus.*
Ait. hort. kew. 1. 414.
Crinum obliquum. *Linn. ſuppl.* 195.
Amaryllis Umbrella. *L'Herit. ſert. angl.* 15. *t.* 16.
Leaves flat, oblique, flowers pendulous.

DESCRIPTIONS, &c.

1. Flowers narrow, purple, with a bent tube[c]; from which latter circumſtance it takes the name. The ſmall glandular hook at the extremity of each alternate ſegment of the corolla is deſerving of notice[d].

2. This is ſingular for its long oblique leaves. Flowers purple[e]: tube turbinate, border bell-ſhaped, erect[f].

Theſe are both natives of the Cape of Good Hope, where they were found by Thunberg and Maſſon. They were introduced at Kew in 1774, and flower from may to july.

PROPAGATION AND CULTURE.

Theſe plants may be increaſed by off-ſets or ſeeds, and require the ſame treatment as other bulbs from the Cape[g]. See CRINUM and AMARYLLIS.

CYRTANTHUS Schreb. See *Ignatia.*]

CYSTICAPNOS. See *Fumaria.*

[CYTINUS. (*Theophraſtus calls the flowers of the Pomgranate* Κυτινοι.)

Lin. gen. n. 1232. *Reich.* 1115. *Schreb.* 1384. *Juſſ.* 73. *Hypociſtis. Tourn. inſt.* 477. *Thirſine. Gleditſch. verm. abhandl. T.* 1. 226. *Tab.* 2.

Claſſ. 20. 7. Gynandria Octandria.

Nat. order of *Ariſtolochiæ.* Juſſieu.

GENERIC CHARACTER.

CAL. *Perianth* one-leafed, tubular-bell-form, permanent. *Tube* cylindric; *border* patulous, four-parted, ſomewhat obtuſe, coloured.

COR. none.

STAM. ſixteen. *Filaments* none. *Anthers* oblong, growing to the tip of the ſtyle under the ſtigma, oblong, two-valved.

PIST. *Germ* inferior, rounded. *Style* cylindric, length almoſt of the calyx. *Stigma* eight-cleft, gibbous, obtuſe.

PER. *Berry* crowned, roundiſh, coriaceous, eight-celled.

SEEDS numerous, minute, roundiſh.

ESSENTIAL CHARACTER.

Style one. *Cal.* four-cleft, ſuperior. *Cor.* none. *Anthers* ſixteen, ſeſſile. *Berry* eight-celled, with many ſeeds.

SPECIES.

1. Cytinus Hypociſtis. *Rape of Ciſtus.*
Lin. ſyſt. 826. *Reich.* 4. 65. *mat. med.* 197. *Allion. pedem. n.* 2070.
Aſarum Hypociſtis. *Lin. ſpec.* 633.
Hypociſtis. *Bauh. pin.* 465. *Cam. epit.* 96, 97. *Duham. arb.* 1. 170. *t.* 68. *Raii hiſt.* 1228. 9. (Orobanche). *Ger.* 1093. 2. *emac.* 1275. 2. *Park. theat.* 667.

DESCRIPTION, &c.

A paraſitical plant growing at the roots of the Ciſtus. Leaves ſeſſile, cloſely imbricate. Flowers terminating, heaped[h].

Below the flower are two oppoſite ſcales, becoming purple by age. The colour of the flower itſelf is dirty yellow. The number of anthers, and the diviſions of the ſtigma vary; the number of the anthers is double the diviſions of the ſtigma. Annual[i].

Native of the county of Nice, Spain, Portugal and Barbary.]

CYTISO-GENISTA. See *Spartium.*

CYTISUS. Κυτισος *of Hippocrates, Theophraſtus and Dioſcorides. Said by Pliny to have been firſt found in the iſle of Cythnus; whence it is ſuppoſed to have derived its name.*)

Lin. gen. n. 877. *Reich.* 951. *Schreb.* 1191. *Tourn.* 416. *Juſſ.* 354.

Claſſ. 17. 4. Diadelphia Decandria.

Nat. order of *Papilionaceæ,* or *Leguminoſæ.*

GENERIC CHARACTER.

CAL. *Perianth* one leafed, bell-form, ſhort, obtuſe at the baſe: *mouth* two-lipped; *upper* lip two-cleft, acuminate; *lower* three-toothed.

COR. Papilionaceous.
Standard ovate, riſing upwards, ſides reflex.
Wings the length of the ſtandard, ſtraight, obtuſe.
Keel ſomewhat bellied, acuminate.

STAM. *Filaments* diadelphous, (ſingle and nine-cleft) riſing upwards. *Anthers* ſimple.

PIST. *Germ* oblong. *Style* ſimple, riſing upwards. *Stigma* obtuſe.

PER. *Legume* oblong, obtuſe, attenuated at the baſe, ſtiff.

SEEDS a few, kidney-form, compreſſed.

OBS. C. Cajan *has the wings of the corolla flat horizontally, and an obtuſe keel.*
C. ſupinus *has a tubular calyx, which is bellied, and two-lipped.*

ESSENTIAL CHARACTER.

Cal. two-lipped; upper lip two-cleft, lower three-toothed. *Legume* attenuated at the baſe.

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[a] L'Heritier.
[b] Browne.
[c] Linn. ſuppl.
[d] Curtis.
[e] Linn. ſuppl.
[f] L'Heritier.
[g] Curtia.
[h] Juſſieu.
[i] Allioni.

SPECIES.

1. Cytiſus Laburnum. *Laburnum,* anciently *Bean-trefoil-tree.*

Lin. ſpec. 1041. *Reich.* 3. 481. *hort. cliff.* 354. *upſ.* 210. *Hall. helv. n.* 360. *Scop. carn. n.* 903. *Jacqu. auſtr.* 4. *t.* 306. *Villars dauph.* 3. 409. *Duham. arb.* 1. *t.* 85. *Curt. magaz. t.* 176.

Laburnum, &c. *Bauh. hiſt.* 1. 361. *Rivin. t.* 62.

Anagyris. *Ger.* 1239. *f.* 1. *emac.* 1427. 1.——non foetida major alpina. *Bauh. pin.* 391. *Raii hiſt.* 1721.——non foet. ſ. Laburnum majus. *Park. theat.* 245. *f.* 2. *parad.* 438.

α. *Common Laburnum.* Leaves underneath and legumes hoary.

β. C. alpinus. Long-ſpiked or narrow-leaved Laburnum. *Mill. dict. n.* 2.

With leaves and legumes ſmooth.

Racemes ſimple pendulous, leaflets ovate-oblong.

2. Cytiſus nigricans. *Black Cytiſus.*

Lin. ſpec. 1041. *ſyſt.* 666. *Reich.* 3. 481. *hort. cliff.* 354. *Hall. helv. n.* 361. *Scop. carn. n.* 904. *Jacqu. auſtr.* 4. *t.* 387. *Mill. fig. t.* 117. *f.* 1. *Krock. ſileſ. n.* 1181. *Rivin. t.* 70.

C. glaber nigricans. *Bauh. pin.* 390. *Raii hiſt.* 973. *n.* 11.

C. Geſneri, cui flores fere ſpicati. *Bauh. hiſt.* 1. 370. *f.* 2.

C. IV. *Cluſ. hiſt.* 1. 95.

Racemes terminating erect; calyxes hairy, with minute toothlets; leaflets elliptic hairy underneath.

[3. Cytiſus wolgaricus. *Winged-leaved Cytiſus.*

Lin. ſyſt. 666. *ſuppl.* 327.

C. pinnatus. *Pallaſ. fl. roſſ.* 1. 73. *t.* 47.

Hoary: racemes ſimple erect; flowers pointing the ſame way; leaves pinnate, leaflets roundiſh; ſtipules ſubulate.]

4. Cytiſus ſeſſilifolius. *Common Cytiſus.*

Lin. ſpec. 1041. *ſyſt.* 666. *Reich.* 3. 481. *vir. cliff.* 71. *hort. cliff.* 355. *Gouan monſp.* 375. *Duham. arb.* 1. *Villars dauph.* 3. 410. *Curt. magaz.* 255.

C. fol. glabris ſubrotundis, pediculis breviſſimis. *Bauh. pin.* 390.

C. vulgatior. *Park. parad.* 440.

C. glaber, ſiliqua lata. *Bauh. hiſt.* 1. 373. 2.

C. 2. *Ger.* 1121. *emac.* 1304.

Racemes erect; calyxes with a triple bracte; floral leaves ſeſſile.

5. Cytiſus Cajan. *Pigeon Cytiſus,* or *Pigeon Pea.*

Lin. ſpec. 1041. *ſyſt.* 666. *Reich.* 3. 482. *fl. zeyl. n.* 279. *hort. upſ.* 211. *cliff.* 354. *Burm. zeyl.* 86. *t.* 37. *Brown. jam.* 296. *Hughes barbad.* 199. *t.* 19. *Jacqu. obſ.* 1. *p.* 1. & *hort.* 2. *t.* 119. *Rheed. mal.* 6. *t.* 13. *Lour. cochinch.* 462.

C. fruteſcens. *Plum. ſpec.* 19. *ic.* 114. *f.* 2.

Laburnum humilius, &c. *Sloan. jam.* 2. 31.

Phaſeolus erectus, &c. *Pluk. alm. t.* 213. *f.* 3.

Phaſeolus Kayan. *Raii hiſt.* 1722. 6.

Racemes axillary erect; leaflets ſublanceolate tomentoſe, the middle one on a longer petiole.

6. Cytiſus hirſutus. *Hairy* or *Evergreen Cytiſus.*

Lin. ſpec. 1042. *ſyſt.* 666. *hort. upſ.* 211. *cliff.* 355. *Jacqu. obſ.* 4. *t.* 96. *Gmel. ſib.* 4. 17. *t.* 6. *f.* 2. *Krock. ſileſ. n.* 1184. *Villars dauph.* 3. 411.

C. hirſutus & proſtratus. *Scop. carn. n.* 907, 908.

Cytiſus. *Cluſ. hiſt.* 1. 94.—incanus, ſiliqua longiore—&, fol. ſubrufa lanugine hirſutis. *Bauh. pin.* 390.

Peduncles ſimple lateral; calyxes hirſute trifid obtuſe ventricoſe-oblong.

[7. Cytiſus capitatus. *Cluſter-flowered Cytiſus.*

Lin. ſyſt. 666. *Jacqu. auſtr.* 1. 22. *t.* 33. *Krock. ſileſ. n.* 1185. *Scop. carn. n.* 906.

C. ſupinus. *Lin. ſyſt. edit.* 13. *p.* 555.

Flowers in heads; branches erect ſtrict round villoſe; leaves ovate-elliptic villoſe; bracte linear beneath the calyx.]

8. Cytiſus auſtriacus. *Siberian Cytiſus.*

Lin. ſpec. 1042. *Reich.* 3. 484. *Jacqu. auſtr.* 1. 16. *t.* 21. *Mill. fig. t.* 117. *f.* 2. *Krock. ſileſ. n.* 1182.

C. V. *Cluſ. hiſt.* 1. 195.——incanus, fol. oblongo, auſtriacus. *Bauh. pin.* 390.

Flowers in umbels terminating; ſtem erect; leaflets lanceolate.

9. Cytiſus ſupinus. *Trailing Cytiſus.*

Lin. ſyſt. 667. *Jacqu. auſtr.* 1. 15. *t.* 20. *Krock. ſileſ. n.* 1183. *Villars dauph.* 3. 410.

C. ſupinus, fol. incana lanugine inferne pubeſcentibus. *Bauh. pin.* 390.

C. 7. ſpecies altera. *Cluſ. hiſt.* 96. *Raii hiſt.* 972. *n.* 7.

Flowers peduncled about two together; leaves villoſe; ſtem decumbent, becoming ſhrubby.

[10. Cytiſus proliferus. *Silky Cytiſus.*

Lin. ſyſt. 667. *ſuppl.* 328.

Flowers in lateral umbels; ſtems erect; leaves elliptic acute ſilky underneath; calyxes woolly.]

11. Cytiſus argenteus. *Silvery Cytiſus.*

Lin. ſpee. 1043. *ſyſt.* 667. *Ger. prov.* 484. *n.* 4. *Gouan hort.* 377. *Scop. carn. n.* 910. *Villars dauph.* 3. 411.

Lotus fruticoſus incanus ſiliquoſus. *Bauh. pin.* 332. *Lob. ic.* 2. 41.

Trifolium argentatum, flor. luteis. *Bauh. hiſt.* 2. 359.

Flowers generally two together ſubſeſſile; leaves tomentoſe; ſtems decumbent; ſtipules minute.

[12. Cytiſus purpureus.

Lin. ſyſt. 667. *Jacqu. auſtr.* 5. 54. *app. t.* 48. *Scop. carn. n.* 905. *t.* 43.

Flowers peduncled ſolitary; leaves ſmooth; ſtems decumbent, becoming ſhrubby; legumes ſickled above.

13. Cytiſus glaber.

Lin. ſyſt. 667. *ſuppl.* 328.—ſiliqua anguſta. *Bauh. hiſt.* 1, 2. 373. *f.* 1.

Flowers ſolitary lateral ſubſeſſile pendulous; leaves ternate.]

14. Cytiſus græcus.

Lin. ſpee. 1043. *Reich.* 3. 484.

Leaves ſimple lanceolate-linear, branches angular.

15. Cytiſus tener.

Lin. ſyſt. 667. *Jacqu. collect.* 1. 40. *icon. rar.* 1. 147.

Spartium virgatum. *Ait. hort. kew.* 3. 11.

Leaves ſimple lanceolate; branches round.

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16. Cytiſus folioloſus. *Leafy Cytiſus.*

Ait. hort. kew. 3. 49.

Racemes terminating erect; calyxes villoſe, ſegments ſickle-ſhaped; leaflets obovate-oblong.

17. Cytiſus divaricatus. *Clammy Cytiſus.*

L'Herit. ſtirp. nov. t. 91. *ined. Ait. hort. kew.* 3. 50.

Spartium complicatum. *Lin. ſpec.* 996.

Racemes terminating erect; calyxes and legumes ramentaceous-viſcid; leaflets oblong.

18. Cytiſus biflorus. *Smooth Cytiſus.*

L'Herit. ſtirp. nov. t. 92. *ined. Ait. hort. kew.* 3. 52.

Peduncles generally in pairs lateral; calyxes oblong villoſe two-lipped, upper lip bifid; leaflets oblong-elliptic.

DESCRIPTIONS, &c.

All the ſpecies of Cytiſus are ſhrubs without ſpines, moſt of them very fit for ornamental plantations. They are chiefly hardy; the leaves ternate; the flowers, except in the twelfth, yellow, and growing in bunches.

1. The common height of the Laburnum is from eight to fifteen feet, but in good ground and when planted thick it will run up much higher. Leaves ternate, on long petioles, commonly three together from one point: leaflets quite entire, ſmooth and pale-green on the upper ſurface, glaucous and covered with ſhort appreſſed hairs on the lower, which has a ſtrong prominent nerve or midrib. The flowers come out from the ſame ſhort ſpurs with the leaves in naked, handſome, villoſe racemes, a ſpan in length; and beyond theſe young ſhoots are produced, which are white, and bear the ternate leaves ſingly. Each flower hangs from a long pedicel. Calyx yellowiſh, ſmall, two-lipped; the upper lip cloven, the lower having three minute teeth. Corolla

pale yellow; ſtandard broad, emarginate with duſky ſpots and dots within at the baſe; wings longer than the keel, hooked; keel in two parts; ſtaminiferous ſheath in one piece, the two upper filaments ſtanding croſſwiſe: germ ſmooth. Legume from an inch to near two inches in length, covered with white appreſſed hairs, containing from one or two to ſix or ſeven ripe ſeeds, which are black and ſhining; ſeveral at one or both ends are frequently abortive[a].

There are two varieties of Laburnum, which Mr. Miller regards as diſtinct ſorts.] The firſt broad-leaved, which was formerly more common in the Engliſh gardens than at preſent; and the ſecond, the narrow-leaved, which having much longer ſpikes of flowers makes a finer appearance, and has in a manner diſcarded the other from ornamental plantations: the firſt however grows to be the largeſt tree, and the wood of it is very hard, of a fine colour, and will poliſh very well; it approaches near to green Ebony, and is called by the French Ebony of the Alps, and is there uſed for many kinds of furniture; but in England there are few of theſe trees which have been ſuffered to ſtand long enough to arrive to any conſiderable ſize, for as they have been only conſidered as ornamental, the frequent alterations which moſt of the gardens in England have undergone, have occaſioned their being rooted out whereever they were growing; but in ſome of the old gardens in Scotland, where they have been permitted to ſtand, there are large trees of this kind, which are fit to cut down for the uſe of the timber. I have ſeen two old trees of it in gardens, which were more than a yard in girt, at ſix feet from the ground, and theſe had been broken and abuſed, otherwiſe might have been much larger: they grow very faſt, and are extremely hardy, and therefore may be well worth propagating upon poor ſhallow ſoils, and in expoſed ſituations. His Grace the Duke of Queenſberry ſowed a great quantity of the ſeeds of this tree, upon the ſide of the downs, at his ſeat near Ameſbury, in Wiltſhire, where the ſituation was very much expoſed, and the ſoil ſo ſhallow, that few trees would grow there; yet in this place the young trees were twelve feet high in four years growth, and became a ſhelter to the other plantations, for which purpoſe they were deſigned; but the hares and rabbits being great enemies to theſe trees, by barking them in winter, they ſhould be fenced from theſe animals.

[Hence it is ſuggeſted by Mr. Boutcher that the Laburnum is very proper to ſow in plantations infeſted with hares and rabbits, who will touch no other plant ſo long as a twig of Laburnum remains. Though eaten to the ground in winter it will ſpring again the next ſeaſon, and thus conſtantly ſupply theſe noxious animals: ſo that by expending five ſhillings in Laburnum ſeed a whole plantation may be ſecured.

But the Laburnum is not only uſeful in preſerving other more valuable trees. The wood is of great ſtrength, and is much uſed for pegs, wedges, muſical inſtruments, handles of knives, and a variety of furniture. Mr. Boutcher mentions, that he had ſeen a large table and a dozen chairs made of it, which judges of elegant furniture thought the fineſt they had ever ſeen. Pliny ſays its wood is the hardeſt of any next to Ebony. Matthiolus ſpeaks of its being uſed for making the beſt bows. It chars remarkably well: and if planted thick to run up tall, it would make durable hop-poles.] For this purpoſe it might be planted in large clumps in parks, where it would be alſo very ornamental; the branches being generally loaded with long ſtrings of flowers, hanging down from every part of them, in the month of May. [Haller obſerves, that it is very bitter, and that the ſeed both purges and vomits violently. He alſo remarks, that the Latin name *Laburnum* was evidently formed from the alpine name *L'Aubours*. Formerly it was called in Engliſh *Bean-Trefoil* and *Peaſcod-tree*, but the Latin name has prevailed over theſe. In German it is *Bohnenbaum*, and in French *Cytiſe des Alpes*, *Aubours*, and *Faux Ebenier*.

It is a native of Switzerland, Auſtria, Provence, *&c.* and was cultivated here by Gerarde in 1596[b]. Tradeſcant had both varieties in his garden[c].]

2. This ſhrub ſeldom riſes more than three or four feet high in England; it naturally puts out many lateral branches near the ground, which ſpread out on every ſide, ſo as to form a low ſhrubby buſh, which is with difficulty raiſed to a ſtem: the branches are very ſlender, and their ends are frequently killed in ſevere winters. The leaves grow by threes, are equal in ſize, and of a dark green colour. The branches grow erect, and are terminated by bunches of yellow flowers, about four or five inches in length, and making a fine appearance.

[The branches, calyx and legume, as well as the under ſurface of the leaves, are covered with a fine ſilvery pile[d]: the end leaflet is larger than the ſide ones[e]. In its native place of growth it is found from a foot and half to the height of a man, with erect, round, ſmooth, pliant ſtems[f]. The flowers are pendulous on ſhort peduncles, and have an agreeable odour. The upper lip of the calyx is entire; the three teeth of the lower are very ſmall. Standard of the corolla roundiſh, blunt, reflex; keel very large and wide; wings a little ſhorter; the whole flower has a ſhort and broad appearance[g].

Native of Sileſia, Auſtria, Hungary and Italy.— Cultivated in 1731, by Mr. Miller[h];] who ſays, that it was formerly in ſome of the curious gardens here, but had been long loſt, till he procured the ſeeds, which ſucceeded in the Chelſea garden. It flowers in July, after moſt of the other ſorts are paſt.

[3. This is a very handſome ſhrub, ſcarcely growing to two feet in height. The leaves have from three to nine, but uſually ſix or ſeven pairs of leaflets, terminated by an odd one; they are ſmooth above, ſilvery beneath, and moſtly orbiculate. The flowers are large, and of a deep yellow colour[i]; in axillary and terminating racemes, erect, on peduncles much longer than the leaves, about ten in number, generally oppoſite or nearly ſo in pairs, with a ſmall acuminate bracte to each pedicel. Calyx and pedicels lanuginoſe, and having reddiſh glutinoſe glands ſcattered over them. Calyx deeply five-cleft; the ſegments ſubulate, equal, the loweſt narrower than the reſt. Legumes cylindric, ſwelling at the end, ſomewhat toroſe, hirſute with glandular hairs. Seeds large, gray, teſtaceous-variegated[k].

Native of Siberia, in the deſerts between the Tanais and the Wolga: obſerved there by Pallas[l]. Introduced here in 1786, by William Pitcairn, M. D.[m]]

4. This riſes with a woody ſtalk, putting out many branches, covered with a browniſh bark. Leaflets obovate, ternate, on very ſhort petioles. Flowers in cloſe ſhort terminating racemes, of a bright yellow colour. Legumes ſhort and broad. This ſhrub riſes to the height of ſeven or eight feet, and becomes very buſhy. [The leaves are on long petioles, but on the flowering-branches ſeſſile. Filaments all connate at bottom. Legumes blackiſh[n]. This ſhrub is eaſily known by its ſmoothneſs, the uprightneſs of the ſtalks and racemes, and particularly by the triple bracte immediately below the flower.

Native of the South of Europe. Cultivated here in 1713[o].] Mr. Miller ſays it has been long cultivated in the nurſery gardens as an ornamental ſhrub, by the title of Cytiſus ſecundus Cluſii. [If it be C. vulgatior of Parkinſon, it was common among us in 1629. According to Johnſon, it grew in the garden of Mr. John Tradeſcant.

Ruminating animals greedily devour the leaves and young branches of this ſort, whilſt the goat only touches the Laburnum[p].]

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[a] Haller, Scopoli, Jacquin.

[b] Hort. kew. [c] Johnſon in Ger. emac. [d] Haller.
[e] Linn. ſyſt. [f] Jacquin. [g] Haller. [h] Hort. kew.
[i] Linn. ſuppl. [k] Pallas. [l] Linn. ſuppl. [m] Hort. kew.
[n] Linn. ſyſt. and Crantz. [o] Hort. kew. [p] Villars.

5. This riſes with a weak ſhrubby ſtalk eight or ten feet high, ſending out many ſide branches, which grow erect. The flowers come out from the ſide of the branches, ſingle or in cluſters; they are of a deep yellow colour, and about the ſize of thoſe of the common Laburnum. Legumes hairy, about three inches long, ſickle-ſhaped, ending in a long ſharp point, ſwelling where each ſeed is lodged. Seeds roundiſh, a little inclined to kidney-ſhape. [The leaves are very ſoft, in ſome views white. Calyx ſubpubeſcent. Standard of the corolla erect, wings horizontally flat, keel blunt. Stamens truly diadelphous. Legume intercepted by obliquely tranſverſe ſtreaks[q].

The Pigeon Pea is frequently planted in the Weſt India iſlands, chiefly in rows as a fence to the ſugar plantations, and will thrive on barren land. The ſeed is much eaten by poor people and negroes, and is eſteemed a wholeſome pulſe; in the iſland of Martinico even the better ſort of people hold it in eſtimation, and prefer it to the European Pea. The chief uſe of it in Jamaica is for feeding Pigeons, whence its name. The branches with the ripe ſeed and leaves are given to feed hogs, horſes, and other cattle, which grow very fat on them[r].

Native of both Indies and Africa, whence th[illegible] ſuppoſed to have been originally brought to the Weſt Indies, where they are called *Angola Peas* and *Pois d'Angola.*—It was cultivated in 1694, by the Dutcheſs of Beaufort[s]; and by Doody in 1687[t].]

6. This has a ſoft ſhrubby ſtalk, dividing into many branches, which grow erect, and frequently riſe to the height of eight or ten feet; the ſtalks, branches, and leaves are very hairy; the leaves are ternate, ovate, and placed cloſely on the branches; the flowers come out from the ſide of the ſtalk, in ſhort racemes, they are of a pale yellow, appear in june, and are ſucceeded by long, narrow, hairy legumes, which ripen in ſeptember.

[The branches are decumbent, the calyxes extremely hirſute, the ſtamens all connate at bottom, the legumes black, the ſeeds ovate, ſix, ſeven or eight, pedicelled, with two ſmall bractes embracing the pedicel[u].

Native of the South of Europe and Siberia. Cultivated in 1739 by Mr. Miller,] who ſays that it is common in the nurſery gardens near London, under the name of Evergreen Cytiſus of Naples.

[7. Stem and petioles pubeſcent. Leaves ſmoothiſh Calyx tubular, bellying, pubeſcent[x]. It differs from the preceding in having moſt of the flowers terminating, and in a genuine head; the leaves more obtuſe, and hairy on both ſides; the ſtems ſcarcely ever a cubit in height, and extremely hirſute[y].

Native of Auſtria, Carniola, and Sileſia. Introduced in 1774, by Joſ. Nich. de Jacquin, M. D.[z]]

8. This has a ſhrubby ſtalk, which riſes near four feet high, dividing into many branches, which when young are covered with a green bark; the flowers are produced in cloſe heads at the ends of the branches, having a cluſter of leaves under them; they are of a bright yellow colour, appear in the beginning of may, and are ſometimes ſucceeded by ſhort woolly legumes, containing three or four ſmall ſeeds.

[This reſembles *C. ſupinus*, but the ſtems are erect, very branching and panicled. The leaflets are lanceolate not ovate[a], ſmoothiſh but covered on both ſides with a ſhining aſh-coloured ſhort pile, quite entire, terminated by a ſhining toothlet; petiole long, hoary, hairy. Flowers in each umbel from five to ten, ſupported by one or two toothletted bractes, and without any ſide flowers. Calyx yellowiſh, woolly. Standard of the corolla villoſe at the back, emarginate, wide, with the edges fringed as it were and curled; wings longer than the keel, with waving edges; keel cloven, ſpreading, villoſe. Filaments all connate. Legumes hirſute, erect[b].

Native of Auſtria, Hungary, Sileſia, Italy, and Siberia. It was cultivated in 1756, by Mr. Miller[c];] who ſays, that the ſeeds were ſent to the Imperial garden at Peterſburg, and thence by Profeſſor Amman to England.

9. [The ſtems of this are almoſt wholly procumbent, round, duſky, little divided: the ends are cloſely beſet with leaves and flowers, which come out together from ſpreading buds, formed of a few ſubovate ſimple bractes; the longer ſtems are frequently decorated with flowers for a foot in length; two flowers uſually proceed from each bud, but ſometimes only one, and rarely three or more, on ſhort peduncles. The younger branches, the petioles, peduncles, and leaves, eſpecially underneath, are covered with ſoft whitiſh hairs, which are frequently ſhort and ſcarcely viſible: Calyx pale and hirſute; lower lip quite entire, upper ſhortly bifid. Standard of the corolla roundiſh, wide, emarginate, longer than the wings. All the filaments connate. Flowers erect, deep yellow, but before they decay becoming reddiſh. Legume oblong, much compreſſed, brown, ſtraight, hairy. Seeds ſeveral, ſhining, brown. In the garden it becomes more pubeſcent, and by age more ſhrubby, branched and diffuſed, riſing to four feet in height, with long recurved branches loaded with flowers[d].

Native of the South of Europe and Siberia. Cultivated in 1759, by Mr. Miller[e].

10. This reſembles the next ſpecies. The ſtems, but eſpecially the ſmall branches are almoſt tomentoſe. Leaves alternate, petioled. Peduncles axillary, (four to eight) equal, one-flowered, a little longer than the petiole, filiform, villoſe, with two oppoſite filiform bractes near the flower. Corollas large, white. When the flowering is paſt, a branch grows out in the centre of the peduncles.

Found in the mountain woods of Teneriffe by Francis Maſſon[f]. Introduced in 1779. It flowers in april and may[g].]

11. This has herbaceous ſtalks. The flowers are produced either ſingle, or two, three or more together, at the ends of the branches.

[It is a hoary ſhining plant; the branches towards the root become ſhrubby, but above they are herbaceous. Bractes two or three, growing to the baſe of the calyx. The ſegments of the calyx are longer than in the other ſpecies. Legumes hirſute[h].

Scopoli obſerves, that the ſtems are ſlender and branched, the flowers ſolitary, the calyx villoſe, the petals yellow, the ſtandard villoſe, the wings ſmooth, and the germ very hairy.

Native of the South of France and Iſtria. Cultivated in 1739, by Mr. Miller[i].

12. This is ſuffruticoſe. Stems the thickneſs of a gooſe quill, naked, ſmooth, browniſh, pliant, proſtrate; from theſe ſpring ſlender, ſoft, aſcending, branched twigs, at firſt ſlightly pubeſcent, but afterwards ſmooth. Leaves ſcattered, alternate, petioled; leaflets ſeſſile, ovate, ſharpiſh, dark green, quite entire. Flowers axillary, ſolitary, erect on a ſhort pedicel. Calyx tinged with purple; upper lip ſhorter, two-toothed; lower a little longer, ovate, acute, entire. Corolla large, bright red: ſtandard obcordate, broad, villoſe-ciliate on the ſides at bottom; wings oblong-oval, entire, converging; keel blunt, both that and the wings villoſe-ciliate at the baſe. Filaments all connate. Anthers orange-coloured. Legume much narrower at the baſe, ſubpeduncled, linear, compreſſed, ſickle-ſhaped, black when ripe, and commonly ſmooth.

Firſt found by Profeſſor Jacquin in Carniola, in 1761; flowering in april and may[k].

13. Leaves petioled; leaflets equal, lanceolate-elliptic, whitiſh about the edge, ſmall, acute, ſcarce perceptibly hairy underneath. Stipules none. Peduncles ſhorter than the flowers. Calyx oblong,

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[q] Linn. ſyſt.
[r] Sloane and Jacqu. obſ.
[s] Hort. kew.
[t] Ray.
[u] Linn. Crantz. Krock.
[x] Linn. ſyſt.
[y] Krock. and Scop.
[z] Hort. kew.
[a] Linn. ſpec.
[b] Krocker.

[c] Hort. kew.
[d] Jacquin.
[e] Hort. kew.
[f] Linn. ſuppl.
[g] Hort. kew.
[h] Linn. ſpec. and ſyſt.
[i] Hort. kew.
[k] Jacquin.

ſomewhat